

COLLOQUIUM ON EUROPEAN  
RETAIL RESEARCH

**BOOK  
OF  
PROCEEDINGS**

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Abstracts and articles presented  
at the first Colloquium  
on European Retail Research

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# Foreword

**E**UROPE is not a fast growing market. To sell in Europe, any fast moving consumer good manufacturer today has to contend with both increasingly choosy consumers and intense competition. Technological trends have added further twists to the complexities of distribution. These demographic and economic evolutions compound each other and require that managers develop and hone their skills continuously.

These skills are required in all layers of the managerial pyramid, from the CEO down to the forklift operator in the warehouse. It is the purpose of research to understand both the behaviours of consumers and their needs. Research teams must then help the managers develop or update the tools and processes which will enable them to better satisfy those needs.

The purpose of the colloquium on European retail research is to bring together researchers from all over Europe to share and take away the latest results from field observations and theoretical conclusions. Given the complexity of the issues involved, the presentations cover widely different areas and results at different stages of advancement. You will find in this work the abstracts of most of the papers presented grouped in sessions by research area. Some analyze consumer behavior, others retail strategy or operations. Still others present tools for supply chain management. All these communications provide the reader with cutting edge research results.

Hopefully, the gathered results and experiences taken away by the participants following this event will generate sufficient interest in organizing and participating in further colloquia in the future.

## The organizing committee

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# Shopper behavior

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# Investigating Retail Store's Influence on Brand Extension Evaluation

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# Investigating Retail Store's Influence on Brand Extension Evaluation

## Structured Abstract

### Purpose:

An issue largely overlooked in the brand extension literature is how brand extension evaluation is influenced by consumers' perception of the retail outlet where the brand extension is sold.

### Design:

We focused on low fit brand extensions (e.g., Philips sunglasses), and ran an experiment to investigate how two factors related to the retail outlet, namely whether it sells the parent brand (i.e., Philips) and whether it sells the extension category (i.e., sunglasses), affect brand extension evaluation.

### Findings:

Our results suggest that, in order to boost the evaluation of low fit brand extensions, brand managers should ideally launch them through retailers selling both the parent brand and the extension category and should definitely avoid launching them through retailers selling the parent brand but not the extension category.

**Originality:** To our best knowledge, no study to date has investigated how consumers' perception of the retail outlet where a brand extension is sold influences a brand extension's evaluation.

## Keywords

*Brand extension, fit, retail outlet, store image, evaluation*

## Research paper

## 1. Introduction

According to a 2006 ACNielsen report, more than 90% of the products introduced by FMCG companies are extensions of existing brands (Nielsen, 2006), such as Colgate mouthwash or Honda lawn mowers. Companies tend to adopt brand extension strategies for two reasons: first, they reduce the risks of introducing a new product by utilizing the existing awareness and associations related to the parent brand (Aaker & Keller, 1990); second, companies can reduce new-product start-up expenses, such as channel building, advertising and price promotions (Völckner & Sattler, 2006). In spite of such advantages, a significant percentage of brand extensions fail, including Harley Davidson perfume or Virgin Cola.

A significant number of academic works have therefore explored the factors likely to affect brand extensions' evaluation, and ultimately their success in the marketplace. Existing research (Aaker & Keller, 1990; Völckner & Sattler, 2006) offers strong evidence that the fit between the parent brand and the extension category (e.g., for the case of Colgate mouthwash, the degree to which mouthwash is related to the Colgate brand) critically influences consumers' evaluation of brand extensions. At the same time, other work has proven that brand extension evaluation depends on the careful specification of marketing mix variables, including communication (Lane, 2000; Klink & Smith, 2011), pricing (Taylor & Bearden, 2002) or product strategy (Dawar & Anderson, 1994) decisions. To our best knowledge, no study to date has investigated how consumers' perception of the retail outlet where a brand extension is sold influences a brand extension's evaluation. We investigate this issue in the current paper by means of an experimental study.

## 2. Literature review

Numerous scholars have investigated the factors that influence consumers' evaluation of brand extensions. The fit between the parent brand and the extension category has emerged as an extremely important variable (Völckner & Sattler, 2006). Several scholars have proven that brand extension evaluation is also influenced by the image that consumers have of the parent brand, including the perception of brand quality (Aaker & Keller, 1990) and the perception of how related the products in parent brand's portfolio are (Dacin & Smith 1994). Researchers have also offered evidence illustrating that brand extension evaluation is a function of consumer characteristics, including their expertise with the extension product (Muthukrishnan & Weitz, 1991), their innovativeness (Klink & Smith, 2001) or their age (Zhang & Sood, 2002).

Other work proved that brand extension evaluation is critically influenced by elements of the marketing mix strategy. Regarding product strategy, Dawar & Anderson (1994) demonstrated that brands can extend into distant categories by undertaking the extension strategy in sequential steps. For instance, Ralph Lauren initially launched designer furniture and bedding before launching designer wall paints. Taylor and Bearden (2002) examined the impact of price information on brand extension evaluation and indicated that a high price can boost the evaluation of a low fit brand extension (e.g., a Polaroid clock radio), by signalling the quality of such a product. Several researchers found that the usage of communication can increase brand extension evaluation. This could be done by facilitating the cognitive and affective transfer from the parent brand to the extended product, for example communicating that Michelin sports sandals have a safe and quality tread (Lane, 2000), or by endowing the extended product with necessary associations, for example a Timex bicycle that "offers a unique gear system that never slips, never rusts, and never needs oil" (Klink & Smith, 2001, p. 330).

Even though DelVecchio (2001) suggested that the retail outlet would play an important role in influencing brand extension evaluation, none of the brand extension research to date has documented this empirically. This is surprising given that the retail environment is commonly thought to affect consumer behaviour via store image (Wheatley & Chiu, 1977), in-store atmosphere (Baker, Levy & Grewal, 1992) or by creating category-specific store loyalty with certain stores (Bell, Ho, & Tang 1998). In general, the image and the associations conveyed to consumers not only help a retailer appear as differentiated in the marketplace (Baker, Levy & Grewal, 1992), but also impact the acceptance of the products displayed within the store (Jantan & Kamaruddin, 1999). When consumers are exposed to a new brand extension product (e.g., Philips sunglasses) in a certain outlet, two dimensions that are likely to be salient in consumers' minds are whether they associate the retail outlet with the parent brand on one hand (i.e., whether the retail outlet normally sells Philips products), and with the extension product category on the other hand (i.e., whether the retail outlet normally sells sunglasses). We further present the theoretical argument for why these two factors should play an important role for brand extension evaluation, and forward specific hypotheses about their impact. We chose to test the effect of the factors in the context of a low fit brand extension (i.e., Philips sunglasses), given that previous work has shown that marketing mix variables can be impactful especially in terms of boosting the evaluation of low fit brand extensions.

### 3. Hypothesis development

Inman, Shankar and Ferraro (2004) found that people are generally more likely to shop for specific product categories at retailers associated with or known to provide such products. The argument is reinforced by Bell, Ho and Tang (1998), who argued that consumers tend to build category-specific loyalty with certain stores, since they are likely to associate different categories with different store formats. In all, we can infer that consumers would find it more acceptable and logical for a newly-launched product (such as a brand extension) to be sold at a retailer known for selling that specific type of product. This should help signal product quality (cf., Kirimani & Rao, 2000), especially for an extension that is a poor fit to the parent brand. For instance, Philips sunglasses would be perceived as a low fit brand extension, but launching it through an outlet known for selling sunglasses should endow the product with a perception of higher quality and credibility. Therefore, we hypothesize that:

*Hypothesis 1: The evaluation of a low fit brand extension will be higher if the retail outlet normally sells the extension category rather than not.*

When exposed to a low fit brand extension such as Philips sunglasses, consumers' initial reaction towards the extension is likely to be unfavourable as sunglasses do not match the image of Philips. Based on findings in social and consumer psychology (e.g., Mussweiler, 2003; Smeesters, Mussweiler & Mandel, 2010), people might use further information they receive about Philips sunglasses in order to confirm or disconfirm this initial reaction. The outlet where the extension is sold should offer such an information cue. As suggested by *Hypothesis 1*, an outlet not selling the extension category (i.e., sunglasses) should confirm the initially-unfavourable reaction, whereas an outlet selling the extension category should tone it down. Such an effect is likely to be exacerbated when the parent brand is also available in the store: if the new sunglasses by Philips are to be sold through an electronics store (i.e., selling Philips appliances, but not sunglasses), this should strengthen the perception that Philips is not about sunglasses, and reinforce the lack of fit and the initially-unfavourable reaction. Conversely, if the new sunglasses are sold through a general store where both Philips

products and sunglasses are normally sold, this should make it more acceptable that Philips can launch sunglasses (i.e., as Philips and sunglasses already share a common retail environment). Not having the parent brand present in the store should lead to the effect describe in *Hypothesis 1* being less extreme. Therefore, we propose that:

*Hypothesis 2: The effect described in Hypothesis 1 will be significantly stronger for outlets normally selling the parent brand, compared to outlets not selling the parent brand.*

In the following section we describe how we went about testing the hypotheses, along with the results we achieved.

## 4. Experimental study

### 4.1 Design

We tested our hypotheses by means of a 2 X 2 between-subjects experiment, with the two manipulated factors being whether the retail store is selling the parent brand (yes/no), and respectively whether the retail store is selling the extension category (yes/no). In selecting our low fit brand extension concept we made sure to choose a parent brand with a good level of awareness and an extension category where the parent brand is currently not present (cf., Jun, MacInnis & Park, 2005). The chosen brand extension was Philips sunglasses, an objectively low fit to the Philips brand (mostly known for electric and electronic appliances). Four well-known retailers present in the UK corresponded to the four experimental conditions: Boots (known as a pharmacy, but selling diverse products including sunglasses and Philips shavers or electric toothbrushes); H&M (the well-known clothing retailer, also selling sunglasses under its own brand but no Philips products); Currys (a recognized UK electronics retailer, selling Philips products but not sunglasses) and IKEA (the well-known furniture manufacturer, selling neither sunglasses nor Philips products).

50 students (68% males, mean age 28) at a UK university took part in the study, each being randomly allocated to one of the experimental conditions. The experiment was run online and was disguised as a survey meant to generate thoughts and ideas about the new product to be launched by Philips. The participants initially read a presentation of Philips and its business, and were subsequently informed about the plans to launch sunglasses under the Philips brand through a certain retailer (which varied with the experimental condition). Subsequently, they rated their evaluation of the Philips sunglasses sold through the respective retailer on two 7-point scales (“How good or bad do you find the idea of launching the Phillips sunglasses to be sold through [retailer]?” - very bad / very good idea & “How favourable would be your attitude toward the Phillips sunglasses being sold at [retailer]?” - very unfavorable/very favorable attitude –  $\alpha=.92$ ). Manipulation checks followed, with participants indicating their degree of agreement to “[retailer] would normally sell Philips products” and “[retailer] would normally sell sunglasses”. As the four conditions differed in terms of the retailer being involved, the covariates we used measured the retail outlet attitude and familiarity. To end with, participants were requested to indicate demographic information and were thanked for their participation.

### 4.2 Results

We first ran manipulation checks. Participants perceived that Boots or Currys were significantly more likely to sell the Philips brand compared to H&M or IKEA ( $F(1, 46)=27.3, p<.01$ ). The manipulation check score was not influenced by whether the retail store was selling the extension category (i.e., sunglasses) or by the interaction between the two factors we manipulated ( $p's>.1$ ). Similarly, participants perceived that Boots or H&M

were significantly more likely to sell sunglasses compared to Currys or IKEA ( $F(1, 46)=28.4, p<.01$ ). The manipulation check score was not influenced by whether the retail store was selling the parent brand (i.e., Philips) or by the interaction of the two factors we manipulated ( $p's>.1$ ). Therefore, our manipulations functioned well.

In order to test the hypotheses, we ran an ANCOVA analysis with brand extension evaluation as the dependent variable and with retail outlet attitude and retail outlet familiarity as covariates. Out of the two covariates, the attitude towards the retail outlet had a significant impact on brand extension evaluation ( $F(1, 44)=6.7, p<.05$ ), whereas the familiarity with it did not have a significant effect ( $p>.2$ ). We found that the dependent variable score was not significantly influenced by whether the outlet was selling the parent brand ( $p>.9$ ). In line with *Hypothesis 1*, we found a main effect of whether the retail outlet was selling the extension product (i.e., sunglasses) on brand extension evaluation (3.12 vs. 2.41,  $F(1,44)=5.5, p<.05$ ). However, this main effect was further qualified by a marginally significant interaction between whether the retail store was selling the parent brand and whether the retail store was selling the extension category ( $F(1,44)=3.35, p<.08$ ). The results are displayed in the diagram below:

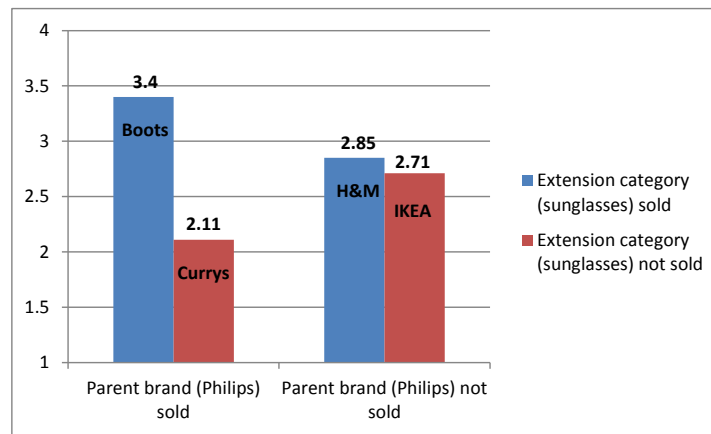


Figure 1 – Findings from the experimental study

The fact that we obtained a marginally significant interaction allowed us to further look into simple effects (cf., Page, Braver & MacKinnon, 2003). Planned contrasts suggested that, for retail outlets selling the parent brand, the brand extension got a significantly higher evaluation when the outlet was selling the extension product rather than not (3.4 - *Boots* vs. 2.11 - *Currys*,  $F(1,44)=8.01, p<.01$ ). For retail outlets not selling the parent brand the difference in brand extension evaluation scores was not significant (2.85 – *H&M* vs. 2.71 – *IKEA*,  $F(1,44)=.11, p>.7$ ). These results indicate that *Hypothesis 2* was supported as well.

In order to understand how consumers would evaluate Philips sunglasses in “real-life” conditions, contingent on selling them at Boots, Currys, H&M or IKEA, we also ran an analysis without the covariates (i.e., retail outlet familiarity and attitude). The results were again in line with the hypotheses, in that we obtained a significant main effect of whether the outlet was selling or not the extension product ( $F(1,46)=7.9, p<.01$ ), and a significant interaction between the two factors ( $F(1,46)=5.8, p<.05$ ). Planned contrasts suggested that the Philips sunglasses would receive a significantly higher evaluation if sold at Boots compared to Currys (3.69 vs. 2.08,  $F(1,46)=16.36, p<.01$ ), while no statistically significant difference emerged if they were sold at H&M compared to IKEA (2.71 vs. 2.58,  $F(1,46)=.1, p>.7$ ).

## 5. Discussion

Our results document that the choice of the retail outlet has an important influence on brand extension evaluation. We specifically looked into how the retail outlet is related to the parent brand (i.e., whether the retail outlet normally sells the parent brand) and how the retail outlet is related to the extension category (i.e., whether the retail outlet normally sells the extension category). We found that the evaluation of a brand extension (e.g., Philips sunglasses) is influenced by whether the retail outlet normally sells the extension category (i.e., sunglasses). This becomes even more important if the outlet is known to sell the parent brand: the initially negative reaction caused by the low fit between Philips and sunglasses was reduced when the extension was sold at Boots, which carries both Philips and sunglasses. However, selling the extension at Currys reinforced that Philips is about electronics and not sunglasses, and therefore brought about decreased evaluations. We did not find any significant difference between the extension being sold at H&M and IKEA. One possible explanation is that, as such outlets do not carry Philips, the information about the retail outlet does not further confirm or disconfirm the lack of fit between Philips and sunglasses.

Whereas our study aimed to prove the importance of the retail outlet by looking at the case of a low fit brand extension, future research could look into how the factors we analyzed would affect the evaluation of high fit brand extensions (e.g., Levi's sunglasses). Future research could also delve into how other dimensions regarding the retail outlet are likely to influence brand extension evaluation. For instance, Ailawadi and Keller (2004) suggest that a store's image is based on several dimensions, including access, in-store atmosphere, price and promotions, cross-category product/ service assortment and within-category brand/item assortment. Exploring how these dimensions of the retail outlet impact brand extension evaluation could therefore prove fruitful.

Our research suggests that when launching extensions that are quite a departure from the parent brand (i.e., have a low fit), companies should stay away from selling them through outlets that traditionally sell the parent brand but not the extension product. For example, Porsche is selling coffee makers through dedicated home appliance retailers, rather than through its auto showrooms. Conversely, a low fit extension is likely to get better evaluations if the retail outlet sells both the parent brand and the extension category, as illustrated by Heinz vinegar being sold through the same supermarkets where the brand Heinz is generally sold.

## References

- Aaker, D A. and Keller K (1990) "Consumer Evaluations of Brand Extensions." *Journal of Marketing*, 54 (1), 27-41
- Ailawadi, K. and Keller, K. (2004) "Understanding Retail Branding: Conceptual Insights and Research Priorities." *Journal of Retailing*, 80 (4, Winter) 331-342.
- Baker, J., Levy, M. and Grewal, D. (1992) An Experimental Approach to Making Retail Store Environment-Griffitt, William (1970) "Environmental Effects on Interperal Decisions." *Journal of Retailing*, 68(4), 445-60.
- Bell, D, Ho T H, and Tang C(1998) "Determining Where to Shop: Fixed and Variable Costs of Shopping." *Journal of Marketing Research*. 35 (August), 352-369
- Dacin, P A. and Smith D C (1994) "The Effect of Brand Portfolio Characteristics on Consumer Evaluations of Brand Extensions." *Journal of Marketing Research (JMR)*, 31 (2), 229-42.

Dawar, N and Anderson. PF (1994) "The effects of order and direction on multiple brand extensions." *Journal of Business Research*. 30 119–12.

DelVecchio D (2001) "Consumer perceptions of private label quality: the role of product category characteristics and consumer use of heuristics." *Journal of Retailing and Consumer Services* 8(5):239-249.

Inman, J. J., Shankar, V., and R. Ferraro (2004) "The Roles of Channel-Category Associations and Geodemographics in Channel Patronage." *Journal of Marketing*. 68 (2) 51-71.

Jantan, M. and Kamaruddin, R. A. (1999) "Store Image and Store Choice Decision: An Investigation of Consumers' Shopping Behaviour in Malaysia." *AAM Journal*. 4 (2, July) 69-82

Jun, S Y, MacInnis D J, and Park C W (2005) "Formation of Price Expectation in Brand Extensions and Impact on Brand Extension Evaluation." *Advances in Consumer Research*, 32 (1) 137-42.

Keller, K L and Aaker D A (1992) "The Effects of Sequential Introduction of Brand Extensions." *Journal of Marketing Research*, 29 (1), 35-60.

Kirmani, A and Rao A R (2000) "No Pain, No Gain: A Critical Review of the Literature on Signaling Unobservable Product Quality." *Journal of Marketing*, 64 (2), 66-79.

Klink, R R. and Smith DC (2001) "Threats to the External Validity of Brand Extension Research." *Journal of Marketing Research (JMR)*, 38 (3), 326-35.

Lane, V. R. (2000) "The Impact of Ad Repetition and Ad Content on Consumer Perceptions of Incongruent Extensions." *Journal of Marketing*, 64 (2), 80-91.

Mussweiler, T (2003) "Comparison processes in social judgment: Mechanisms and consequences." *Psychological Review*. 110, 472-489.

Muthukrishnan, A. V. and Weitz BA (1991) "Role of Product Knowledge in Evaluation of Brand Extension." *Advances in Consumer Research*.18 (1), 407-13

Nielsen, A.C. (2006) "New Launches (May)." South Africa.

Page, M D, Braver, S L. and MacKinnon, D. (2003), "Levine's Guide to SPSS for Analysis of Variance." Lawrence Erlbaum Associates, Inc., Publishers.

Smeesters, D, Mussweiler, T., & Mandel, N. (2010). "The effects of thin and heavy media images on overweight and underweight consumers: Social comparison processes and behavioral implications." *Journal of Consumer Research*, 36, 930-949.

Taylor, V. A. and W. O. Bearden (2002) "The Effects of Price on Brand Extension Evaluations: The Moderating Role of Extension Similarity." *Journal of the Academy of Marketing Science*. 30 (2), 131-40.

Völckner, F and Sattler H (2006) "Drivers of Brand Extension Success." *Journal of Marketing*. 70 (2), 18-34.

Wheatley, J. J., Walton, R. G., & Chiu, J. S. Y. (1977). "The influence of prior product experience, price and brandon quality." *Advances in consumer Research*. 4 , 72-7. Ann Arbor, MI: Association for Consumer Research.

Zhang, S and Sanjay S (2002) " "Deep" and "Surface" Cues: Brand Extension Evaluations by Children and Adults." *Journal of Consumer Research*, 29 (1), 129-41.

**Dr. Zsuzsa Deli-Gray<sup>1</sup> - Dr. László Árva<sup>2</sup> - Dr. Tamás Matura<sup>3</sup>**

**The impact of the economic crisis on Hungarian citizens' purchases of food and household items in retail stores**

**ABSTRACT**

The impact of the economic and financial crisis on the consumer behaviour has been analysed sporadically in the world however most of the works concentrated only on one aspect of consumer behaviour, on one county, or on short run crises, and looked at the citizens of one country as one homogeneous market of consumers. The present study demonstrates the most important publications which dealt with the question of how economic crises can make the consumers' behaviour change with a special focus on the surveys implemented in the European and more specifically in the Central and Eastern European market. The results of an empirical study whose objective was to see how the expectations, preferences and attitudes of consumers toward the purchase of food and household items in retail stores and which was conducted in one of the Central and Eastern European countries, in Hungary, are also described and evaluated. The findings of the representative study clearly show that the market of one country cannot be looked at as one homogeneous unit as different segments of citizens created on the basis of "expectations", "psychographic" and "behavioural" variables react differently to the new conditions of the macroenvironment. The results also show a certain polarisation of the population: while the group of the poor and the rich people augment, the group of the middle class is becoming small.

Key words: financial crisis, retail stores, social polarisation

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## **THEORETICAL BACKGROUND**

The World had to face several economic crises during the last century. There were 435 small and major economic crises in 195 countries of the World between 1960 and 2006 (Pandelica – Pandelica, 2011). During most of these crises the growth of world economy has only slowed down. The World however was introduced to a new type of crisis in 2008, which resulted in a long lasting downturn with the reduction of the entire World's GDP.

Although some of the World's greater economic regions suffered from lasting depressions in the last decades of the 20th century (e.g. Latin-America in the 70's, 80's and 90's or East-Asia after 1997), Europe was virtually free from economic crises after WW II. Even if the economic performance of the post-soviet Eastern European countries declined after 1988, this couldn't be interpreted as a typical economic crisis. Instead it could be looked at as a kind of a transition crisis of the failed socialist economies. Europe had to face first a classical economic crisis in 2008 together with the other countries of the World.

### **Economic crisis and consumer behaviour**

The first publications on the impact of the economic crises on consumer behaviour were made in the USA after the oil crisis in 1973-76. The interconnections between economic crisis and consumer behaviour were mainly analysed by Kelly and Schewe (1974) or Shama (1980). They evaluated the influence of the simultaneous inflation and economic stagnation on the American consumers' behaviour after the crisis.

Following the stagflation of the 1970's, while the developed countries became intact by the crisis, some of the developing ones have suffered from serious economic depressions from the 1980's. Since the most numerous and most serious crises have erupted in Latin America it is not surprising that most of the researches on the relationship between consumer behaviour and economic crises originate from this region. In Argentina Robles, Simon and Haar (2002) analysed the factors influencing long term paying liabilities, while Fiszbein, Giovagnoli and Aduriz (2003) evaluated different consumers' strategies during economic crisis. Zurawicki and Braidon examined the changes of the middle class's consumer behaviour during the crisis in 2005.

In Europe the question of crisis became off topic after the stagflation in 1973-76 and only the crisis of 2008 has induced new European researches on this question.

Nunes and his colleges (2010) made a survey on how conspicuous consumption is declining in Europe and came to the conclusion that it doesn't decline at all but becomes even more important during the crisis. This results would however question the relevance of those assumptions which emphasized the importance of simplicity and rationality in the buying behavior of consumers during the period of crisis.

In Romania a relatively large number of surveys were made about the relationship between consumer behaviour and the crisis, including some researches on the psychological background of the crisis-hit consumer behaviour (e.g. Epure and Vasilescu, 2009).

Pandelica - Pandelica (2011) convincingly proved that consumers' reactions to the crisis vary significantly according to their income level, their perception of the crisis and their value system.

Other Romanian researchers emphasize that crisis creates or strengthens new forms of consumer behaviour. Voinea and Filip (2011), after conducting an international but not fully comprehensive research on crisis-hit consumer behaviour, claim that the crisis makes consumption more simple, induces a saving attitude, highlights "smart and comparative consumption", results in losses in the field of environmental protection and overshadows charity.

The above characteristics, which are frequently cited in the literature are not confirmed by other researchers: Drèze - Nunes - Young (2010) who made their survey on conspicuous consumption, Pandelica – Pandelica (2011) who evaluated the different consumers' attitudes having different sociological background, Epure - Vasilescu, (2009) who have also proved the complexity of consumers' behavior during economic crisis. These authors agree that the behavioural changes are diverse, sometimes resulting in very complex and often surprising reactions.

Italy and Spain were also "suitable" regions to conduct some research on the relationship between the crisis and consumer behaviour at. Crosilla and Bianca (2010) drew attention to the widely differing consumer reactions and Ahumada and Garegnani (2010)

analysed the present and future purchase preferences of the consumers. These researches, however, also perceived the consumer market as one homogenous entity.

Flatters and Willmot (2009) suggested some behavioural norms for retailers during the periods of crisis where the emphasis was on simplicity and the application of business ethics.

In their article Perriman - Ramsarab-Fowdar - Baguant (2010) underlined that consumer habits did not change in the same way during the crisis in the World, and therefore retailers have to face different impacts as well.

### **Development of retail trade and household consumption in Central and Eastern Europe, with special attention to Hungary**

Due to the economic crisis consumption decreased significantly in most Central and Eastern European countries in the first decade of the 21st century. Hungary was the first to experience the slow-down and cut-back of consumption growth, as the Hungarian government was obliged to cut the budgetary deficit even before the start of the global crisis. In other countries of the region the economic slowdown arrived later, the greatest drop in household consumption was observed in Romania

**Table 1.**  
**Annual change of households' expenditures in some Eastern Central European countries (%)**

	2004	2005	2006	2007	2008	2009	2010
Czech Republic	1.03	1.03	1.04	1.04	1.03	1.00	1.01
Hungary	1.02	1.03	1.02	1.00	1.00	0.94	0.98
Slovak Republic	1.05	1.06	1.06	1.07	1.06	1.00	0.99
Slovenia	1.03	1.02	1.03	1.06	1.04	1.00	0.99
Romania	1.11	1.07	1.09	1.12	1.09	0.82	1.02

*Source:* IMF, World Bank, and local statistical offices, 2011

Although the slow-down of consumption growth in Hungary has already began in 2002 after a period of dynamic growth started in 1995-96, it reached its fastest spade in 2006

(Table 1, Graph 1) due to the governmental cut-backs on expenditures and the increase of the tax levels in 2006 implemented in order to reduce the state's budgetary deficit of the previous years. Although GDP growth remained stable due to actions of the government, consumption began to dwindle from 2007 at an accelerating rate.

The changes of the consumption level affected also the retail trade in Hungary. According to the data of the Hungarian Central Statistical Office (KSH) the turnover of the retail stores began to stagnate in real terms in the first quarter of 2007 and has already shrank by 1,8 percent on a yearly basis. The drop of the turnover continued ever since. The volume indexes of retail trade were 98,2% in 2007 and 97,7% in 2010 compared to the previous years, while it stagnated in the first ten months of 2011.

### **Characteristics of the Hungarian retail sector**

The retail sector encountered 13 percent of all active enterprises in the country, employed 12 percent of all employees, generated 10 percent of all sales revenues and created 5 percent of all added value on factor costs in 2009. The sales of food and non-alcoholic beverages represented 52 percent of the retail trade in Hungary in 2009 (KSH, 2010).

Before the political and economic transition the typical forms of Hungarian retail stores were the small groceries, the specialized manufactured goods shops, and the traditional, mainly cloths selling department stores. Hungarian retail stores were characterized by relatively small sized shops and outdated equipments before 1990. Large sized stores appeared in the mid-90's and proliferated in the outskirts of major cities. Their presence, low prices, wider range of products and modern equipments generated an intense competition with the traditional small shops. Downtown malls have begun to proliferate a few years later, thus the majority of traditional department stores and smaller shops went bankrupt.

The number of retail stores in Hungary rose until 2005 (167.000 units) but from this year it began to decrease at an accelerating rate and by the end of 2009 only 153.000 stores could be counted. The average size of the shops rose to 114 square meters in 2009 from 111 square meters in 2007, but the aggregate size of retail stores dropped to 17.879 m<sup>2</sup>s in 2009 from 18.095 m<sup>2</sup>s in 2008 and it more or less stagnates ever since.

The number of groceries, supermarkets and hypermarkets dropped by 5 percent or

2000 units in 2008 and their aggregate number declined to 43.400 units by the second half of 2009. Within this the number of groceries has dropped significantly, while the number of hypermarkets with large size and high trade turnover has increased to almost 140 units. The number of specialized food stores (like butchers, bakeries, or tobacco shops) even increased in 2008, but moderately decreased in 2009.

The number of malls rose to 103 units by the end of 2008. At the same time 139 units of hypermarkets operated in the country. From 2009 the increase of the number of both malls and hypermarkets halted, and only 3 to 4 hypermarkets or malls have been built ever since. 15 percent of the national retail trade were realized by hypermarkets in 2009, while their share in food sales reached almost 33 percent (KSH, 2011).

Retail sales dropped by an average of 7 percent between 2008 and 2010. Specialised manufactured goods shops have suffered the greatest loss, their sales have dropped by 25 percent.

According to a representative survey of GfK consumer behaviour slowly changes due to the crisis in Hungary, consumer consciousness and price sensitivity are getting more important, thus the popularity of discount stores increases among consumers. (GfK, 2011.) In May 2010 50 percent of the Hungarian households visited one of the discount store chains, their share grew to 53 percent by May 2011.

According to an other research of GfK Hungarian consumers go out for shopping less and less frequently (GfK, 2011) since gasoline prices are increasing and shopping is getting more planned.

Researchers in the CEE countries came to the conclusion that the population of the region had to significantly decrease its expenditures on food and non-alcoholic beverages. According to the Transition Report 2011 by the EBRD 38 percent of the households in the CEE region had to cut back their expenditures on basic foods, while only 10 percent of Western European households had to do the same. It is obvious that the share of expenditures on basic foods is larger in the aggregated consumption of the Eastern and Central European population and the economic depression has extorted a greater drop in consumption in the

CEE region than in Western Europe.

However, it is also clear that there are significant differences in the citizens' income and in the form of their purchases in retail stores in Central and Eastern Europe. Since the break-out of the crisis these differences have not been analysed in detail in Hungary. At the moment there is a white gap in the understanding of the consumers' reaction to the economic crisis in terms of their shopping preferences and expectations in retail stores. It is therefore important to conduct a representative primary study on the above question whose results could be useful not only for the academia but also for the management of retail stores who might need to rethink their strategies in light of the results.

## **THE EMPIRICAL RESEARCH**

In an empirical study which was conducted at the very end of 2011 the new ways of shopping food and household items in retail stores and the modified behaviour of the citizens in stores were investigated in order to see whether the economic crisis hit the retail stores and if so how they have to react to this situation from a strategic point of view. Also, segments of citizens were tried to be created on the basis of their different shopping habits and their store type selection criteria.

At the beginning of the empirical study 2 hypotheses were formulated:

- H1. All of the customers had to cut back on their expenses on food and household items after the beginning of the economic crisis.
- H2. On the basis of their expectations and preferences about the purchase of food and household items in retail stores homogeneous segments of the Hungarian population can be created.

The primary research was performed with a pre-tested questionnaire which consisted of four parts. In the first part the changes of the people's shopping behaviour and their choice of the type of the stores during the last 3 years were analysed. The questions in the second part aimed at identifying the criteria on the basis of which the people make a decision about where they do their shopping. The third part of the questionnaire contained psychographic and behavioural questions about the respondents' purchases of food and household items. The fourth part of the questionnaire was devoted for the demographic questions. Most of the

questions were closed questions and were evaluated by validated Likert scales. In order however to understand the reasons for the changed behaviour and modified decision criteria open ended questions were also added to the questionnaire where the answers were coded straightaway.

For the data collection a random sample of 1000 people was taken and the citizens were asked to answer the questions of the questionnaire by trained data collectors. Respondents were selected with the simple random sampling technique in 42 big and small cities in different regions of the country as well as in the capital. At the end of the process – due to technical faults - only 988 answers could be used for processing.

48% of the respondents were men and 52% of them were women. Most of the people in the sample were of the age of 24-60 and only 11% of the respondents were either between 18 and 23 of age or older than 61 years.

The majority (84%) of the people had a baccalaureate, a bachelor or a master degree, 2% of the respondents had a PhD degree. 14% of the people finished only a primary school or a technical school without a baccalaureate.

The monthly net income per person of the respondents showed a much wider distribution: 25% of the respondents accounted for a higher than 1290 Euros net monthly income per person, and 20% of the people admitted that they only had a less than 300 Euros net monthly income per person. The net monthly income of the remaining part of the people fell either in the range of 322 Euros - 644 Euros (40%) or in the range of 644 Euros – 1288 Euros (15%).

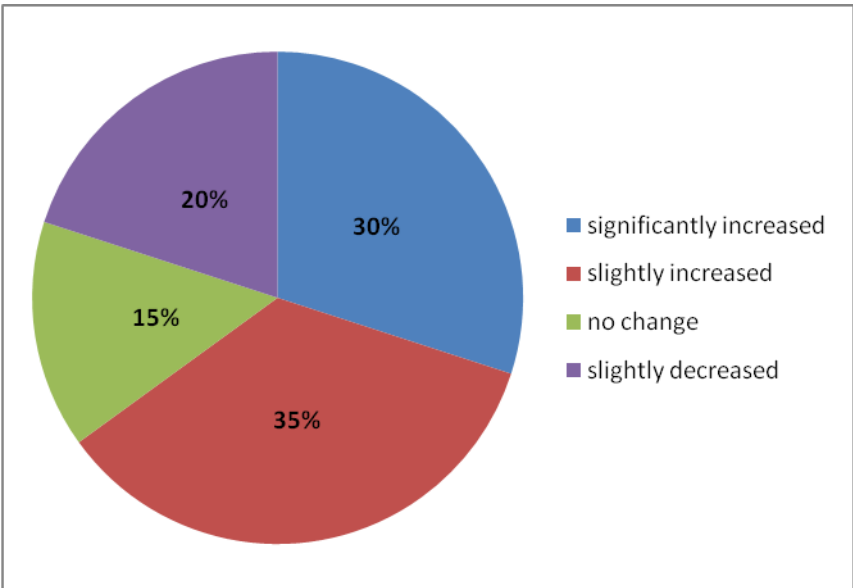
A relatively equal distribution of the respondents' place of living could be observed: 20% lives in central Hungary, 18% in the southern part of Hungary, 21% in the northern part of the country, 23% in east Hungary and 18% in west Hungary.

First, the changes of the general aspects of the consumers' behaviour were analysed in relation with the people's purchases of food and household items. The majority of the people felt that their expenses of the items in question slightly (35%) or significantly (30%) increased during the last three years (Graph 2). The reasons they gave for this increase were either the (incredible) price increases / higher inflation, or the higher prices they had to pay to get the items (fuel, bus ticket, fee paying bags, etc.), or the decrease of the relative purchase value of their income. 15 % of the people didn't see any changes in their expenses of food and

household products, however nearly all of the people who belonged to this group admitted that they didn't really look at the prices they paid for the goods in question. 20% of the respondents felt that their expenses slightly decreased during the last three years. The reason for the latter opinion was that people in this category tried to spend less on food and other products they use at home and purchased the cheap brands and goods on sale in order to be able to pay for their bills. They explained that they could always chose the cheapest products in the stores while they couldn't chose a cheaper electricity or gas.

**Graph 2.**

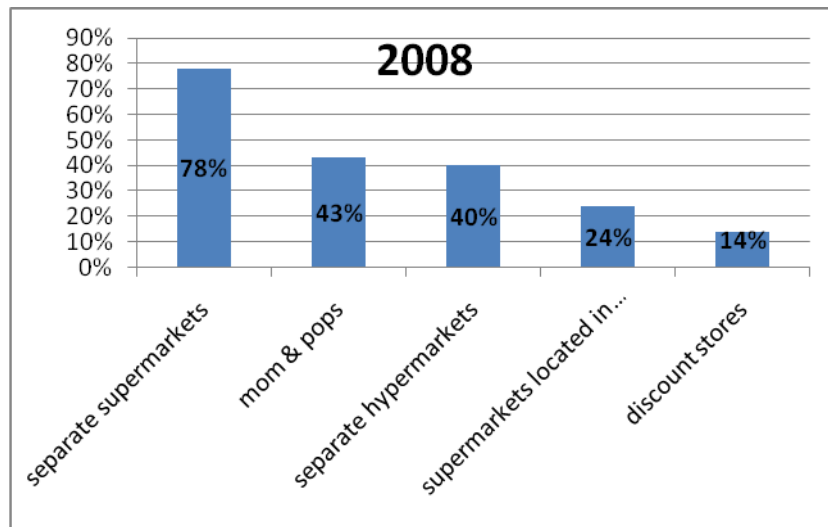
**The changes of the households' expenses on food and household items**



The frequency of the respondents' visit to the stores with the objective of buying food or household products as well as the number of items they purchased during one visit changed in line with the expenses of the people: a strong correlation was identified between the questions. For those whose spending increased during the last three years the frequency of the visit and the number of purchased items slightly increased and for those whose expenses decreased, the frequency of the visits and the number of bought items became less as well. 83% of the respondents mentioned that in 2011 they visited different types of stores than what they visited 3 years ago. While in 2008 (Graph 3) the people implemented their purchases in separate supermarkets (78%), in separate hypermarkets (40%), in supermarkets located in shopping malls (24%), in moms and pops (43%) and only 14% of the people was shopping in discount stores, in 2011 the picture looks quite differently.

**Graph 3.**

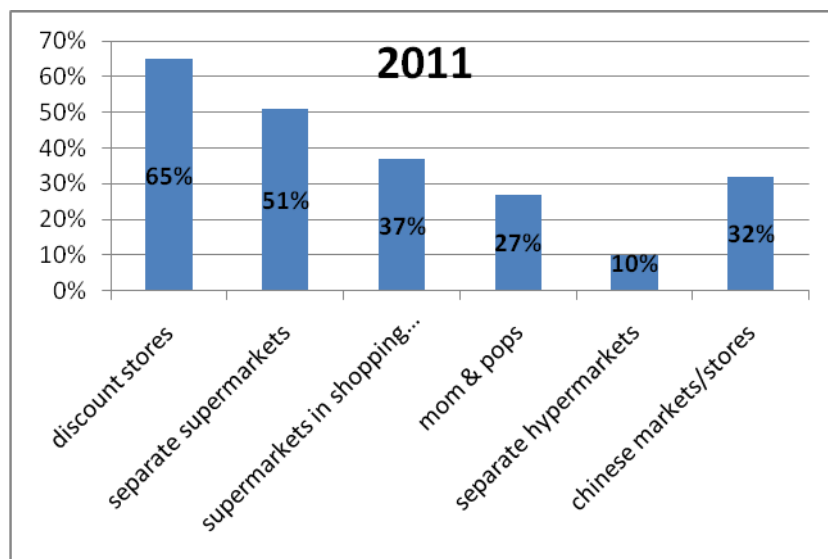
**The types of retail stores Hungarian people visited in 2008 (%)**



In 2011 65 % of the respondents admitted that they did their purchases in discount stores, 51% purchased food and household items in separate supermarkets, 10% in separate hypermarkets, 37% in supermarkets located in shopping malls and 27% in moms and pops. What is really new in the 2011 results is the addition of the “Chinese markets (markets and retail stores)” to the predetermined list by the respondents: 32% of the people asked the data collectors to add these shops to the list which operate next to the other retail stores.

**Graph 4.**

**The types of retail stores Hungarian people visited in 2011 (%)**



This result shows a certain polarisation of the people: there is a lot more people who try to buy cheap and there are more people who turn their attention to the relatively more expensive stores than three years ago. In case a conclusion would be drawn only from the above results it could be said that while there are much more poor people and more rich people in the country, the middle class is melting and oriented either towards the rich pole or towards the poor pole. However, there is more evidence to prove this statement, therefore it will be used as a third hypothesis in the empirical study.

- H3. In the actual financial and economic crisis there is more and more poor people and more and more rich people in Hungary while the classical middle class is melting and oriented either towards the rich pole or towards the poor pole.

The second part of the questionnaire contained questions about the criteria people take into account when making a decision about the type of the store and the store itself when buying food and household items. There were 19 predetermined criteria and the respondents were asked to identify on a five point Likert scale whether they agree that the given criteria is important in their decision.

By using main component analysis, with varimax rotation, in three steps we identified six main components, which are the following:

1. Price orientated
2. Environment orientated
3. Product orientated
4. Specialities
5. Sales Promotion hunter
6. Payment term orientated

**Table 2.**  
**Decision criteria**

Questions	Main components					
	1	2	3	4	5	6
Price of the products	.855					
Distance between the store and my home/workplace		.905				
Product range			.945			

Enough space inside of the store		.784				
Opening hours		.740				
Availability of many different product lines			.870			
Opportunity to talk		.892	.345			
Parking space		.750				
Freshness of products			.897			
Availability of local products				.914		
Availability of luxurious products				.865		
Good store structure		.880				
Separate place for kids		.699	.413			
Many SP opportunities					.882	
Discounts	.765				.910	.437
Closeness to other shops		.768				
Approachability by public transport		.840				
Modes of payment (with card, with food tickets received from employer, etc.)						.980
In-store design		.780				

The empirical research also investigated some of those psychographic and behavioral characteristics of the Hungarian people which determine their buying of food and household items in retail stores. 26 pre-determined statements were offered to the respondents and on a 5 point Likert scale they had to indicate whether they agreed with the statements or not.

By using a main component analysis, with varimax rotation, we managed to identify main components in 5 steps, which are the following:

1. Quality awareness
2. Health awareness
3. Human values / family and friends orientated
4. Status awareness
5. Practical
6. Survival oriented

**Table 3.**  
**Psychographic/behavioural criteria**

Statements	Main components					
	1	2	3	4	5	6
I try to spend as much time with my family as possible			.923			
In 2011 I switched to the public transport from the car to get to the stores					.638	.871
I go to the shopping malls not only to shop but to get some entertainment as well	.385		.941		.475	
I go to super and hypermarkets located outside of the town every week as the prices are lower there						.782
It is a good family programme for us to go to supermarkets located outside of the town			.917			
It is a good family programme for us to go to shopping malls located inside of my town			.872			
I buy my food and household items in the nearest store where the prices are acceptable.					.790	
I am willing to pay more for bio food	.963	.875			.256	-.402
I always buy Hungarian products even if their price is high	.857					-.381
I do lots of sports		.899				
My health is the most important thing for me		.923				
I like spoiling myself with good quality products even if their prices are high	.913			.801		
I economize on shopping						.834
I can hardly cover my expenses therefore I only buy the most necessary items						.983
I gladly try new products	.745			.791		
It is important for me what my friends think of me on the basis of what and where I buy				.890		
The place of the shopping is a status symbol for me				.946		
I always go shopping with my family or with my friends			.788			.417
I am loyal to the store where I shop	.355		.676		.701	
I try to buy the most famous and “expensive looking” goods				.935		
I do my shopping as quickly as possible					.968	
I spend as few money as possible as I have other bills to pay						.935

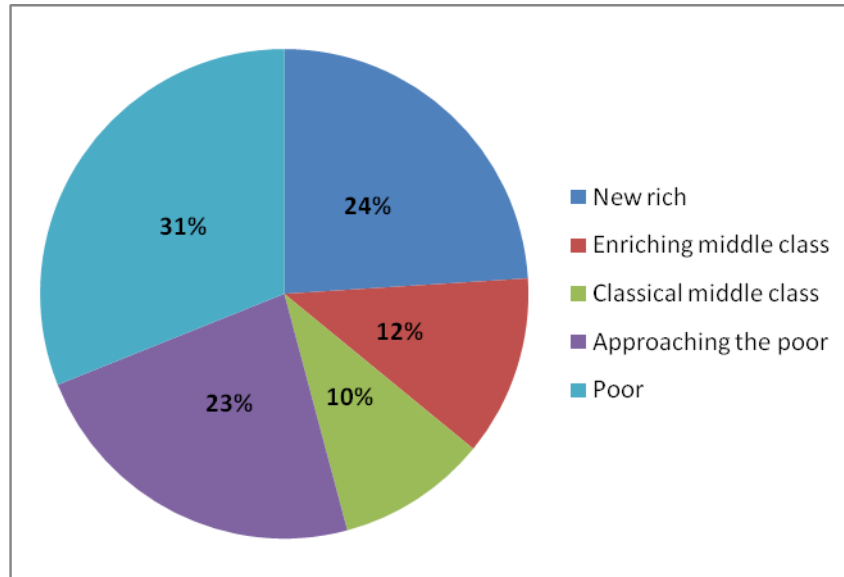
On the basis of the identified 12 main components a k-component cluster analysis was implemented. After a thorough analysis of the created options which offered different numbers of groups we accepted the one which offered 5 segments.

Clusters						
1	2	3	4	5		Main component
Mean	Mean	Mean	Mean	Mean		
.011	.032	.685	.801	.860		Price orientated
.783	.753	.601	.126	.287		Product orientated
.811	.215	.128	-.467	-.632		Environment conscious
.813	.540	.021	.365	.054		Specialities
.165	-.521	.514	.782	.120		Sales Promotion hunter
-.285	.143	.593	.869	.310		Payment term orientated
.301	.853	.184	.093	.087		Quality awareness
.053	.812	.036	.164	.272		Health awareness
.183	.330	.818	.514	.193		Human values / family and friends orientated
.876	.215	-.062	.487	.011		Status awareness
.068	.017	-.163	.629	.306		Practical
-.871	.265	.042	.410	.813		Survival oriented
<b>24% - 237 people</b>	<b>12% - 118 people</b>	<b>10% - 98 people</b>	<b>23% - 228 people</b>	<b>31% - 307 people</b>		

After the evaluation of the segments the following names were attributed to them:

- a. New rich
- b. Enriching middle class
- c. Classical middle class
- d. Approaching the poor
- e. Poor

**Graph 5.**  
**Clusters of the Hungarian people**



Looking at the results it is possible to evaluate the previously formulated hypothesis.

On the basis of the results of the empirical research the first hypotheses had to be refused as it became clear that there are two segments whose members do not have to worry about the prices of the food and household items. The “new rich” and the “enriching middle class” which represent 36% of the Hungarian population, have enough money to pay for goods they wish to purchase.

The second hypothesis was proven as by main component analysis twelve main components (6 “expectations” and 6 “psychographic and behavioural”) could be created by which five homogeneous segments of the Hungarian population could be formulated. The members of the formulated new segments have different shopping behaviour, practice and expectations therefore the retail stores will have to rethink their operative strategy in order to meet best the need of the clients. The findings confirm the results of Pandelica and Pandelica (2011) who described that the reaction of the consumers to crisis varied significantly in function of their psychographic and demographic characteristics, or the conclusion of Epure and Casilescu (2009) related to the complexity of the behaviour of customers during economic crises.

The third hypotheses was also proven as in the actual financial and economic crisis there is more and more poor people (31%+23%) and more and more rich people (36%) in Hungary while the classical middle class is melting and oriented either towards the rich pole or towards

the poor pole.

The correlation between the formulated segments and the demographic variables was checked next. Out of the six demographic characteristics only four showed correlation with the segments, and neither age nor gender had any relationship with the respondents' belonging to a certain segment. Those variables which correlated with the peoples' belonging to the segments were the level of degree, their monthly net income per person, the size of their place of living and the region they live in.

## Clusters

The most numerous group is the cluster of the poor people. Approximately one third of the people feel / are poor who have to look very consciously at their expenses and who cannot afford to shop in "expensive, chic" stores where the price of the goods is relatively high. They look for cheap prices and stores with minimal service. The types of stores they shop at are the discount stores and the Chinese shops/markets. These are the people who spend relatively less than three years ago as they try to save on eating and on household products by buying non-branded products, by finding new retail stores and by minimising their physiological needs. In the segment there are people with entirely different levels of degree: some with elementary studies, some with baccalaureate and bachelor degree and quite a few people with master degree. They mainly live in villages and small towns in the Eastern part of Hungary and possess less than 300 Euros per person each month.

Surprisingly the second largest segment is the group of the new rich. One quarter of the respondents belong to the cluster of people for whom the shining surface is the most important criteria in their shopping. They want everybody to see how well off they are. These people go to stores where there are many other people and where they can purchase the most expensive, biggest items, the most special and rare goods however they do not care too much about the "real" quality and healthiness. They see themselves in the society as "superiors" who have the means for a good life. Their preferred stores are the supermarkets which are located in big shopping malls and which offer the maximum level of – external and internal – service and pleasure. The members of this cluster have baccalaureate or bachelor degree, live in the capital or in big cities in the Western or in the Southern part of Hungary. Their monthly net income per person is (much) higher than 1290 Euros.

On the basis of numerosness the third group is the cluster of middle class people who approach the cluster of the poor in terms of their means. Another quarter of the respondents can be found in this segment, where the members are nearly as price conscious as the segment of poor people and they are also in a situation where they have to lower their expenses. In their behaviour there is however a certain duality. While they save money on food and household items they try to hide this by showing a different picture to the people around them. In many cases they buy famous brands when they are on sale or they buy them in pawnshops or at auction houses, and so they can still show that they do buy expensive goods. In their purchases they try to be practical, however the dominance of the price is evident and exceeds the (self-determined) requirements of practicality. The closeness and the opinion of the family and the friends are very important for them. The members of this segment shop also in discount stores and in Chinese shops with a need of only a few service elements. The people in this segment have baccalaureate, bachelor or master degrees, live in small and big towns in the Eastern and Northern part of Hungary.

The fourth group on the list of clusters prepared on the basis of numerosness is the segment of the enriching middle class, however in this cluster there is only 12% of the respondents. These people who some years ago still had to be careful about what they purchased and how much money they spent now can afford to buy the products of the higher end. They however learned during their “middle class” membership to analyse the ingredients, the country of origin, the price-value ratio, etc. of the goods and they continue to do that by being able to spend more. Also, while they couldn't afford to purchase the expensive bio, excellent quality, healthy imported or local goods some years ago, now they can and as they know what is “really” good, they purchase those food and household brands. These people purchase in separate super and hypermarkets and have increased expectations about the available external and internal services. The members of this cluster have master or PhD degree, live in the capital or in big towns in the Eastern or Central part of Hungary. Their net monthly income per person is higher than 645 Euros.

The smallest segment is the group of the classical middle class with the traditional middle class values. The members of this cluster do take the value-price ratio into account when shopping and try to go to stores where many goods can be purchased at the same time. As being very curious they look for tastings and prize winning games at stores but not in order

to get any food in stores but to try new things. They like stores where they can chose between different payment terms their different financial situations. Their family and friends receive a central place in these peoples' life and they try to organise programmes together with them (even if it is shopping or any other activities tied up with shopping). The members of this segment purchase in several different types of stores: they go mainly to supermarkets, but they also go to discount stores if these are the places where they can get the best value-price ratio. They however expect a certain level of external and internal services no matter where they shop. They have bachelor, master or PhD degrees and live mainly in the capital. Their monthly net income is between 322 and 644 Euros per person.

## **MANAGERIAL IMPLICATIONS**

The detailed analysis of the segments makes it evident that instead of the preferred “onion” shape of the Hungarian society, the actually formulating shape of it is a sand glass – there is only 10% of the people in the centre! The retail managers therefore need to look at their offer and have to determine on which end they wish to be. In light of the positioning of their store they might have to change the structure of their offer (product lines, product types, etc.), the proposed services as well as their promotion strategy.

They might decide on positioning themselves on the central 10% of the population however this is a relatively small segment which doesn't offer profitability to many companies. Instead, most of the enterprises should select their “end” and by capturing the new needs, expectations and attitude of the members of their segment they should tailor make their offer accordingly. There is already a fierce competition in the market however there is still room for retailers who can offer exactly what the chosen segments' members wish to get under the new conditions.

They might need to rethink their suppliers' chain (quality, price, bargaining power, etc.), and also their partners. This seems to be the only path to an acceptable return on investment in the period of the economic downturn.

## **LIMITATIONS**

The empirical research was conducted in 2011 and gave a detailed and up-to-date picture of how the Hungarian citizens reacted to the financial crisis in terms of their purchases

of food and household items in retail stores. The crisis however continues and discovers more and more uncertainties in many different dimensions of people's life. Their behaviour therefore can further change and modify their purchases. Thus, it would be important to launch a longitudinal study which would show whether there is further polarisation of the people and whether the shopping decisions and considerations of the buyers further change.

It would also be interesting and important to see whether other Central and Eastern European countries show the same tendencies as Hungary do. A cross cultural comparative study would give a clear picture of this likely phenomenon.

## BIBLIOGRAPHY

*Ahumada, H. A. - Garegnani, M. L.*(2010): Learning about consumer behavior during economic crisis. Evidence from Argentina and Spain. Reunion Anual de la Red de Investigadores de Bancos Central, Bolivia, 3 al 5 de Novembre de 2010.

*Crosilla, L. - Bianca, B.M.* (2010): Did World Crisis Boost Consumers Innovative Behavior? 30th CIRET Conference, New York, October

*Drèze, Xavier - Nunes, J. C. – Young, J. H.* (2010): Conspicuous consumption in a recession: Toning it down or turning it up? in: Journal of Consumer Psychology, accepted: 5 November

EBRD: Transition Report 2011. London. 2011.

*Epure, M. - Vasilescu, R. E.* (2009): Drivers of consumer behavior-the economic crisis in our every day's life. MPRA Paper No. 28344, posted 23. January 2011 Spiru Haret University, Faculty of Marketing and International Business, Romania, Bucharest

*Fiszbein, A. - Giovagnoli, PI. - Aduriz, I.* (2003): The Argentine crisis and its impact on household welfare. CEPAL review 79.

*Flatters, P. - Willmott, M.* (2009): Understanding the postrecession consumer, *Harvard Business Review*, 7(8), 106-112;

GfK Sajtószolgálat, 2011. 05. 19.

GfK Sajtószolgálat, 2011. 10. 04.

*Kelley, E.J. - Schewe, L.R.* (1975): Buyer behavior in a stagflation-shortages economy. *Journal of Marketing*, 39: 44-60.

KSH : Statisztikai tükör, 2009. 09. 25. Bevásárlóközpontok és hipermarketek, 2008.

KSH: Makrogazdaság, 2008-2009. Budapest, 2010.

KSH: Jelentés a kiskereskedelem 2008-2010. évi teljesítményéről. Budapest, 2011.

*Nunes, J. C.-- Drèze X. – Young, J. H.* (2010): Conspicuous consumption in a recession: Toning it down or turning it up? *Journal of Consumer Psychology*

*Pandelica, A. – Pandelica, I.*(2011): The change of consumers' behavior in crisis conditions: A psychological approach to the empirical evidence from Romania. African Journal of Business Management Vol.5 (28), pp. 11399-11412, 16 November

*Perriman, H.E. – Ramsarab-Fowdar, R.R. – Baguant, P.* (2010): The Impact of the Global Financial Crisis on Consumer Behaviour. <http://www.wbiconpro.com/06-Priya.pdf>

*Robles, F. – Simon, F. – Haar, J.* (2002): Winning strategies for the new Latin markets, Financial Times/Prentice Hall.

*Shama, A.* (1980): Marketing in a slow growth economy: the impact of stagflation on consumer psychology. Praeger Publishers, New York.

*Voinea, L. – Filip, A.* (2011): Analyzing the Main Changes in New Consumer Buying Behavior during Economic Crisis. International Journal of Economic Practices and Theories, Vol. 1, No. 1, 2011 (July)

*Zurawicki, L. – Braidot, N.* (2005): Consumer during the crisis: responses from the middle class in Argentina. Journal of Business Researches, 58 (8): 1100-1109.

## Antecedents to consumer willingness to disclose personal data

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### **Abstract**

#### *Purpose*

Using an innovative Value-based Self-Disclosure model, this paper examines the motivating factors in consumer decisions to disclose information to a firm requesting personal data online. It focusses on the costs and benefits customers associate with disclosure, and how they relate to privacy concerns.

#### *Approach*

We conducted a controlled experiment in which we manipulated two situational factors: request context and data quantity. We gathered 252 subjects from a panel of French Web users and conducted the experiment online. We used a SEM-PLS approach to validate the measures and test the hypotheses.

#### *Findings*

The quantity of data requested is shown to have no impact on customer value perceptions. The request context (and most notably, greater levels of customization) only has a significant impact on customer enjoyment. Not all four dimensions of value are important and cognitive costs and benefits appear to outweigh affective ones. Two specific perceived value dimensions - usefulness and psychological costs - are major determinants of self-disclosure intentions, and privacy concerns only influence behavioral intention indirectly through these two value dimensions.

#### *Originality*

By encompassing both individual-level (i.e., privacy concern) and contextual-level factors (context of the request, data quantity and perceived costs and benefits), the VSD model offers a comprehensive explanatory framework. In addition to theoretical literature contributions on self-disclosure and privacy issues, our results offer useful implications for e-business, addressing the increasingly urgent question of how to elicit useful personal data from customers without losing their business.

### **Keywords**

Personal data, consumer privacy concern, self-disclosure, Internet, value

## 1. Introduction

Consumer data is a desirable commodity for companies. This commodity enables optimal customer service (Premazzi et al 2010) and amplifies revenues by increasing the profitability of advertising (Van Dyke et al 2007). For businesses, collecting data about consumers is both strategically important and challenging. Managers want to identify the conditions under which people agree to provide data and how to present their requests in order to reassure consumers fearing privacy invasion. However despite the importance of such information, the best data collection practices remain disputed, with little agreement as to how information can be collected reliably, ethically and in a manner that does not dissuade consumers. Fears of disclosing personal data can impair not only purchasing behavior, but also website visiting frequency, the business-consumer relationship (Eastlick et al 2006) and each consumers' profitability level (Flavián and Guinaliú 2004). An in-depth understanding of users' information disclosure attitudes and behaviors is thus of the utmost importance.

We propose and empirically test, a Value-based Self-Disclosure (VSD) model that integrates relevant findings from previous literature in order to provide an original approach for the assessment of consumers' self-disclosure decisions. This model is designed to encapsulate both situational and individual components, and approaches self-disclosure decisions as processes which involve an evaluation of benefits and costs (value), considered in relation to privacy concerns. The influence of situational factors on a customer's willingness to provide personal data has not often been considered, and when situational factors are studied in this field, investigations are often restricted to the sensitivity of the data requested. We propose to test the effects of two infrequently studied situational elements with great managerial significance: (1) form length (how much information is requested?) and (2) request context (services proposed in exchange for data). Research has also to determine the impact of situational factors, as opposed to individual factors, on willingness to disclose personal data. We ask whether it is possible to encourage self-disclosure in e-commerce settings, or whether this judgment is previously determined by individual dispositions such as privacy concerns.

## 2. Background

We examine the concept of privacy concern and then review Social Exchange Theory (SET).

### 2.1. Privacy concerns

Privacy typically refers to the need for space, control over personal possessions and information, and visual, physical, or psychological separation (Margulis 2003). We adopt the definition mostly retained by scholars that refers to the informational aspect of privacy or the right to control access to personal data: "the claim for individuals ... to determine when, how and to what extent information about themselves can be communicated to others" (Westin 1967).

When solicited to provide information, consumers are likely to consider their informational privacy concerns (Kim and Son 2008), and those with greater concerns appear less inclined to provide their personal data (Chellappa and Sin 2005). However, no significant correlation has been shown between privacy concerns and e.g. the provision of false information (Sheehan and Hoy 2000). Consumers often relinquish their privacy concerns and communicate even the most personal details without any compelling reason (Berendt et al 2005), especially when appropriate benefits can be accrued. Inconsistencies between people's behaviors and opinions are well-known. This is especially the case for privacy, as stated in the famous privacy paradox (Norberg et al 2007). In addition to personal convictions such as privacy concerns, other elements thus appear to influence consumer willingness to provide personal information; we propose that SET provides a potential explanation.

## *2.2. Social exchange theory (SET)*

The fundamental premise of SET is that human behavior reflects an ongoing exchange of rewards. Social action involves the exchange of tangible or intangible rewards and costs, and people often justify their conduct according to benefits and costs. Researchers studying personal data provision often use SET to explain individual differences (e.g. Lowry et al 2011, Posey et al 2010), arguing that personal data disclosure entails costs and benefits. Thus, people only agree to reveal information if the advantages exceed the disadvantages. This trade-off refers to the value concept which corresponds to benefit surpluses that minimize transaction costs.

## *2.3. A multidimensional construction of value*

In a social exchange, benefits motivate human behavior and can be extrinsic or intrinsic. With an extrinsic motivation, a person performs an activity to achieve a specific goal (e.g., rewards); intrinsic motivation refers to the performance of an activity for no apparent reinforcement except performance process (Davis 1989). Customer's decisions also appear to include both cognitive and affective elements, (Dube-Rioux 1990) and achieve utilitarian or hedonic benefits (Babin et al 1994). We propose usefulness -a variable encompassing extrinsic and cognitive benefits- and enjoyment -a variable made up of intrinsic and affective benefits- as the benefit components in our model.

Perceived sacrifices can be monetary or non-monetary. Monetary sacrifices are not concerned here and non monetary costs refer to the efforts, risks, and insecurities concerned with a decision (Zeithaml 1981). The time and cognitive effort required to fill out a form should act as opportunity cost that precludes consumers from performing alternative tasks and accruing the corresponding rewards. In the disclosure decision, psychological factors include discomfort and anxiety associated with the risks of data misuse after consumers relinquish control of their data (Glover and Benbasat 2010). We thus propose transaction cost (time, effort) and psychological cost (risk, loss of control) as the cost components in our model.

### 3. Model development and research hypotheses

The VSD model (Figure 1) offers an explanation as to why a person chooses to self-disclose online. The outcome of the model is the intention to fill in the form with personal data. Intentions are indications of willingness to try hard and the effort one plans to exert, in order to perform the behavior (Ajzen 1991). Consumers should estimate the value of self-disclosure by considering all relevant benefit and sacrifice factors, i.e. our four value dimensions (Zeithaml et al 1988). This estimation is contingent to their privacy concerns and some contextual factors (Goodman and Darr 1998).

#### 3.1. *Situational factors influencing consumers' attitudes towards personal data requests*

Value literature suggests that the impact of costs and benefits are dependent on the situation. Based on literature and an exploratory qualitative study, we identify four situational factors likely to influence responses to a data request

- The company requesting the data (e.g., reputation, familiarity)
- The company's privacy policy
- The collection circumstances (when, why, and in what context the request appears)
- The collection device (content and form length)

To ensure the parsimony of our model and the quality of the results — especially in terms of minimal confusion derived from interaction effects — we focus on the last two factors that have not been addressed sufficiently in previous work and have great managerial significance: the data request context (services offered in exchange for data) and the quantity of required data (number of fields on the form).

#### 3.2. *The influence of context and quantity on the respondent's perception of costs and benefits*

The context of the request and the service proposed in exchange of the data. The most common way to promote self-disclosure is to offer incentives (Hann et al 2007). Businesses solicit consumer information by offering services, having different levels of benefits or rewards. The marketing service literature (e.g. Bowen 1990) considers three taxonomic groups of consumer services that can be used to distinguish the resources to be offered in exchange for personal data disclosures. The first group of services is termed 'high-contact, customized, personal services' denoted by a bespoke home page, in our study i.e. the opportunity to "customize" the homepage according to ones' preferences. The second group of services is termed 'moderate contact, semi-customized, non-personal services', equated with receiving a semi-customized automatic newsletter, an example of service which is partly customized, but not specifically tailored to an individual customer's needs. The third group is called 'moderate contact, standardized service', equated in this study to entering a lottery competition which offers the same generic service and benefits to everyone homogenously, with no available adaptation to any specific customer need. We will examine the extent to which customers are prepared to give data in exchange for these three services.

Influence of context on the dimensions of value. Context should firstly influence the customer's perception of the benefits (i.e. both usefulness and enjoyment) of the exchange. Significant correlations have previously been found empirically between customization and both levels of usefulness and enjoyment (Kim and Forsythe 2007, Lee and Chang 2011). Therefore, we also expect to discover a correlation between the service offered in exchange for data (primarily characterized by customization level) and the perceived usefulness and enjoyment in the following way:

*H1 (a,b): The consumer will perceive greater benefits, expressed both in terms of usefulness (a) and enjoyment (b), in the context of a highly-Customized service, modest benefits in the context of a Semi-Customized service and the least benefits when offered a Standardized service.*

Context should also influence both the transactional and psychological costs of providing data. In our examples, the time required and the mental effort needed to complete the form should be the same for each service, because the same forms are used in each case. Research has also shown that providing personal data in exchange for a personalized service provokes fewer negative feelings than doing so in response to mass advertising (Frag and Krishnan 2003). The reduction in psychological costs, engendered by a personalized service, should thus be taken into account.

*H1 (c,d): While transactional costs (c) will be the same in each context, psychological costs (d) associated with responding to the request will differ according to the services proposed in exchange, such that psychological costs are greater for Standardized services, lower for the Semi-Customized case, and even lower for the highly Customized service.*

Influence of quantity of required data on the dimensions of value. We also propose that reducing the length of the form will modify both the benefits and costs of filling in the form. Consumers may view disclosing more data as a way to reap greater benefits, in the form of greater usefulness. On the contrary, a long form maybe viewed as an arduous task and the individual may not acquire any pleasure, therefore producing less perceived enjoyment. The form length should also influence perceptions of disclosure cost, such that the longer the form the more costly. A shorter form should also reduce the psychological cost associated with responding.

*H2: The greater the quantity of data requested, the greater the perceived usefulness (a), transactional (c) and psychological costs (d) of responding and the lesser the perceived enjoyment (b) of responding*

### *3.3. Influence of the four dimensions of perceived value on intention to disclose*

The impact of all four value dimensions on behavioral intentions has previously been documented in several studies (e.g., Kankanhalli et al 2005, Kim et al 2007, Turel et al 2007). Research has shown that people are interested in participating in an exchange if they perceive that doing so provides a tangible benefit (Krishnamurthy 2001), such as usefulness, a benefit which should positively affect the consumers'

intention to self-disclose. The sense of enjoyment provided by a product or service can also entice a consumer into disclosing information in order to enjoy immediate satisfaction (Acquisti 2004). In addition, costs should reduce the consumers' intention to answer. Petty (2000) suggests consumers may resist providing information because the resulting contact is 'too costly': the accumulative costs of ignoring and disposing unsolicited emails or unexpected calls may drain a consumer's time and energy. Unwanted contact is also a source of disquiet for customers and a primary reason for exchange data reluctance (Petty 2000). The psychological costs associated with disclosure should reduce the probability of a customer giving details.

*H3: The four value dimensions will strongly influence the answer to a data request, so that stronger benefits – usefulness (a) and enjoyment (b) - will result in stronger intention to disclose and stronger – transactional (a) and psychological (b) – costs will lead to a weaker intention to disclose .*

### 3.4. Influence of privacy concerns on both intention to disclose and the four dimensions of value

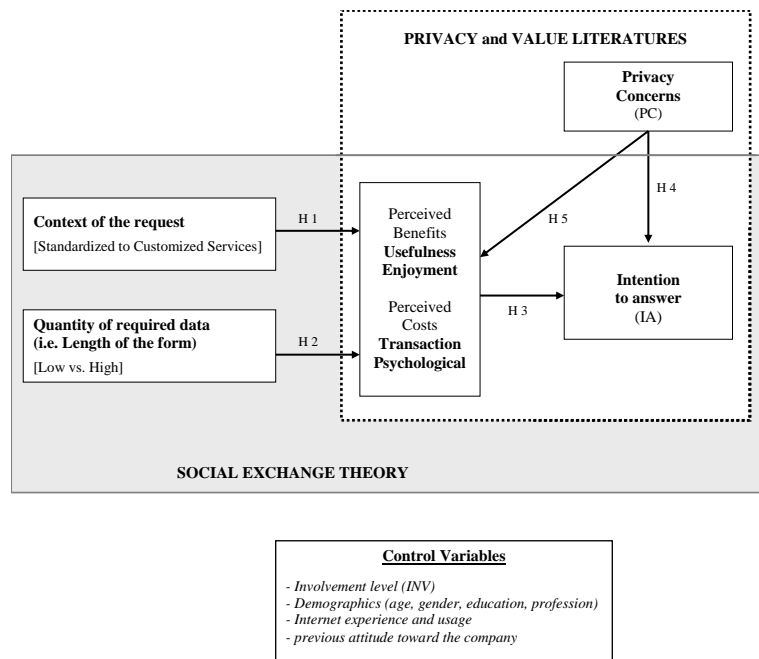
Influence of privacy concerns on intention to disclose. Many authors (e.g., Chellappa and Sin 2005, Dinev and Hart 2006, Zimmer et al 2010) confirm that privacy concerns relate negatively and directly to the willingness to provide information, such that people the most concerned are the least inclined to share their data so we will also test this link in our model.

*H4: The greater the privacy concerns, the less the consumer intends to answer positively to the request for personal data.*

Influence of privacy concerns on the four dimensions of value. Finally, we believe that privacy concerns will also have an impact on all four dimensions constituting value, in line with previous empirical investigations (e.g., Dinev and Hart 2006). The usefulness perception could be significantly diluted as a result of privacy concerns, which are also likely to reduce enjoyment levels (Bulgurcu 2010), irrespective of the 'special treatment' feeling endowed by customization or the 'fun' atmosphere of a lottery (Featherman et al 2010, Romanosky 2009). Privacy concerns will amplify the perception of transaction costs, as customers will be far less willing to answer if they are concerned that the time and effort sacrificed were to be spent providing data to unauthorized parties. Privacy concerns will also enhance psychological costs. People may be worried that their details will become available to an invisible network of information seekers (Sheng et al 2009).

*H5 Greater privacy concerns will significantly mitigate both usefulness (a) and enjoyment (b), and will enhance the transactional (c) and psychological (d) costs of the disclosure.*

**Figure 1. Conceptual framework – the Value-based Self-Disclosure (VSD) Model**



#### 4. Research methodology

We firstly identified previously-used measures to model privacy concern, the four value dimensions and involvement. When no existing measures were available or no scale had been adapted for the purposes of our study, we developed new scales or modified the more orthodox ones. We then examined the dimensionality and internal reliability of the scales by conducting a pilot test with a convenience sample of 93 students. The Exploratory Factorial Analysis ensured that the scales were reliable with all alphas greater than 0.70.

To test our hypotheses, we conducted a controlled experiment in which we manipulated the two situational factors: context of the request and quantity of data. The advantage of this design is its ability to control for external variables (Bagozzi 1991) that seem likely to influence the self-disclosure decision. To increase external validity, we gathered 252 subjects from a panel of French Web users which was approximately representative of the French population. Characteristics of the sample are given in Table 1.

Because we wanted to investigate Internet users' behavior, we conducted the experiment online, using a scenario in which we presented respondents with vignettes (screen pages) that contained the experimental manipulations. Vignettes are effective for eliciting perceptions, especially in relation to moral dilemmas (Finch 1987), such as self-disclosure.

The scenarios included the three contexts which correspond to the consumer service typology (Ruiz et al 2008): standardized service - lottery, semi-customized service - newsletter, and a highly customized service - personalized homepage. The forms were whether short (five fields) or long (the same five fields and 15 additional fields), similar to forms that web surfers typically fill in these contexts.

Table 1. Sample characteristics

Variables	Values	Frequencies	%
<b>Demographics</b>			
Gender	M	128	50.8%
	F	124	49.2%
Age	15-24 years of age	79	31.3%
	25-34	72	28.6%
	35-44	44	17.5%
	45-54	33	13.1%
	55-64	20	7.9%
	65 years of age and over	4	1.6%
Profession	Employees / workers	98	38.9%
	Students	57	22.6%
	Non workers	40	15.9%
Education level	Less than high school	59	23.4%
	High school graduate	122	48.4%
	College graduate	46	18.3%
	Postgraduate	25	9.9%
<b>Experiences</b>			
Internet experience	Less than 2 years	26	10.3%
	Between 2 and 5 years	86	34.1%
	More than 5 years	140	55.6%
E-mail usage	More than once a day	173	68.7%
	Once a day	61	24.2%
	More than once a week	18	7.1%
	Even less	0	0.0%
Web usage	More than once a day	176	69.8%
	Once a day	46	18.3%
	More than once a week	27	10.7%
	Even less	3	1.2%
Online purchase history	None	17	6.7%
	Less than 5	64	25.4%
	5 to 20	88	39.4%
	More than 20	83	32.9%

We checked the experiment validity carefully. Manipulation checks determined the degree to which participants recognized the manipulations. All treatments indicated successful manipulations.

We used a Structural Equation Modeling approach to validate the measures and test the relationships between the constructs. A variance-based Partial Least Squares method offers greater benefits compared with covariance-based methods, due to the least-squares estimation procedure which avoids restrictive assumptions such as multivariate normality or residual distributions (Chin 2010). PLS also facilitates the use of our manipulated variables (context and quantity) in the model. Quantity will be included as a dummy variable and context as a categorical ordered variable (from standardized to highly customized services). Although marketing studies haven't traditionally used PLS to test path models (Marcoulides and Chin 2009), there have been recent calls for such use. Albers (2010) argues that studies evaluating the effectiveness of marketing strategies based

on structural relationships require the application of PLS. PLS allows simultaneous examination of the measurement and structural models but does not generate an overall goodness-of-fit index, so model validity is assessed by examining the structural paths and R<sup>2</sup> values (Chwelos et al 2001).

## 5. Results

### 5.1. Measurement model: Instrument validation

The measurement model assesses the psychometric scale properties. We used well-established guidelines regarding the convergent validity, discriminant validity, and scale reliability (Chin 2010, Gefen and Straub 2005, Lowry et al 2009). The results (*Appendix 1*) suggest sufficient reliability, good convergent and discriminant validity which allow an interpretation of the structural parameters.

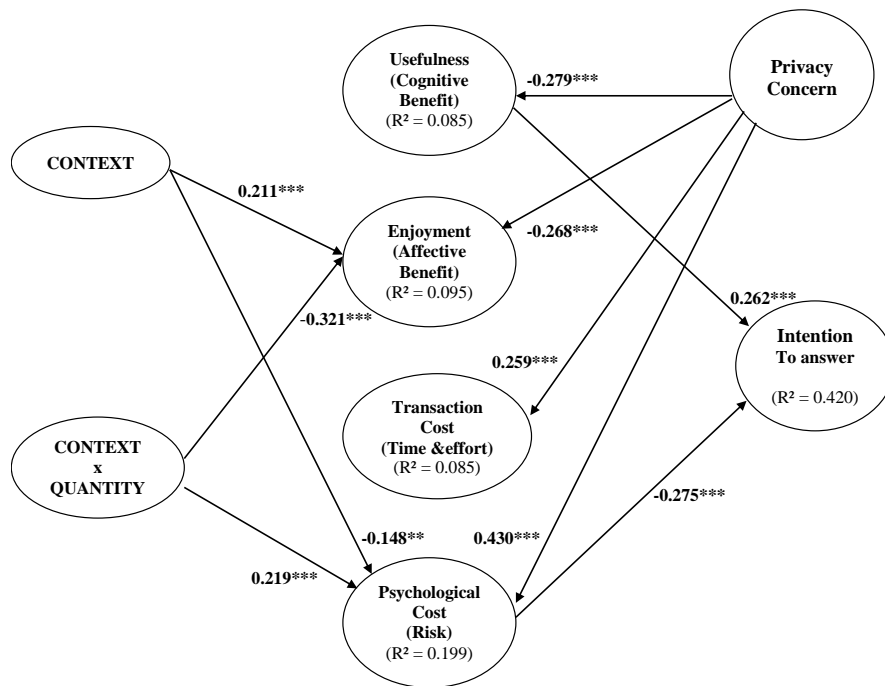
### 5.2. Structural model assessment and hypothesis testing (H1–H5)

The model (Figure 2) explains a substantial amount of variance for intention to answer ( $R^2 = 0.420$ ), greater than the recommended level of 0.10 (Falk and Miller 1992). Although enjoyment and psychological costs are the two variables to be significantly affected by context alone and in interaction with quantity, results (*Appendix 2*) show an insignificant effect of enjoyment on intention to answer (0.083,  $p > 0.1$ ). Apparently, customization brings enjoyment but not enough to convince the customer to exchange personal data. Transaction costs (0.006,  $p > 0.001$ ) also play an insignificant role in determining disclosure. Usefulness (0.262,  $p < 0.001$ ) and psychological costs (-0.275,  $p < 0.001$ ) are foremost in a consumers mind when deciding whether to self-disclose or not. The results also add empirical evidence to the theoretical claims that privacy concerns have a major impact on customers' intention to self-disclose, however the effects appear to be indirect rather than direct. We anticipated that perceptions of usefulness, enjoyment, transaction costs and psychological costs would all be influenced negatively by privacy concerns, and it proved to be true. The effect of privacy concerns on psychological costs was particularly large. Companies therefore should do all they can to tighten data security, reassure the customer, and enhance their reputation to calm these privacy concerns if they are to encourage self-disclosure.

### 5.3. Test of the mediating role of the four value dimensions

The magnitude of the indirect effect of privacy concerns on intention to answer is illustrated by the high VAF values of 54.92% and 66.34% which indicate that more than a half of the total effect is explained by the indirect effect through usefulness and psychological cost. As the direct effect of privacy concerns on intention to answer is non-significant, we can conclude that usefulness and psychological cost fully mediate the impact of privacy concerns. This is an interesting result given that most literature supports a direct effect of privacy concerns on behavioural intentions. A major contribution of this paper is thus the empirical discovery that privacy concern alone is not significant. This means that regardless of the acuteness of customers' privacy concerns, self-disclosure can be obtained if the customer perceives a situation in which benefits (i.e. usefulness) are greater than psychological costs.

**Figure 2. Structural validated model (with only significant paths, including interaction effect)**



\*\* :  $p < 0.05$       \*\*\* :  $p < 0.01$

## 6. Discussion

This research introduces the Value-based Self-Disclosure model as a valuable analytical framework to study how users make the decision to self-disclose. The model is parsimonious and supports the applicability of SET as a foundation for understanding individual decisions to provide data. Whereas pleasure is the second most important driver of customer behavior in some studies (e.g., Steenkamp and Geyskens 2006), disclosure decisions may be more cognitively (through usefulness and psychological costs) as opposed to affectively oriented. We show that decisions to provide data could depend more on the situation than on personal convictions. The influence of privacy concerns on self-disclosure is also more complex than stated in previous literature: this influence is indirect rather than direct.

In order to convince consumers to exchange data, firms should be concerned primarily with lowering psychological costs and formulating a useful service. Companies might enhance usefulness by rewarding respondents with a niche service, convenience, or discount coupons. Firms could also consider making more fields optional or introduce privacy notices, which could reduce the fears associated with disclosure.

This research is not without limitations, which suggest interesting directions for further research. We use utility theories, despite their tendency to reduce consumer behavior to a highly rational decision. As our respondents emerged from an online access panel, they were accustomed to being questioned and therefore maybe more comfortable than most with sharing personal data. Thirdly, even though subjects provided their responses online, the context was not real, and participants did not visit an actual web site.

## References

- Acquisti, A., (2004), Privacy in electronic commerce and the economics of immediate gratification, Electronic Commerce Conference, New York, USA.
- Ajzen, I., (1991), The Theory of Planned Behavior, *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.
- Babin, B.J., Darden, W.R. and Griffin, M. (1994), Work and/or fun: Measuring hedonic and utilitarian shopping values, *Journal of Consumer Research*, 20 (March): 644–654.
- Bagozzi, R., (1991), On the use of structural equation models in experimental designs: Two extensions, *International Journal of Research in Marketing*, 8(2), 125-140.
- Berendt, B., Günther, O., and Spiekermann, S. (2005), Privacy in e-commerce: stated preferences vs. actual behavior, *Communications of the ACM*, 48, 4, 101-106.
- Bowen, J., (1990), Development of a Taxonomy of Services to Gain Strategic Marketing Insights. *Journal of the Academy of Marketing Science*, 18(1), 43-49.
- Bulgurcu, B., (2010), Antecedents and Outcomes of Information Privacy Concerns in Online Social Networking: A Theoretical Perspective. Available at: <http://sprouts.aisnet.org/10-81> [Accessed January 20, 2012].
- Chellappa, R.K. & Sin, R.G., (2005), Personalization versus privacy: An empirical examination of the online consumer's dilemma, *Information Technology and Management*, 6(2), 181–202.
- Chin, W.W., (2010), Bootstrap Cross-Validation Indices for PLS Path Model Assessment. *Handbook of Partial Least Squares*, Available at: [http://dx.doi.org/10.1007/978-3-540-32827-8\\_4](http://dx.doi.org/10.1007/978-3-540-32827-8_4) [Accessed January 11, 2012].
- Davis, F.D., (1989), Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology, *MIS Quarterly*, 13(3), 319-340.
- Dinev, T. and Hart, P., (2006), An Extended Privacy Calculus Model for E-Commerce Transactions, *Information Systems Research*, 17(1), 61-80.
- Dube-Rioux L. (1990), The power of affective reports in predicting satisfaction judgments. In: Michael Houston, Editor, *Advances in Consumer Research*, 17, Association for Consumer Research, New York, 571–576
- Eastlick, M.A., Lotz, S.L. and Warrington, P., (2006), Understanding online B-to-C relationships: An integrated model of privacy concerns, trust, and commitment, *Journal of Business Research*, 59(8), 877-886.
- Falk R. F. & Miller, N. B. (1992), *A Primer for Soft Modelling*, Akron, Ohio: The University of Akron Press.
- Frag, N.I. and Krishnan, M.S., (2003), An Empirical Evaluation of Information Features and the Willingness to be Profiled Online for Personalization. Available at: <http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.95.8305>, [Accessed May 9, 2011].

- Featherman, M.S., Miyazaki, A.D. and Sprott, D.E., (2010), Reducing online privacy risk to facilitate e-service adoption: the influence of perceived ease of use and corporate credibility, *Journal of Services Marketing*, 24(3), 219-229.
- Finch, J. (1987) The Vignette Technique in Survey Research, *Sociology*, 21, 105-14
- Flavián, C. and Guinalíu, M., (2006), Consumer trust, perceived security and privacy policy: Three basic elements of loyalty to a web site, *Industrial Management and Data Systems*, 106(5), 601-620.
- Gefen, D. and Straub, D., (2005), A practical guide to factorial validity using PLS-Graph: Tutorial and annotated example, *Communications of the Association for Information Systems*, 16, 91-109.
- Glover, S. and Benbasat, I., (2010), A Comprehensive Model of Perceived Risk of E-Commerce Transactions, *International Journal of Electronic Commerce*, 15(2), 47-78.
- Goodman, P. S., and Darr E.D. (1998), Computer-Aided Systems and Communities: Mechanisms for Organizational Learning in Distributed Environments, *MIS Quarterly*, 22 (4) (December 1), 417-440.
- Hann, I.H., Hui K.L., Lee S.Y., and Png I. (2007), Overcoming Online Information Privacy Concerns: An Information-Processing Theory Approach, *Journal of Management Information Systems*, 24 (2) (October), 13-42.
- Kankanhalli, A., Tan B.C.Y., and Wei K.K.. (2005), Contributing Knowledge to Electronic Knowledge Repositories: An Empirical Investigation, *MIS Quarterly*, 29 (1) (March 1), 113-143.
- Kim, J., Fiore, A.M. and Lee, H.H., (2007), Influences of online store perception, shopping enjoyment, and shopping involvement on consumer patronage behavior towards an online retailer, *Journal of Retailing and Consumer Services*, 14(2), 95-107.
- Kim, J., and Forsythe S. (2007), Hedonic usage of product virtualization technologies in online apparel shopping, *International Journal of Retail & Distribution Management*, 35 (6), 502-514.
- Kim SS, and Son JY (2009), Out of dedication or constraint? A dual model of post-adoption phenomena and its empirical test in the context of online services, *MIS Quarterly*, 33(1), 49-70.
- Krishnamurthy S. (2001), A comprehensive analysis of permission marketing, *Journal of Computer Mediated Communication*, 6(2), Available at <http://jcmc.indiana.edu/vol6/issue2/krishnamurthy.html> [Accessed January, 11, 2012]
- Lee, H.H. and Chang, E., (2011), Consumer Attitudes Toward Online Mass Customization: An Application of Extended Technology Acceptance Model, *Journal of Computer-Mediated Communication*, 16(2), 171-200.
- Lowry, P.B., Romano, N.C., Jenkins, J.L. and Guthrie, R.W., (2009), The CMC Interactivity Model: How Interactivity Enhances Communication Quality and Process Satisfaction in Lean-Media Groups, *Journal of Management Information Systems*, 26(1), 155-196.
- Margulis, S. T. (2003), "Privacy as a Social Issue and Behavioral Concept", *Journal of Social Issues*, 59 (2) (July 1), 243-261.

- Norberg, P.A., Horne, D.R. and Horne, D.A., (2007), The Privacy Paradox: Personal Information Disclosure Intentions versus Behaviors, *Journal of Consumer Affairs*, 41(1), 100-126.
- Petty, R.D., (2000), Marketing without Consent: Consumer Choice and Costs, Privacy, and Public Policy, *Journal of Public Policy & Marketing*, 19(1), 42-53.
- Posey, C., Lowry, P.B., Roberts, T.L., and Ellis, S. (2010), The Culture-Influenced Online Community Self-Disclosure Model: The Case of Working Professionals in France and the UK, *European Journal of Information Systems*, 19 (2), 181-195.
- Premazzi, K., Castaldo, S., Grosso, M., Raman, P., Brudvig, S. and Hofacker, C.F., (2010), Customer Information Sharing with E-Vendors: The Roles of Incentives and Trust, *International Journal of Electronic Commerce*, 14(3), 63-91.
- Romanosky, S., (2009), Do Data Breach Disclosure Laws Reduce Identity Theft? Available at: <http://citeseerx.ist.psu.edu/viewdoc/summary?doi=?doi=10.1.1.139.6644>. [Accessed January 11, 2012].
- Ruiz, D. M., Gremler D.D., Washburn J.H., and Carrión G.C. (2008), Service value revisited: Specifying a higher-order, formative measure. *Journal of Business Research*, 61 (12) (December), 1278-1291.
- Sheehan, K.B. and Hoy, M.G., (2000), Dimensions of Privacy Concern Among Online Consumers. *Journal of Public Policy & Marketing*, 19(1), 62-73.
- Sheng, S., Kumaraguru, P., Acquisti, A., Cranor, L., and Hong, J., (2009), Improving phishing countermeasures: An analysis of expert interviews. *eCrime Researchers Summit*, 1-15.
- Son, J. and S. S. Kim (2008), Internet Users' Information Privacy-Protective Responses: A Taxonomy and a Nomological Model, *MIS Quarterly*, 32, 3, 503-529.
- Steenkamp, J.B.E.M. and Geyskens, I., (2006), How Country Characteristics affect the perceived value of a website, *Journal of Marketing*, 70, 3, 136-150.
- Turel, O., Serenko, A., Bontis, N., (2007), User acceptance of wireless short messaging services: deconstructing perceived value, *Information and Management*, 44 (1), 63-73.
- Van Dyke, T., Midha, V. and Nemati, H., (2007), The Effect of Consumer Privacy Empowerment on Trust and Privacy Concerns in E-Commerce, *Electronic Markets*, 17(1), 68-81.
- Westin, A., (1967), *Privacy and Freedom*, 1st ed., Atheneum, New York.
- Zeithaml, V.A., (1981), How consumer evaluation processes differ between goods and services, in *Marketing of Services*, James H. Donnelly and William R. George, eds. Chicago: AMA, 186-189.
- Zeithaml, V.A., Berry, L.L. and Parasuraman, A., (1988), Communication and Control Processes in the Delivery of Service Quality, *The Journal of Marketing*, 52(2), 35-48.
- Zimmer, J. C., Arsal R. E., Al-Marzouq M., and Grover V. (2010), Investigating online information disclosure: Effects of information relevance, trust and risk, *Information & Management*, 47 (2) (March), 115-123.

## Appendix 1. Measurement model statistics

Construct	Item	Mean	SD	Loading	SE	t-value <sup>a</sup>	AVE <sup>b</sup>	CR <sup>c</sup>
Usefulness (Benefit) (USE)	USE1	4.08	1.694	0.856	0.026	33.507	0.739	0.895
	USE2	3.67	1.788	0.865	0.021	41.672		
	USE3	3.98	1.821	0.859	0.019	45.086		
Enjoyment (Benefit) (ENJ)	ENJ1	4.02	1.585	0.822	0.046	17.877	0.685	0.813
	ENJ2	4.36	1.754	0.833	0.039	21.178		
Transaction Cost (TRA)	TRA1	3.85	1.857	0.894	0.020	45.56	0.790	0.883
	TRA2_i	3.87	1.731	0.884	0.024	36.776		
Psychological Cost (PSY)	PSY1	4.25	1.789	0.880	0.018	47.829	0.673	0.860
	PSY2_i	5.05	1.691	0.754	0.041	29.711		
	PSY3	4.04	1.516	0.823	0.028	18.433		
Privacy concern (PC)	PC1	4.79	1.970	0.876	0.030	28.965	0.687	0.867
	PC2	5.11	1.908	0.738	0.054	13.774		
	PC3	3.26	2.054	0.865	0.037	23.225		
Intention to answer (IA)	IA1	3.59	1.254	0.920	0.013	73.430	0.715	0.833
	IA2	3.89	1.68	0.764	0.047	16.246		
Involvement (INV)	INV1	4.35	1.571	0.913	0.028	32.825	0.774	0.911
	INV2	4.95	1.601	0.821	0.036	23.037		
	INV3	4.19	1.811	0.903	0.024	37.407		

Notes: <sup>a</sup> t-statistics smaller than 1.96 are not significant at the 0.05 level. <sup>b</sup> AVE = Average variance extracted. <sup>c</sup> CR = Composite reliability.

## Matrix of loadings and cross loadings

Item	USE	ENJ	TRA	PSY	PC	IA
USE1	<b>0.856</b>	0.504	-0.524	-0.393	-0.224	0.416
USE2	<b>0.865</b>	0.469	-0.469	-0.404	-0.249	0.460
USE3	<b>0.859</b>	0.475	-0.472	-0.413	-0.262	0.484
ENJ1	0.516	<b>0.822</b>	-0.485	-0.349	-0.318	0.352
ENJ2	0.498	<b>0.833</b>	-0.532	-0.356	-0.154	0.443
TRA1	-0.452	-0.494	<b>0.894</b>	0.509	0.260	-0.372
TRA2_i	-0.531	-0.401	<b>0.884</b>	0.488	0.227	-0.398
PSY1	-0.357	-0.359	0.397	<b>0.880</b>	0.435	-0.451
PSY2_i	-0.241	-0.189	0.406	<b>0.754</b>	0.276	-0.345
PSY3	-0.439	-0.473	0.481	<b>0.823</b>	0.352	-0.431
PC1	-0.255	-0.217	0.210	0.413	<b>0.876</b>	-0.247
PC2	-0.248	-0.301	0.304	0.336	<b>0.738</b>	-0.118
PC3	-0.193	-0.169	0.147	0.327	<b>0.865</b>	-0.136
IA1	0.423	0.462	-0.423	-0.508	-0.257	<b>0.920</b>
IA2	0.345	0.336	-0.290	-0.309	-0.047	<b>0.764</b>

**Interconstruct correlations (AVE on the diagonal)**

	USE	ENJ	TRA	PSY	PC	IA
USE	<b>0.860</b>					
ENJ	0.793	<b>0.828</b>				
TRA	-0.607	-0.614	<b>0.889</b>			
PSY	-0.470	-0.426	0.561	<b>0.820</b>		
PC	-0.286	-0.284	0.275	0.439	<b>0.829</b>	
IA	0.529	0.481	-0.433	-0.503	-0.207	<b>0.8496</b>

Square root of AVE is shown is the diagonal of the matrix. Inter-construct correlation is shown off the diagonal.

**Appendix 2. Structural model: Path coefficients and Test of the hypotheses**

Relation tested	Original Sample	Sample Mean	St. Dev	T Statistic	p	Hypothesis	Test
Services -> USE	0.083	0.090	0.045	0.717		H1 a	<b>H1b</b>
<b>Services -&gt; ENJ</b>	<b>0.211</b>	<b>0.228</b>	<b>0.060</b>	<b>2.813</b>	<b>p &lt; 0.01</b>	and H1 b	<b>validated</b>
Services -> TRA	0.033	0.048	0.041	0.300		H1c	<b>H1 d</b>
<b>Services -&gt; PSY</b>	<b>-0.148</b>	<b>-0.152</b>	<b>0.053</b>	<b>1.713</b>	<b>p &lt; 0.05</b>	and H1 d	<b>validated</b>
<i>Services x Qty -&gt; USE</i>	<i>-0.120</i>	<i>-0.109</i>	<i>0.060</i>	<i>1.349</i>	<i>p &lt; 0.10</i>	No hyp.	<b>Two</b>
<b>Services x Qty -&gt; ENJ</b>	<b>-0.321</b>	<b>-0.339</b>	<b>0.065</b>	<b>5.429</b>	<b>p &lt; 0.01</b>	(Interaction Effect)	<b>significant effects</b>
Services x Qty -> TRA	0.074	0.093	0.041	0.523			
<b>Services x Qty -&gt; PSY</b>	<b>0.219</b>	<b>0.269</b>	<b>0.084</b>	<b>2.991</b>	<b>p &lt; 0.01</b>		
Quantity -> USE	0.024	0.028	0.042	0.262		H2 a	Not
Quantity -> ENJ	<i>0.111</i>	<i>0.123</i>	<i>0.044</i>	<i>1.295</i>	<i>p &lt; 0.10</i>	and H2 b	validated
Quantity -> TRA	-0.003	-0.008	0.093	0.035		H2 c	Not
Quantity -> PSY	-0.083	-0.092	0.044	0.804		and H2 d	validated
<b>USE -&gt; IA</b>	<b>0.262</b>	<b>0.263</b>	<b>0.084</b>	<b>3.129</b>	<b>p &lt; 0.01</b>	<b>H3 a</b>	
ENJ -> IA	0.083	0.095	0.068	1.228		H3 b	<b>H3 a and d</b>
TRA -> IA	0.006	0.056	0.042	0.134		H3 c	<b>Validated</b>
<b>PSY -&gt; IA</b>	<b>-0.275</b>	<b>-0.269</b>	<b>0.067</b>	<b>4.116</b>	<b>p &lt; 0.01</b>	<b>H3 d</b>	
PC -> IA	-0.060	-0.071	0.048	1.262		H4	Not validated
<b>PC -&gt; USE</b>	<b>-0.279</b>	<b>-0.279</b>	<b>0.058</b>	<b>4.803</b>	<b>p &lt; 0.01</b>		
<b>PC -&gt; ENJ</b>	<b>-0.268</b>	<b>-0.273</b>	<b>0.060</b>	<b>4.448</b>	<b>p &lt; 0.01</b>		
<b>PC -&gt; TRA</b>	<b>0.259</b>	<b>0.260</b>	<b>0.067</b>	<b>3.890</b>	<b>p &lt; 0.01</b>	<b>H5</b>	<b>Validated</b>
<b>PC -&gt; PSY</b>	<b>0.430</b>	<b>0.434</b>	<b>0.059</b>	<b>7.238</b>	<b>p &lt; 0.01</b>		



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## **ONLINE SHOPPING EXPERIENCES: A QUALITATIVE EXPLORATORY RESEARCH**

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### **Abstract**

#### **o Purpose :**

This research tackles the issue of shopping experiences in an online environment. Previous studies have already focused on consumption experiences (Holt, 1995; Arnould and Thompson, 2005) and consumer experiences on the web focusing on ‘browsing’ and ‘flow’ online (Hoffman, Novak, 1996, 2009). This paper intends to examine online shopping experiences from three aspects: the physical, ideological and pragmatic dimensions.

#### **o Design/methodology/approach**

As an exploratory research study, a qualitative research method was used (in France) with four focus groups – thirty-one consumers who differ in terms of age, gender and consumer experience.

#### **o Findings**

The results highlighted the three proposed dimensions and underline as core issues online trust (or mistrust), age and online social interactions with friends. The shopping practices on the commercial websites are also considered.

#### **o Research limitations/implications**

Future studies should examine other populations in different countries and contexts. A valuable contribution would be to examine the online shopping experience of young shoppers.

**Keywords:** online shopping experience, shopping behavior, trust, privacy,.

# ONLINE SHOPPING EXPERIENCES: A QUALITATIVE SURVEY

## Introduction

This research takes place in France where 86% of Internet users declare that they use the Internet before making a purchase decision, the final purchase not necessarily taking place online (Fevad, 2010). Multi-channel shopping behavior is not only a potentiality but reflects the vast majority of shopping behaviors and modifies the consumer experience as a whole. This paper tackles the issue of shopping experiences in an online environment.

Previous studies have already focused on consumption experiences (Holt, 1995 ; Arnould and Thompson, 2005; Sherry and Fischer, 2009), shopping motivations (for instance Babin and Darden, 1996) and consumer experiences on the web focusing on “browsing and flow” online (Hoffman, Novak, 1996, 2009). Although their contributions are numerous, these researches have focused on individual behaviors or experiences in a particular channel. These contexts are quite separated in the literature whereas consumer practices are becoming more and more cross-channeled. Moreover, the shopping experience has not been investigated yet.

This paper intends to consider online shopping experiences as a whole – and not just purchase experiences, considering shopping practices online and offline..

As an exploratory research study, a qualitative research method was used (in France) with four focus groups - thirty-one consumers who differ in terms of age, gender and consumer experience.

E-commerce sales rose by 24% in 2010 in France, that is to say the French e-commerce sales totalled €31 billion in 2010<sup>i</sup>. In France, 4% of e-commerce sales take place via a mobile phone, and the mobility of shoppers as well as the rise of smart phone sales may reinforce this phenomenon. Along with the mobility of shoppers and the dematerialization of purchases,

another trend in e-commerce is the co-creation of products and services by customers. Indeed, beyond simply personalizing products, private labels use the opportunity of the web 2.0 in a co-creation process. For instance, Reebok invites their customers to design a completely customized shoe as a one-off, in order to inspire other customers - via Facebook, Twitter, e-mail and beyond - to embrace their own Reestyle. This mass customization provides autonomy to the customers, like a free zone where they are able to live new experiences. With an increased use of internet shopping facilities and new shopping experiences online, does the shopping experience remain the same? What do the shoppers experiment with online?

These new shopping experiences are key factors that the e-retailers have to take into account in the web context where trust is important to facilitate electronic transactions (Grabner-Krauter and Kaluscha, 2003). Indeed, are the online shopping experiences of younger shoppers different from the previous generation? This research addresses the issue of online shopping experiences. On the one hand, fifteen years after the eruption of the internet in the retailing context, some things have changed: from disintermediation, the online retailing strategy has moved towards a cross-retailing one. Here, the shoppers have experienced pure-players as well as brands that they are used to shopping off-line. But on the other hand, some things have stayed the same: shopping is always an experience.

This research synthesizes the literature on online shopping experiences and online trust. The research method involving focus groups is presented. The results provide insights into the physical, ideological and pragmatic dimensions of the online shopping experience. The results also show that depending on some personal characteristics, on their social interaction, and on the situation, the online shopping experiences vary a lot and shoppers put their trust and belief in recommendation agents.

## Literature Review and Theoretical Framework

### Literature Review

#### *Experience and consumption*

Etymologically, experience means a test, an attempt, and refers to experimentation, that is to say the knowledge based upon sense experience as opposed to a “pure” and a priori knowledge. So experience is enabled by an individual learning process. Experience may also be revealed (for instance the mystical experience), which means that experience is part of the individual subjective insight experience. From an anthropological perspective, experience refers to how each individual experiments with his own culture (Bruner, 1986). Experience differs from behavior, which is a visible part of experience (what is seen from the outside) and differs from the situation itself.

Research in marketing defines experience as a personal and subjective moment that may build and transform a person’s life (Arnould and Thomson, 2005); the principal dimension is the emotional and sensitive dimension, followed by the cognitive dimension (Addis and Holbrook, 2001). The experience undergone in a shopping context is a whole shopping experience (Arnould *et al.*, 2002). Consumers may live in many ways; it depends on the social context, on the products and services and on the personal relationships that are related to the situation (Edgell *et al.*, 1997). Moreover, the shopping experience is not just under the influence of the environment: the personal experience is influenced by the environment, and then the experience itself is transformed.

In addition to the functional dimension of consumption items, Heilbrunn (2010) brings out three components of consumption experience which may be analyzed as latent dimensions of consumption (Filser, 2008). Indeed, these components integrate three salient aspects of the concept which have been pointed out in other literature:

- A physical dimension, linked to the fact the experience takes place somewhere, in a particular context and in a period of time. This dimension refers to the tangible base of the consumption experience : experience is multi-sensory based (an individual may see, touch, smell, taste, feel the consumption object) and takes place in space and time (the consumer may choose, hesitate, reject, use the object); this dimension is related to the physical participation in the environment and the specific relationship the individual is committed to (Pine and Gilmore, 1999);
- An ideological dimension relating to the ability of the object to promote values and an imaginary world. This ideological dimension pertains to the way that consumer's attitudes and behaviors may be shaped and modified. This aspect of experience refers to the marketing research on shopping value and consumer behavior (Holbrook, 2000) and the search for identity and self-image (Firat and Dholakia, 1998).
- A pragmatic dimension, that is to say the use of tools, artifacts and all the shopping practices which structure the rituals of consumption and shopping. Thus, it is a practice-based dimension; depending on the culture, the consumption may be defined by a precise set of acts and gestures so that the consumers make the brand and products theirs: they "appropriate" them (Holt, 1995).

These dimensions highlight that people do not undergo the experience: it brings into play a learning process that modifies the individual who, in his turn, transforms the environment.

The individual is intending to participate in the experience, extra-ordinary or not; s/he wants to be part of the experimentation (De Certeau, 1984); the consumer appropriates his everyday life by conducting his own experiences.

### *Online shopping experience*

An experiential framework based on the concepts of flow and cognitive absorption has been proposed by (Hoffman and Novak, 1996, 2009; Novak, et al. 2000; Agarwal and Karahanna, 2000). This framework is accurate to analyze online consumer behavior in general. The central hypothesis of these models is that the online environment is interactive by nature: consumers interact with websites, with other consumers and with the interface itself. Another perspective is proposed by Prahalad and Ramaswamy (2004); they consider a personalized consumer experience, referring to the concept of co-creation. Unique experiences between consumers and companies are considered and new product development is taken as an example.

Marketing research provides considerable evidence suggesting shopping is a social experience. Thus, co-creation experiences may be shared by consumers with their social network (family, friends, members of the community: all types of companions). But surprisingly, previous research on online consumption experiences examines the individual experience, but does not examine the global online experience with a companion. Moreover, to the best of our knowledge, online shopping in groups has not been examined in current research yet.

The literature on shopping behavior (and online shopping) considers that consumers' motivations when they shop online may be hedonistic or utilitarian (for instance: Babin and Attaway, 2000; Sénécal *et al.*, 2002; Bridges and Florsheim, 2008).

### *Trust, experience and online shopping*

Customers learn from their buying experience and product use. These experiences shape their trust and behavior on the website and generates word-of-mouth communication, through online and off line social networks. Online trust is developed over a process of repeated visits

to a site as a user gains experience and believes that his/her expectations are met during the visits, explain Urban et al. (2009). Trust is thus considered as a process, a permanent and continuing consumer experience. (Bart et al., 2005) consider that “online trust includes consumer perceptions of how the site would deliver on expectations, how believable the site’s information is, and how much confidence the site commands”. The state of the art realized by Urban et al. (2009) explains that online trust extends beyond privacy and security, and is closely connected to website design, and that its formation is an on-going process, and is heterogeneous across individuals and products. It is indeed fairly hard to identify a single behavior rule or model to consider online trust worldwide. Multiple national surveys and international comparisons are required (e.g. Dinev et al., 2006). Moreover, recent national surveys in France suggest that online trust as a topic might be over-estimated. The trust rate in online shopping is growing, but remains pretty low (between 51% and 64% according to various surveys<sup>1</sup> – i.e. the percentage of internet users who declare to trust online shopping). An “online trust paradox” is then evoked: internet users massively shop online (85% of French internet users) in spite of their trust level. Surveys usually conclude that the ‘use’ value is considered higher than perceived risks. Trust rate in online banking (69%) and e-administration (89%) are higher.

So in this research, the online shopping experience is examined through the three dimensions described above. The research presented above drives us to consider two general propositions. The first one deals with the theoretical framework for online experiences. Are the three dimensions of the experience developed by Heilbrunn (2010) accurate for online shopping experience? The second research proposal deals with the differences in online shopping behaviors among shoppers. Actually, shoppers who have experienced online shopping are more familiar with e-commerce and should be more confident to shop online, above all, the

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<sup>1</sup> ACSEL-Caisse des Dépôts, 2010 ; Fevad, 2010.

youngest shoppers, the “digital natives” who are used to the internet environment. Their online shopping experience must be different: they might be more curious, fond of new brands with an appetite for novelty.

### **Methodology**

Two focus groups have been conducted with consumers from 31 to 63 years old: sixteen respondents, six male and ten female with different professions. Two other focus groups were conducted with undergraduate students from 18 to 20 years old: fifteen respondents, five male and ten female with the same diploma/from the same course.

Each focus groups has been video captured in order to be integrally written; F.G. n°1 gave 20 pages, that is to say 985 lines, F.G. n°2 gave 26 pages, so 816 lines, F.G. n°3 gave 11 pages, that is to say 451 lines, and F.G. n°4 gave 10 pages, which represented 412 lines. Two of them were composed of consumers with various activities, from 31 to 63 years old, while the other groups were students, in order to situate the online shoppers socially and culturally. Indeed, the aim of these homogeneous groups in term of age/activity of the participants was to examine how this so-called Generation Y, operate as a group in the internet context. In exploring online experiences of shoppers who had not experienced the arrival of pure players, who are used to the web 2.0, and in exploring their in-group and out-group relationships, the research may investigate how they behave as tribes, how deep their bonds are and what are their shopping rituals. The group discussions may also offer participants an environment where they may feel free to share their experiences in the company of the same socioeconomic background. This methodology may serve to facilitate conversation and dialogue between the different participants of the study (Moisander *et al.*, 2009).

A content analysis has been conducted in order to reveal on the one hand, the use of websites and shopping environment and to distinguish the adaptable strategies during the online shopping experiences.

**Table n°1 – Focus groups on online shopping experience (details)**

<i>Focus groups</i>	<i>Firstname (initials), age, activity and gender</i>	<i>Use of commercial sites</i>
<p><b>FG n°1 :6 members</b></p> <p>5 women from 38 to 61 years old 1 man – 40 years old</p>	<p>U. (woman) 38 years old –marketing woman M. (woman) 61 years old - retired N. (woman) 59 years old –executive in a school. S. (man) 40 years old - broker S. (woman) 39 years old - optician M-L. (woman) 39 years old – teacher</p>	<p>Very intensive Regular Regular Limited Frequent Frequent</p>
<p><b>FG n°2 :10members</b></p> <p>5 women from 31 to 41 years old 5 men from 37 to 63 years old</p>	<p>V. (woman) 31 years old - unemployed engineer C. (woman) 36 years old –marketing woman G. (man) 37 years old -executive in a local community K. (woman) 39 years old - Human Resource Director D. 39 years old –senior police officer M. (woman) 41 years old - psychologist Ch. (man) 45 years old - engineer T. (man) 63 years old –teacher retired A-D. (woman) 32 years old –manager of a pub</p>	<p>Intense Very intensive Intense Frequent Frequent Regular Frequent Limited Frequent</p>
<p><b>FG n°3: 8 students (1<sup>st</sup> degree University)</b> 6 female -19 years old 2 men – 19 and 20 years old</p>	<p>Marie-Haud. (woman) 19years old Carole.(woman) 19years old Sophie.(woman) 19 years old Lucie. (woman) 19years old Manon.(woman) 19 years old Camille. (woman) 20years old Jonathan.(man) 19 years old Jordan.(man) 20 years old</p>	<p>Very intensive Regular Regular Frequent Regular Limited Limited Limited</p>
<p><b>FG n°4: 7students (1<sup>st</sup> degree University)</b> 4 female from 18 to 19 years old 3 men from 19 to 20 years old</p>	<p>Joana.(woman) 18years old Nancy.(woman) 19years old Aurélie.(woman) 19years old Fiona.(woman) 19 years old Arnold. (man) 19 years old Florent. (man) 19years old Benoît. (man) 20years old</p>	<p>Regular Very intensive Frequent Frequent (but no purchase) Regular Limited Limited</p>

## Major Results

### *Dimensions of online shopping experience*

Some of the main relevant verbatim accounts referring to the three dimensions of the online shopping experience have been summarized in table 2.

**Table 2. Results: three-dimensional online shopping experience**

<i>Dimensions of the online experience and components</i>	<i>Verbatim accounts</i>
<p><b>Physical dimension</b></p> <ul style="list-style-type: none"> <li>- Time pressure</li> <li>- Companions</li> <li>- Visual variables: web design, colours, website ergonomics and ease-of-use.</li> </ul>	<ul style="list-style-type: none"> <li>- “When we are in front of our computer, time passes quickly” (Laurène). “We have to think it over, because it [the computer he wants to buy online] costs a lot, so we must spend a lot of time on it” (Jordan). “Actually, when you return items, the <i>VentesPrivées</i> website takes too much time to return your money » (Coralie). « You need time to search around [all the websites] » (Sidonie). “I am not a compulsive consumer: I wait and I wait until the product is sold at a discount” (Marie-Haude). « if only I had a little time to go shopping downtown, I would probably spend half the amount of money I actually spend per month! (Ulrike)</li> <li>- « The website was recommended by a friend” (Virginie). ‘I have a lot of friends who buy online (<i>Carrefour</i> online) (Sidonie). “If something costs a lot, we ask friends whether you can find it for less, and also what their opinion is about it and whether it’s worth buying” (Laurène).</li> <li>- The physical aspect is important for me; I never browse for clothes online: it isn’t worthwhile, because in the end the design, and even the color, won’t be the same” (Carole). “The ergonomics of the frontpage...some websites show the clothes from every angle” (Nicole). “First they have to catch my eye and after that, the content must be clear” (Sidonie). “The vision is reduced [on mobile phones], it is not as attractive as it is [online]” (Marine). “On the <i>VentesPrivées</i> website, the product just appears [suddenly] like that!!” (Ulrike). « I look at the different sections, the website design and the tabs relating to the services (Karine).</li> </ul>
<p><b>Ideological dimension</b></p> <p>Utilitarian and/or hedonic value of shopping</p>	<ul style="list-style-type: none"> <li>- « I try to buy useful items, contrary to my husband, who buys for fun on ebay, because he is a comic strip collector” (Coralie). “I buy a lot online, but contrary to my husband, I don’t buy useless things online. I buy a lot of things... but useful things. I only buy useful stuff. (Marie). “it’s some specific stuff that we need to have that we cannot find in La Rochelle so [...] sometimes we need specific stuff for our pub”. (Anne-Do). “When you buy something, if you are not too silly, you want the best price for the same quality. So me, I buy a lot of furniture looking for the best quality-price ratio; I start with a benchmark of prices, I browse websites (Darty and others) if I need something [...] you know what I mean!” (Monique). « Sometimes, you want to read a book, as if you were craving for food. It’s now!</li> </ul>

	<p>and immediate!” (Monique). «For me, the internet arouses my desires!” (Ulrike). “I don’t want to buy online... I have to buy a TV set... but I will buy it because some people I know bought one before, as Manu [one of his friends], who is crazy about the internet, and therefore has experience of it, I’m ready to do it now, even though I am not particularly in favour of it...” (Stéphane). “I’ve used online stores for a long time! Well, I don’t like shopping... I shop online, but I really don’t like shopping in stores.” (Sidonie). « I’ve been shopping online because the store I chose doesn’t exist in La Rochelle.” (Virginie - student). “I buy only online when I don’t have any other choice!” (Amandine)</p>
<p><b>Pragmatic dimension</b></p> <ul style="list-style-type: none"> <li>- Web surfing &amp; shopping</li> <li>- Surfing &amp; browsing tools (browsing history, bookmarks)</li> <li>- Shopping tools (shopping cart, online comparison)</li> </ul>	<ul style="list-style-type: none"> <li>- “When I find a very interesting product or item on an unknown website, I go to search engines to find opinions about the seller” (Gilles). “I never browse on the internet” (Jonathan). “Sometimes, while I chat with my friends, I browse the internet so I can say to my friends: “Hey, look at this gorgeous t-shirt!” and send her a link to the website” (Aurélie). “I tagged <i>VentesPrivées</i>: I put the website in my bookmarks” (Jennyfer). “Usually, I don’t even mark the websites because I already know them” (Mélie).</li> <li>- “You can put something aside for a while, twenty minutes, half an hour” (Sidonie). “You just need to click on it again and it is re-activated within twenty minutes, so it gives me time to think about it, and then I re-activate...” (Ulrike). “I put [products] in the shopping cart, but after that, I remove them! I give up!” (Nicole). “ I also put [products] into the shopping cart, and when I feel strong enough, I move on to something else, but when I want to indulge myself, I say: “let’s go! Let’s order online” (Ulrike). “I never use the shopping cart because when I have enough money to buy it, it isn’t for sale anymore!” (Sophie). “It isn’t worth using the shopping cart, because in 3 month’s time when I return to the website it will not exist anymore!” (Manon).</li> </ul>

The first dimension is a physical dimension, linked to the fact that online shopping experience takes place in the World Wide Web specific context, in 2011, in Europe (France). Components of the physical dimension of shopping experience had been expressed by the respondents: the design influence and visual aspects of the websites, the uses of customer reviews and opinions shared by the customers and the time pressure.

Time is not experienced the same way on the internet: time may pass slowly if respondents do not find directly what they need. The flow model, evoked above (Hoffman and Novak, 2009) pointed out this specific relationship to time distorsion while connected online.

Furthermore, respondents explain they might spend time chatting with their friends while shopping online. Indeed, they underlined that they rely on their friends and relations to help them in shopping. They need their opinion on the products they are interested in. For instance, one of the students explains that when she browses fashion brands websites or accessories, she shares a link with a friend who is chatting with her (on Facebook) at the same time. Through these online social interactions, the shopper places his/her decision process within a collective process and a social consumption framework. This collective process is very specific as it is limited to a few close friends connected online on Facebook.

The analysis also clearly underlines a gender issue in the shopping behavior: the social links that are enabled in shopping patronage, the presence of companions, the nature of shopping trips are highlighted by the female respondents.

The ideological dimension of online shopping experience can be measured by the value of shopping. As pointed out by the literature, the consumers interviewed may have a hedonistic or a utilitarian value of shopping. The shoppers declare to shop online because they want to treat themselves or because it is useful, or because they are looking for the best “value for money” ratio.

Concerning the pragmatic dimension of the online shopping experience, different uses of browsing tools have been highlighted. Some of them are very interesting, like the virtual shopping cart which is a part of specific online routines. Shoppers may place items in an online shopping cart in order to secure online price promotions, to put aside items they really like, or to have fun – and not necessarily to buy the product. This routine goes beyond purchase intention and is really part of online shopping experiences.

#### *Trust, privacy and the Y generation*

Site design and recommendation have been notified by the consumers to be variables that may influence online trust. The respondents trust the websites on the basis of word-of-mouth,

number of customers, marks and reviews of customers, but they argue that they do not need more precise information on the sellers; the public information is enough.

**Table 3. Online trust: selection of verbatim accounts**

<i>Online trust</i>	<i>Verbatim accounts</i>
<b>Site design</b>	<p>“According to the layout of the website, as a result, we trust it or don’t trust it, me, I look at the site and I say to myself [...]. I look at the different sections, the website design and the tab concerning the services, also the number of customers, I find out where the site is located, and then I choose.” (Karine). “The aspect of the website may have an impact on the way I [feel more confident] (Virginie)</p> <p>« Easy access is also really important ! The first time we visit a site, if the registration process is fast, it’s attractive and encouraging ! I like the simplicity and friendly aspect ! (Karine). “The display ! Now, I pay attention to that. For instance, the display of the editor <i>Le Manuscrit</i> is crappy. You cannot get out of there ! it is very interesting but you cannot escape [...] Another example is the site that sells very expensive trips but sometimes with 70% discount, five star hotels, the homepage is user-friendly. Well, only the front page is clean, because if you browse the site, it is not as appealing, it is so-so but at the beginning it is pleasant! (Monique). “The site is nice, it’s attractive”. (Sidonie). “Well, this site is flashy and that changes my shopping behavior. Something in the structure of the site makes me behave differently” (Monique). “The site has to catch the eye, and then, it has to be easy to use”. (Sidonie). “a bag has to be shown on the girl’s hand [...] I couldn’t buy it if there wasn’t the model ! (Ulrike). “It is very important that the product may be emphasized.” (Nicole).</p>
<b>Customer ratings and Social interactions</b>	<ul style="list-style-type: none"> <li>- “I order and buy on big sites, banks, <i>La Redoute</i>, I don’t even think about it [...] I have bought cosmetics on a site because a friend of mine had recommended it, and I also have bought clothes on a small Asian website managed by a couple who travel and sell original products, because it had been recommended by a friend, so I did not ask myself if it was serious or not” (Virginie). “If something costs a lot, we ask friends if they don’t have to pay less, and also what are their opinion on it, if it is worth buying it” (Laurène). “I have watched this site on Youtube” (Virginie - student)</li> <li>- “Each internet profile is rated on <i>Ebay</i>, whereas they are not on <i>LeBon coin</i>. There are ratings.” (Coralie). “There are stars, and testimonies. (Karine). “There is the number of sales for example for sellers, you may check the number of sales, the satisfaction rate... (Coralie)...</li> </ul>
<b>Age / generation of web users</b>	<p>“Once you are online, you are not safe anymore” (Jordan). “I prefer not to buy online, you never know!” (Lucie). “I do not trust the online</p>

	<p>system. I rather go in traditional stores” (Jessica). “I’ve never bought online (Fiona). “I’m not used to online shopping and above all buying things (Manon). “Cash is better [than electronic payment] we are more aware of spending, maybe because of the “Monopoly” game when I was a child (Jordan). “I never go on foreign or unknown websites”. “I usually shop on <i>LaRedoute, Les 3 Suisses</i> websites.” (Mélie)</p>
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Secondly, it has to be noticed that the young consumers are more cautious towards online shopping. Compared to the older respondents, students from 18 to 20 years old are more fearful in their online behaviors. They go shopping online less regularly, and above all, they are much more followers: they only browse famous websites and mainstream brands.

This wary attitude is revealed by their shopping experience, firstly on their use of personal data. They all are reluctant to give personal data online: the youngest respondents are the most reluctant in revealing personal data on the websites. Apart from the students who are even afraid to give their credit card number on the Internet (only one female student considers the risks-perceived do not check her e-commerce utilization). Older respondents give personal data such as name, mobile phone number or credit card number. However, they clearly choose the data they reveal; they only give the ones they consider necessary and they may lie about the other ones, such as their age, or their phone number.

It has to be noticed that the students have spontaneously describe their fear of buying online, that they have never given their credit card number or even bought online because they feel afraid of “what may happen”. In the focus groups where respondents were aged from 30 to 63 years old, online shopping was not a new experience, so they have experienced some problems, but their trust in sellers is better. If some of them refuse to give some personal data, it is not because they believe that information revealed in the course of an e-commerce transaction might be misused (as the youngest respondents may think so), but because they fear personal data might be aggregated into a database. They do not want firms to keep their personal data and behave in a way to avoid being considered as a marketing target.

## Discussion

This research points out that it is relevant to use the theoretical framework of consumption in the online context: the dimensions of online shopping experience enable us to analyze the global online shopping experience lived by consumers and their companions.

Concerning the physical dimension of the online shopping experience, from information seeking to the final purchase, online shopping is a social and shared experience. Indeed, respondents declare that they shop online with companions and they shop differently with peers and family. Firstly, shoppers point out that the online shopping is often not a lonely experience: they may be with someone, who may be compared to a companion or not. Indeed, they may chat with friends and/or they may share their experience with someone who is next to them.

Secondly, peers may enhance the experience whereas a family member (parents for a student or husband for a woman) does not. They express more positive affect and hedonic shopping value when shopping with a friend or relative to either shopping alone or with a family member, which is consistent with the study of Borges, Chebat and Babin (2010) on companions within an offline context. As far as social aspects are concerned, it is interesting to underline that gender moderates online shopping behavior. As it is shown in literature (e.g. Gefen, 2003), social presence online differs between men and women. The female respondents declared they need to share their experience more than the male respondents did.

Concerning the pragmatic dimension of the online experience, the results of our research indicate that as in traditional store shopping, different online patronage behaviors are declared by the consumers, depending on the context and situation. Shoppers may patronize the websites in different ways: they open different tabs at the beginning of their session and while they browse the web, they are used to bookmarks and browsing history, they visit some

specific websites. Concerning the use and rituals with other Internet tools, such as the shopping cart for instance, this research show that beyond purchase intentions, shoppers may place items in an online shopping cart with or without buying them, in order to secure online price promotions, to put aside items they really like, or to have fun. These findings are consistent with those of Close and Kukar-Kinney (2010).

These different activities and uses of internet characterize different online shopping experiences and not different shoppers. Indeed, the same shopper may have different online experiences depending on when the experience occurs (the evening, the daytime), the context in which it takes place (at home with a cup of tea or at school during lunch time), and with whom (friends, parents). While previous literature stressed the fact that online shopping context is specific and that it may require new focus on the shopping behaviors, Rohm and Swaminathan (2004) underline that “there is a paucity of research examining typologies in an online shopping context”. They presented a typology of online customers of a single online retailer within a single industry. Thus, the clusters may be different within another online context. This study therefore suggests that it would be interesting to draw an online shopping typology.

Concerning the nature and role of trust in online shopping behavior, it is interesting to notice that the respondents trust pure players and brick & mortar companies not because of the guarantees or trustful relationship the vendors may provide; the consumers declare that they do not even look for this information. They reduce their risk perceptions by trusting their peers, friends and by looking at the number of customers on the websites. This result is consistent with Bart et al. (2005) who found a number of site variables that affect consumers' trust (in addition to the brand and fulfillment variables). They confirmed that privacy and security are important in site design, but not as important as user-friendly navigation and presentation.

This research shows that if it remains very important for online vendors to provide insurance to their customers in order to reduce their risk perceptions as it is established in the literature (e.g. Kim and Bensabat, 2006), online shopping experience is also linked to the off line and online social network (friends, blogs, online expert groups) of the shopper.

Finally, dealing with online privacy, young consumers show resistance to revealing personal data. They feel reluctant in giving personal information that might be put in a file by a “Big Brother” company which might know and misuse their entire life. Far from fitting with the digital native stereotype (Prensky, 2001), the youth interviewed show reluctance and mistrust towards online shopping. But they do not behave as digitally naïve (Hargittai, 2010). Their behavior is made of skepticism and prudence, but very rational. To lie while filling formularies/questionnaires in this context is a very rational behavior. According to a recent national survey in France (Caisse des Dépôts - Acsel en 2010), a third of Internet users give false information as they fill online registration forms. They do it to avoid advertising (declared by 64% of respondents), because they do not want to give personal information (60%) and 28% of them declare they want to remain anonymous. Moreover, French people have now been aware that personal data left on the web can be used later without their agreement. The rise of social network sites and discourses among media about privacy might explain such concern.

### **Limits, future research and conclusion**

While contributing important insights into the experience of shoppers online, this research does have some limitations. First, the research is based on a qualitative study: two sets of focus groups were conducted, representing 31 respondents. Secondly, the focus groups were conducted in France, with no comparison with other cultural contexts (USA, Australia, Asia); future studies should examine other populations in different countries and contexts. A

valuable contribution would be to examine the online shopping experience of young shoppers. Indeed, apart from the digital native stereotype, there are those most fearful about online shopping. They experience online shopping differently and initially do not browse the same websites as the older generation does; most of them prefer to shop on the old-fashioned catalogue brands they are familiar with. Only two students, who participated in the focus groups, participated in online shopping on unknown websites.

There are many other opportunities to build on this study in future research. Suggested areas for new inquiries include the creation of a typology of experiences and situations within the online context.

Future research may also, as Borges et al (2010) suggest for the off line context, shed light on who are precisely the online shoppers' companions? Do they belong to the social network of the consumer? We may distinguish between:

- Online companions : for instance friends a shopper is chatting with on a social network;
- Online contacts / intermediates: people who might help or on whom the shopper might rely, to check the fame of a brand;
- Off line community: members of family, peers, friends who have a role of great importance on the motivations, cultural context, and attitudes.

When and how does this network play a role? As for the traditional shopping, future research may catalog the different ways in which the companions influence the online shopping experience.

Finally, researchers could go deeper into the dimensions of online shopping experiences with an approach that allows examining group experiences. Moisander et al. (2009) highlight that “the meanings of an object of knowledge are not always, only, or even primarily a product of individual experience but importantly are also a function of the discourse (Foucault, 1972), system of representation (Hall, 1997) or matrix of intelligibility (Butler, 1990) that is brought

to bear". Therefore, researchers could study the online shopping experience within a socio-cultural context.

## References

Authors (a, b)

Addis, M., Holbrook, M.B., (2001). On the conceptual link between mass customisation and experiential consumption : an explosion of subjectivity. *Journal of Consumer Behaviour*, 1 (1), 50-66.

Agarwal, R., Karahanna, H., (2000). Time flies when you are having fun: Cognitive absorption and beliefs about information technology usage. *MISQuarterly*, 24, (4), 665-694.

Arnould, E.J., Thomson, C.J., (2005). Consumer Culture Theory (CCT): Twenty Years of research, *Journal of Consumer Research*, 31, 868-882, March.

Arnould, E.J., Price, L., Zinkhan, G., (2002). *Consumers*, McGraw-Hill, New-York.

Babin, B.J., Attaway, J.S.,(2000). Atmospheric affect as a tool for creating value and gaining share of customer, *Journal of Consumer Research*, 49 (2), 91-99.

Babin, B.J., Darden W.R., (1996). Good and Bad Shopping Vibes: Spending and Patronage Satisfaction, *Journal of Business Research*, 35, 201-206.

Bart, Y., Shankar, V., Sultan, F., and Urban G.L., (2005). Are the Drivers and Role of Online Trust the Same for All Web Sites and Consumers?, A Large-Scale Exploratory Empirical Study. *Journal of Marketing*, 69 (4), 133–52.

Borges, A., Chebat, J-C., Babin, B., (2010). Does a companion always enhance the shopping experience?, *Journal of Retailing and Consumer Services*, 17, 294-299.

Bruner, E.M., (1986). Experience and its expression, in V.W. Turner and E.M. Bruner (dir.) *The Anthropology of experience*, Chicago, University of Illinois Press, 3-33.

Bridges, E., Florsheim, R., (2008). Hedonic and utilitarian shopping goals: the online experience, *Journal of Business Research*, 61, 309-314.

Butler, J., (1990). *Gender trouble – Feminism and the subversion of identity*, London, Routledge.

Close, A.G., Kukar-Kinney, M., (2010). Beyond buying: motivations behind consumers' online shopping cart use. *Journal of Business Research*, 63, 986-992.

De Certeau, M., (1984). *The practice of Everyday Life*, University of California Press, Berkeley.

Dinev, T., Hart, P., (2006), An Extended Privacy Calculus Model for E-Commerce Transactions, *Information Systems Research*, 17 (1), 61-80.

Edgell, S., Hetherington, K., Warde, A., (1997). *Consumption matters: the Production and Experience of Consumption*. In Edgell et al. (Eds.) Oxford, Blackwell.

Filser, M., (2008). L'expérience de consommation: concepts, modèles et enjeux managériaux, *Recherche et Applications en Marketing*, 23, 3, 1-4.

Firat, A.F., Dholakia, N., (1998). *Consuming people : from political economy to theaters of consumption*, London, Routledge.

Foucault, M., (1972). *The Archaeology of Knowledge*, London, Tavistock publications.

Gefen, D., (2003). Assessing unidimensionality through LISREL: An explanation and example. *Communications of the AIS*, 12 (2), 23-47.

Grabner-Krauter, S., and Kaluscha, (2003). E.A. Empirical research in on-line trust: A review and critical assessment. *International Journal of Human-Computer Studies*, 58, 6, 783-812.

Hall, S., (1997). *Representation: Cultural representation and signifying practices*, London, Sage.

Hargittai, E., (2010). Digital na(t)ives ? Variation in Internet skills and uses among members of the « Net generation », *Sociological Inquiry*, LXXX, 1, feb.

- Heilbrunn, B., (2010). *La consommation et ses sociologies*, A. Colin, 2<sup>ème</sup>ed, Paris.
- Hoffman, D.L., Novak, T.P., (1996). Marketing in hypermedia computer-mediated environments: Conceptual foundations. *Journal of Marketing*, 60 (3), 50-68.
- Hoffman, D.L., Novak, T.P. (2009). Flow online: Lessons learned and future prospects, *Journal of Interactive Marketing*, 23, 1, February, 23-34.
- Holbrook, M.B., (2000). The millennial Consumer in the texts of our time : experience and entertainment, *Journal of Macromarketing*, 20 (2), 178-192.
- Holt, D.B., (1995). How consumers consume: a typology of consumption practices. *Journal of Consumer Research*, 22, 1-16.
- Kim, D., Bensabat, I., (2006). The effect of trust assuring arguments on consumer trust in internet stores. *Information Systems Research*, 17 (3), 286-300.
- McKnight, D.H., Choudhury, V., Kacmar, C., (2002). Developing and validating trust measures for e-commerce: An integrative typology. *Information Systems Research*, 13 (3), 334-359.
- Moisander, J., Peñaloza, L., Valtonen, A., (2009). From CCT to CCC, Building consumer culture community, in *Explorations of Consumer Culture Theory*, Sherry J.F. (Jr) & Fischer E. (Eds), New York, Routledge, 7-33.
- Novak, T.P., Hoffman, D.L., Yung, Y-F., (2000). Measuring the customer experience in online environments: a structural modeling approach. *Marketing Science*, 19 (1), 22-42.
- Pine, B.J., Gilmore, J., (1999). *The experience economy: work is theatre and every business a stage*, HBS Press, Harvard.
- Prahalad, C.K., Ramaswamy, V., (2004). Co-Creation Experiences: The Next Practice in Value Creation, *Journal of Interactive Marketing*, 18 (3), 5–14.
- Prensky, M., (2001). *Digital natives, digital immigrants, part 1*, On the Horizon, IX, 5, oct.

Rohm, A.J., Swaminathan, V., (2004). A typology of online shoppers based on shopping motivations, *Journal of Business Research*, 57, 748-757.

Sénécal, S., Gharbi, J.E., Nantel, J., (2002). The influence of flow on hedonic and utilitarian shopping value. *Advances in Consumer Research*, 29, 483-484.

Sherry, J.F., Fischer, E., (2009). *Explorations of Consumer Culture Theory*, Sherry J.F. (Jr) & Fischer E. (Eds), New York, Routledge.

Urban, G.L., Amyxb, C., Lorenzonc, A. (2009), Online Trust: State of the Art, New Frontiers, and Research Potential, *Journal of Interactive Marketing*, 23, 179-190.

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**Retail marketing**

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# Optimal pricing in retail: a Cox regression approach

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## Abstract

Most of the fashion industry is seasonal and there is a risk that supply during the season is not cleared. Near the end of the season the retailer is forced to markdown the overstocked supply. Since there is always friction between expected demand and realized demand, there is the necessity to find the optimal markdown path. The central question is when and how much to markdown in order to optimize expected total profit given the available supply.

In this paper, we study the optimal pricing problem using a Cox regression approach. It is important to realize, that only when the law of demand holds at a disaggregated level, i.e., the individual retailer, we can optimize the markdown path. This is in essence a dynamic problem, which we illustrate through a case study.

Keywords: Cox regression; markdown strategies; optimal pricing; survival analysis.

## 1 Introduction

In many biomedical research the use of survival analysis to model the time to a certain event is common. In a survival context Cox regression is used to measure the influence of covariates on the survival rate. The same approach can be used in economic situations where we have supply and demand. In that case, we study the time it takes for an article to be sold given the price of the article. We characterize the distribution of the time to event for a given set of articles, and we compare different marketing policies for the articles. For example, a commercial price discount for a particular set of articles for a limited set of time versus a control set of articles with no discount at all.

Price is a covariant and one would like to find out whether the law of demand holds for the price and the time to event. If this law holds, then low-priced articles have short event times and high-priced articles have long event times. In our study we use T-shirts as the fashion article category that stands for

most retail-fashion goods. Given the fact that in retail the selling price is in principle the cost price plus a markup, we can only optimize the profit when the law holds.

In survival analysis the data is collected over a finite period of time, for retail this is a season, and consequently the time to event cannot be always observed. Fashion mostly sustains for just one season. If the product is not sold at the end of the season we have so-called censored data. Because of censored data the normal summary statistics do not have the desired statistical properties such as unbiasedness.

Right censoring is a simple example of censoring. When there is shortage, the potential demand is higher than the available supply, we are confronted with more complicated censoring. Calendar and event times are not necessarily the same. With different time entries for the supplies to stores we have also left truncation. The event time is the difference between birth (supply) and death (selling) time. The supply of the inventory is in bulk and consequently we have to deal with tied entries. The price is time covariant and we have to address this in our estimates. With time-dependent covariance the hazards are no longer proportional. As in biomedical applications there are good reasons in retail to use the apparatus of survival analysis, due to the fact that

- Calendar and event time are not the same;
- Possibly censored data;
- Tied entries;
- Time covariance.

## 2 Cox regression

We give three formulas: the hazard, the survival function, and a derived relation between the markdown and the price elasticity estimate. The hazard and the survival estimates are common in most commercial software and directly available for operational use. Cox regression estimates the proportional hazard. The hazard rate is the instantaneous rate of failure at time  $t$  given that an individual is alive (at risk) at time  $t$ . In a retail context, it is the instantaneous rate of selling the product at time  $t$  given that the product is available (at risk) at time  $t$ , i.e.,

$$h(t | x) = h_0(t) e^{\sum x_i \beta_i}. \quad (1)$$

In Cox regression the hazard function estimates the relative risk of failure. The hazard function is a rate, it is not a probability. The Cox regression is used to determine the influence of predictor variables on a dependent variable. The  $x$  is the covariate, in our context the realized retail price. The  $\beta$  is the regression coefficient. Common in most software is to use the partial likelihood to estimate the regression coefficients. The proportional hazard model implies that the effect of the covariate on the relative hazard is constant over time. If there is non-proportionality over time we have to create a time-dependent covariate. The time-dependent covariate can then be used to fit a non-proportional hazard

model in which time is included as a predictor

$$h_0(t). \tag{2}$$

The base rate is to be estimated independently from the proportional hazard

$$S(t|x) = e^{-h(t|x)}. \tag{3}$$

The survival function is an estimate of the probability of surviving longer than a specified time. In the retail context, this is the probability that the article has not yet been sold. As we can see, the survival function and the hazards are related. The definition of sell-through is given by:  $1 - \text{survival rate}$ . Given the sell-through, we can derive at time  $t$  the required price difference to aspire to a desirable sell-through at time  $t$ , given by

$$\Delta p = -\ln \left[ \frac{\ln S_1(t)}{\ln S_0(t)} \right] / (bp_0). \tag{4}$$

### 3 Data preparation

The necessary input data for the regression analysis must be carefully prepared. First, we had to derive for every article the event time. An article arrives in an outlet in multiple amounts. In our data preparation we use the first in – first out principle. This means that the item first arrived is considered to be sold first. Because of the arrival in bulk we have tied data. In the literature there are several suggestions to address the problem of tied data. Tied data means that the different items of the same article have the same arrival time and cannot be individually followed. We index the different items and interpolate the event times. When during the season the article is not sold, then the event time is censored. We distinguish two types of markdowns. When the markdown is temporary, we have a commercial discount. When the markdown is permanent, we have a seasonal markdown. This means that in the data, the retail price after a calendar time does not jump back to the full initial retail price. Notice that the retail price still can be reduced additionally during the calendar time. Shrinkage and customer returns of the article are considered censored. Before estimating, we create a time-dependent covariant. For all non-censored events we multiplied the full retail price with a descending index of event time. To put the time covariant on the same scale as the price we divided by 1000. The Cox regression now takes place on the realized (turnover) price and the time-related covariant.

### 4 Dataset

We gathered a dataset from a department store in the Netherlands for the first half year of 2011. We examined 206.714 items for women and 175.430 items for men. In total there were 101 different brands. We measured in days, so a season is about 185 days. One can find more detailed information in Table 1.

The distribution of the price points are given in Figure 1. The average price for men was 32.01 and for women this was 40.86.

	<i>Total</i>	Brands	Sell-through without markdown	Sell-through total
Women	206.714	62	0.50	0.95
Men	175.430	39	0.68	0.94

Table 1: Factsheet.

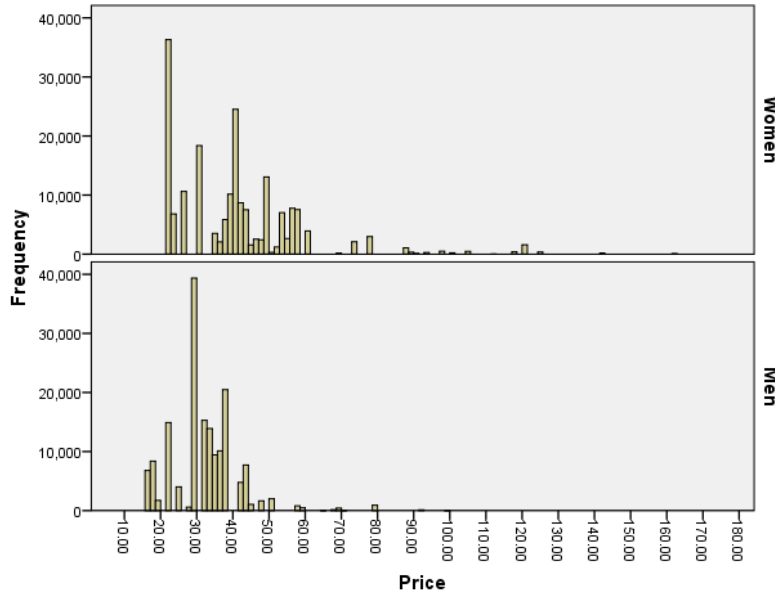


Figure 1: Price points.

Time	Enter	Withdrawal	Terminal
28	136,580	181	2,639
29	133,430	385	2,533
30	130,512	0	1,800
31	128,712	142	1,087

Table 2: Sample data after preparation.

## 5 Results from estimation

In Table 2 one can see a sample of the available data after preparation. A naive approach would be to get rid of the censored data and then to estimate the survival probabilities. We entered 235,997, the number of terminal events was 185,405. A naive estimate gives us  $185,405 / 235,997 = 0.67$ . The survival rate would be  $1 - 0.67 = 0.33$ . The right estimate that corrects for censored data gives 0.29. The naive approach is over-estimating the true survival rate and is too pessimistic for the sell-through. Correcting for censored data is important for getting unbiased results. Here we analyzed 5,962 different T-shirts items for both men and women in different colors and sizes during one season. A first estimate without dealing with time-related covariance would be a regression on the realized retail prices. We do not intent

	<i>B</i>	<i>SE</i>	Wald	df	Sig.	Exp( <i>B</i> )
Price	0.312	0.028	121.1562	1	0.000	1.366

Table 3: Estimates for one brand without time-covariates.

	<i>B</i>	<i>SE</i>	Wald	df	Sig.	Exp( <i>B</i> )
Price	-0.015	0.000	8,294.783	1	0.000	0.985
Tcov	0.006	0.000	122,498.036	1	0.000	1.006

Table 4: Estimates for all brands with time-covariates.

to use the different characteristics like color or size as regression factors, while the influences are implicit in the event times. Our main goal is to find the price-elasticities and use them in optimal pricing.

**Statistics for T-shirts status**

Our first estimate for just one brand shows how important it is to deal with time-covariance, see Table 3. In Table 3, *B* is the estimated coefficient. It is interpreted as the predicted change in the log hazard for a unit increase in the predictor (price). The variable *SE* is the standard error of the estimated coefficient *B*, and Wald is the Wald statistic. If *df*=1, the Wald statistic can be calculated as  $(B/SE)^2$ . It is used to test whether the estimated coefficients are significantly different from 0. In this test, the used distribution is chi-square, and *df* is the degree of freedom. We do not use category variables so the degree of freedom is 1. Sig is the significance level for the Wald statistic, and Exp(*B*) is  $e^{xb}$ , it is the relative risk (i.e., the ratio of the risk for different price levels).

The positive value of the regression coefficient suggests that a markdown is contrary to our beliefs. It would mean that by lowering the price, the survival probability increases and the sell-through is decreasing. In our example the estimate is, however, significant, since the Wald statistic is large. Since Exp(*B*) is greater than 1, it indicates that there is an increased relative risk when the retail price is increased. It is not what we expect from the law of demand. We have to incorporate time-covariance to test whether the law of demand holds.

The estimates with the time covariant were done for the entire population of T-shirts, see Table 4. Introduction of the time-dependent covariant gives us the confirmation of the law of demand. Both estimates are highly significant with high Wald statistics. The value of Exp(*B*) for the price is less than 1, which indicates that there is an increased relative risk when the price is decreasing. This is what we expect. The survival rate is decreasing and the sell-through is increasing with a markdown of the price. As already mentioned we do not use the characteristics of the product, like color and size.

It is not recommended, for example, to use a stepwise approach. The residuals in the survival do not have the same properties as in normal linear regression. The characteristics would be proved in a stepwise approach to be significant while the price dependency drops out. The Cox regression uses the partial likelihood estimation to find the parameters. The base rate is estimated independently of the Cox regression. The partial likelihood is rather heuristic, and is nowadays motivated by martingale theory.

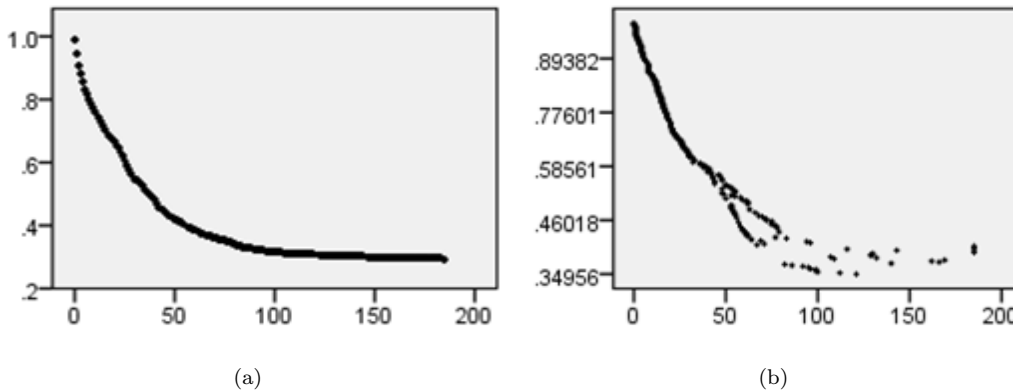


Figure 2: Hazard curves.

The theory gives interesting results especially when we are investigating the residuals in Cox regression. One way to find the parameters is to simulate the martingale residuals and use an MCMC approach to derive parameters for every desired characteristic level of the product. If we picture the derived different hazard curves we find a multitude of hazards. We see the importance of the price for the explanation of the variance in the sell-through of articles.

The base survival curve is depicted in Figure 2(a). On the horizontal axis we have the days in the season, on the vertical axis we find the survival rate. As an illustration of a multitude of survival curves we picture for one brand and one color the graphs in Figure 2(b). In the table with the hazards per color, Table 5, we see that there are clear differences in colors. Yellow colors have high hazard while orange colors have low hazard. Differences in taste are expressed in the hazard for the product. Systematic measuring of the hazard can be significant for an optimal allocation of the supply. In Table 7, we see that larger sizes have higher hazards. We can expect that markdowns probably will appear in the small sizes. Between men and women differences exist in hazard mainly because of the multiple use of T-shirts by men, see Table 6. Men use T-shirts as a fashion item but also as underwear. The different uses are expressed in the different hazards. Clearly, the commercial discount had no real increasing effect on the hazard of the articles, see Table 8. The seasonal markdown lags the product with no discount. This is what can be expected, given the problematic sell-through of these articles. In Figure 3(a) we can see the relation between the initial retail price and the derived hazard.

**Conclusion:** Survival analysis can be put in practice in retail questions like finding the optimal path for markdowns. There are clear differences in characteristics of the articles. Preference for different brands are reflected in the realized retail price.

## 6 Optimal markdowns

We can use Equation (4) to optimize the expected sell-through related to the needed intensity of the markdown. Finding the optimal path can be done with Markov Decision Processes (MDPs) but is beyond the scope of this article. In Figure 2(a) we notice that the basic survival curve also could be estimated parametrically. The Weibull distribution is flexible enough and can be used as a reference norm

Color group	Hazard
Blue	0.73
Brown	0.66
Yellow	0.82
Gray black	0.68
Green	0.69
White	0.66
Orange	0.47
Purple	0.73
Red	0.73

Table 5: Hazard values per color.

Gender	Hazard
Men	0.72
Women	0.66

Table 6: Hazard values per gender.

Size	Hazard
Small	0.66
Medium	0.67
Large	0.70
X-Large	0.72

Table 7: Hazard values per size.

Status	Mean hazard
Censored	0.81
No markdown	0.72
Commercial discount	0.23
Seasonal markdown	0.53

Table 8: Hazard values per status.

illustrating the possibilities. Because residuals in survival analysis as a counting process are martingales we can use the Doob-Meyer decomposition. The decomposition counting process = compensator + martingale is analogous to the statistical decomposition: data = model + noise (see Therneau and

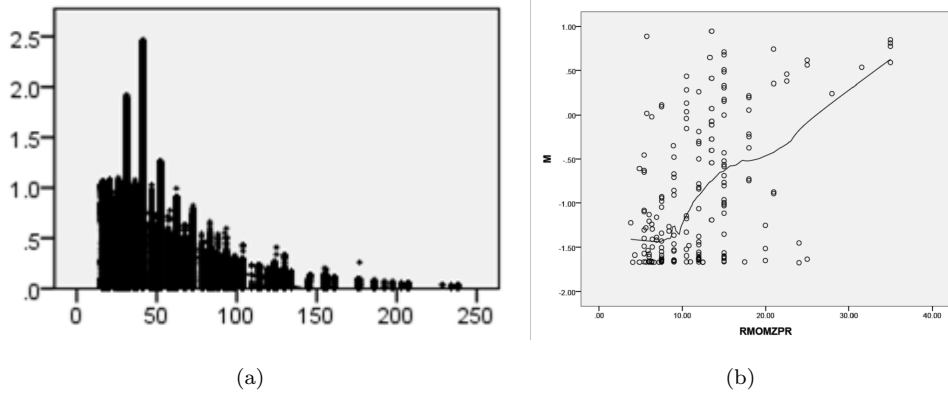


Figure 3: price curves.

Grambsch [2000]), and is given by

$$N_i(t) = M_i(t) + \int_0^t Y_i(x)\lambda_i(x)dx. \tag{5}$$

The  $N_i(t)$  is the counting of the event at time  $t$ ,  $M_i(t)$  is the residual, and  $Y_i(x)\lambda_i(x)$  is the model.

We can use the analogue to model the hazard rate in relation to the price variation. The residuals as the difference between the true survival rate and the estimated base survival curve capture still the not yet identified influence of the covariates (prices). We find this depicted in Figure 3(b). We used a smoother to identify the relation captured in the residuals and price. See for example the remarks in Therneau and Grambsch [2000] for the importance of smoothing and identifying relations.

Price differences give us an explanation for the variation in survival (sell-through). So we have a relation for the change in sell-through for a change in price which is just the definition for the price elasticity for an article.

We use the Weibull distribution at the start of a new season to have a norm sell-through curve. If a particular article lags behind this norm, then we can derive, given the norm, how much markdown is needed to fill the gap between planned and realized sell-through via

$$S(t) = e^{-0.115 t^{0.484}}. \tag{6}$$

As an example, let us process the articles for which at calendar time  $t = 100$  days the sell-through lags behind the Weibull norm. The mean norm at calendar day 100 for our articles was 0.48 (see Table 9). The mean sell-through for the articles at calendar day 100 was 0.43. We found 782 articles items for which the sell-through lags behind the expected norm. It confirms our results, low-priced articles have a higher sell-through risk compared with high prices articles.

When we apply Equation (4) we get the results in Table 10. The  $\Delta p$  in Equation (4) is related to the norm and the existing survival and existing retail price. Our estimated price-elasticity is now a universal constant. If the norm  $S_0 \leq S_1$ , then  $\Delta p$  is negative. So the necessary markdown is dependent on the difference (gap) between the norm and the actual survival weighted by price and price-elasticity. Contrarily, it can also be argued that when the norm stays behind the actual survival, there is a risk for shortage and price increase could theoretically be an option.

	$N$	Min	Max	Mean
Norm	782	0.76	0.11	0.48
Sell-through( $t$ )	782	0.70	0.06	0.43
Price	782	16.64	161.20	33.01

Table 9: Parameters for illustrative example.

Equation (4) opens the way for optimal pricing where we already noticed that finding the optimal path at the beginning of the season in principle could be done in a Markov Decision Problem context. The Weibull curve in our approach is used as a prediction so that we can use it as our expected value that illustrates the potential for a more rational approach in the retail price strategy. While we do not explore the potential of MDPs, we can still illustrate the considerations to be done when a markdown is suggested. We can find the opportunity costs, i.e., the profit lost when we have markdowns and the profit lost when at the end of the season we write-off the articles not sold.

Notice that the Weibull curve in this context gives us a prediction of the sell-through without markdown. The prediction of the sell-through with markdown is just to apply the Cox-regression model derived with the change in price at calendar time  $t$ . At calendar time  $t = 100$  we calculated for 3,348 articles the opportunity return while their actual sell-through lagged behind the Weibull-norm. The return is defined as the realized retail price – cost price. The cost price is given and constant and the realized retail price changes as a consequence of the planned markdowns.

We compare the weighted return with markdown and without markdown. The weighting is based on the expectations of the sell-through. We examined a  $-0.30$  markdown. For only 4.3 percent of the articles the expected return with markdown was not profitable compared with a write-off of the articles not sold at the end of the season. The average return with markdown compared without markdown and write-off increased with 3 percent. Given these preliminary results further investigation to derive an optimal allocation of prices is warranted.

## References

- Odd O. Aalen, Per Kragh Andersen, Ørnulf Borgan, Richard D. Gill, and Niels Keiding. History of applications of martingales in survival analysis. *Journal Électronique d'Histoire des Probabilités et de la Statistique*, 5(1):1–28, 2009.
- S. N. Afriat. *Logic of Choise and Economic theory*. Clarendon Press Oxford, 1987.
- Julien Bramel David Simchi-Levi, Xin Chen. *Theory, Algorithms and Applications for Logistics and Supply Chain Management*. Springer Verlag, 2005.
- William Feller. *An Introduction to Probability Theory and Its Applications*. John Wiley, Sons, 1970.

Price	Markdown
20	-0.50
30	-0.34
40	-0.25
50	-0.20
60	-0.17
70	-0.14
80	-0.13
90	-0.11
100	-0.10
160	-0.06

Table 10: Markdowns to achieve a desirable sell-through.

Thomas R. Fleming and David P. Harrington. *Counting Processes and Survival Analysis*. Wiley, 2005.

Richard D. Gill. Understanding Cox's regression model: A martingale approach. *Journal of the American Statistical Association*, 79:441–447, 1984.

SPPS Inc. IBM SPSS Statistics 19 Algorithms, 2010.

John D. Kalbfleisch and Ross L. Prentice. *The Statistical Analysis of Failure Time Data*. Wiley-Interscience, 2002.

Scott M. Lynch. *Introduction to Applied Bayesian Statistics and Estimation for Social Scientists*. Springer Verlag, 2007.

Hakon K. Gjessing Odd O. Aalen, Ornulf Borgan. *Survival and Event History Analysis: A Process Point of View*. Springer Verlag, 2008.

Efe A. Ok. *Real Analysis with Economic Applications*. Princeton University Press, 2007.

Henri Theil. *Theory and Measurement of Consumer Demand*. North Holland Publishing Company, 1976.

Terry M. Therneau and Patricia M. Grambsch. *Modeling survival data: extending the Cox model*. Springer Verlag, 2000.

David Williams. *Probability with Martingales*. Cambridge University Press, 2010.

Daowen Zhang. *Analysis of Survival Data*. North Carolina State University, 2005. Lecture Notes.

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# Loyalty Schemes in Retailing – an empirical study

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## Abstract

In the course of this paper, a comprehensive review of literature on loyalty research, customer loyalty programs in general, and loyalty coalitions in particular was prepared. Furthermore, an empirical study was conducted to evaluate the impact of stand-alone and multi-partner programs on customer loyalty. In line with the current state of research, loyalty was hereby measured using classical success indicators relating to both pure purchase behavior and customers' attitudes.

Two companies in the German fuel retail market were selected as users of these program types and their loyalty executives, as well as a manager of the third party administering the coalition program, interviewed. Subsequently, questionnaires were distributed to 2,000 customers of these organizations in order to study the relationship between the two program types, stand-alone and multi-partner, and customer loyalty. In addition, the effects of store satisfaction, membership in competing loyalty schemes, and specified shopper characteristics were also considered, and a range of further loyalty scheme-related questions that might be relevant to practitioners included in the survey. In addition, a range of more general questions was included in the empirical part of this study, which addressed both loyalty managers and consumers.

How do coalition schemes perform in direct comparison with stand-alone solutions?

Stand-alone programs were found to outperform multi-partner schemes in their ability to engender behavioral loyalty, attitudinal loyalty, and word-of-mouth behavior. In other words, stand-alone scheme members distributed a higher share-of-wallet to the company, were characterized by a more positive attitude towards the organization, and were more likely to talk positively about the firm and recommend it to friends, family, or coworkers. While generally, members of loyalty programs showed significantly higher levels of loyalty than non-members, those of the stand-alone solution did so to an even greater extent than those of the coalition scheme.

# Loyalty Schemes in Retailing – an Empirical Study

## 1. Problem Definition

Loyal customers, it is said, are worth striving for. They spread positive word-of-mouth, reduce defection rates, and amplify the purchase frequency, to name just a few examples. But what can be done to induce that loyalty? Can loyalty schemes help us to do so, and most importantly, under what circumstances, at what cost, and with what possible result?

Customer loyalty has become an increasingly important goal in retailing, as the industry in general is characterized by declining rates of consumer loyalty (Hoffmann 2008). Looking at Figure 1 listing the drivers causing these diminishing loyalty rates, it becomes clear that the proclamation of this trend is just a general assertion. Some retailers naturally do implement successful innovations (and thereby foster customer loyalty), while others fail with theirs. In any case, loyalty, at least when it goes hand in hand with profitability, is something that is always worth aiming for. For example, Reichheld & Seidensticker (2006) discovered that a 5% increase in loyalty can lead to a 25-200% boost in profits.

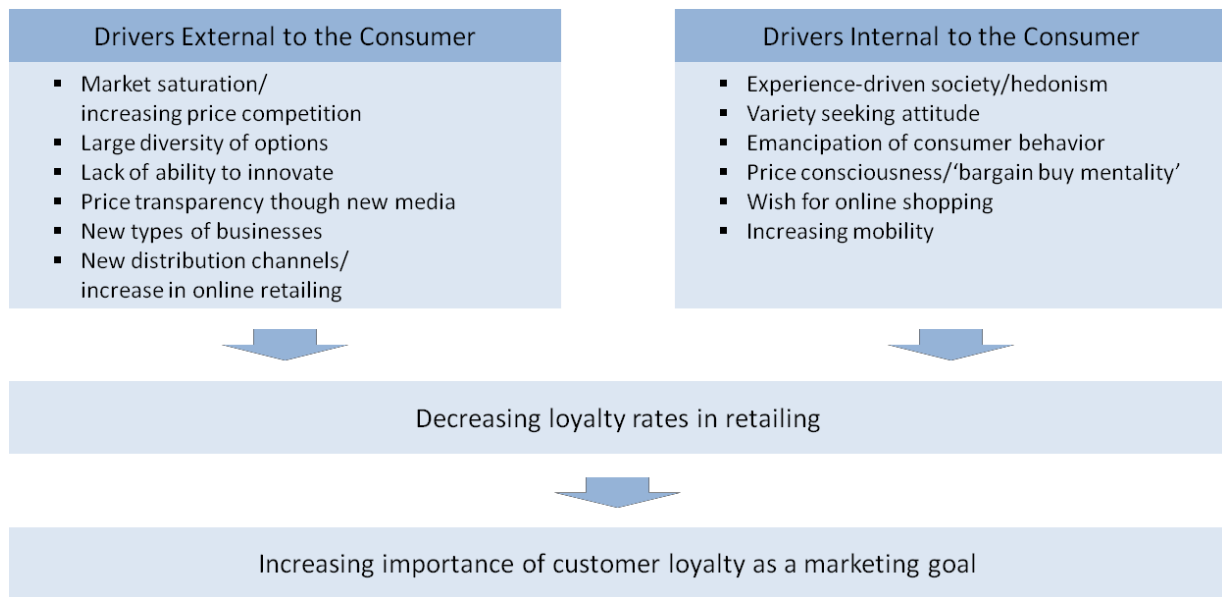


Figure 1: Drivers Causing a Decrease of Consumer Loyalty in Retailing  
Source: Hoffmann (2008)

But can customer loyalty schemes, as their name suggests, really help to engender or enhance customer loyalty? Numerous retailers, service providers, and manufacturers have – some more successfully than others – attempted to establish or at least foster loyalty among their current and prospective customers with the help of such solutions. At the same time, a vast number of researchers have found interest in this topic, in an endeavor to evaluate the effects of these schemes, their effectiveness, and their efficiency. Still, customer loyalty schemes are, at least in their

modern forms that enable companies to gather detailed transaction data, a comparatively recent and also constantly advancing development. Literature regarding this topic stems primarily from the second half of the 1990s and the new millennium, and while this field of research still appears to be a ‘hot topic,’ many questions remain unanswered or at least inconclusively answered.

Broadly speaking, literature on loyalty programs can be distinguished into four areas: success impact, reward configuration, data capture and analysis, and general studies regarding a range of surrounding issues such as customer acceptance or usage frequency (see Figure 2). Among these groups, research on success impact appears particularly interesting, as existing studies on this subject have led to differing results. A detailed literature review of 23 publications has revealed a range of causes for this situation, with varying definitions of success, dissimilar program configurations in various industries, and diverse research methods allowing for the explanation of a good part of these irregularities. In summary, it may be noted that loyalty programs can indeed have a positive effect on customer behavior. The German fuel station chain Aral, for instance, attributed the rise in market share from 22.5% to 23% in the three months following its partnership with the Payback coalition scheme in May 2006 exclusively to this decision (Payback 2007; personal communication, 21 July 2009). While it is anywhere between difficult and impossible to determine the accuracy of companies’ claims regarding the success of their respective schemes from an outside perspective, it is at least noteworthy that a multitude of organizations have employed a loyalty program for an extended period of time and continue to make such favorable assertions.

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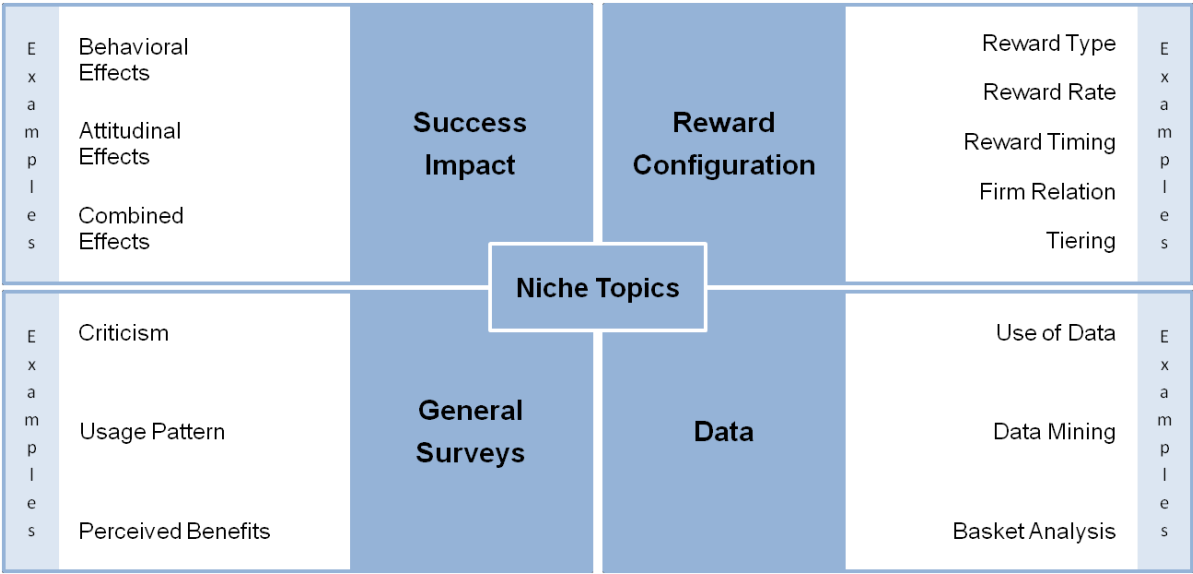


Figure 2: Categories of Literature on Customer Loyalty Schemes

Interestingly, among the 23 reviewed studies in the success research category, only one focused on the special type of program that Aral – the fuel station featured in the previous example – is also part

of: loyalty coalitions. Still, no comparison with stand-alone programs was made. Up until now, academic literature has indeed neglected to deal with the question of how well these multi-partner programs really perform in comparison to stand-alone solutions. This is particularly noteworthy, as various authors have begun to praise loyalty coalitions as the next evolutionary step in customer loyalty schemes. Comments on this subject include the following:

- “According to Frequency Marketing Inc., there are 3 trends to watch for in card marketing in the new millennium: \*...+, and coalition programs” (Barlow 1999, p.76)
- “Coalitions represent both the natural evolution and the future of loyalty marketing programs, both within the USA and abroad” (Capizzi & Ferguson 2005, p.297)
- “The 22 major factors that will shape the future of customer loyalty: [...] 3. An explosion of loyalty coalitions and networks” (Clark 2006, p.1)
- “The efficiencies inherent in coalition loyalty models \*...+ make coalitions the natural end-game for loyalty evolution” (Ferguson & Hlavinka 2006, p.1f)

Without doubt, multi-partner solutions boast various advantages over stand-alone programs: administrative costs can be shared between the partner companies, a multitude of options for point collection and consequently faster redemption are hypothesized to result in higher customer interest, customers need to keep only one loyalty card in their wallet, the resulting pool of data is considerably richer, and moreover, large, nation-wide programs enable companies to quickly achieve a high penetration rate. On the other hand, for example, the partner companies’ leeway for program design is limited, there is a danger that customers will develop loyalty towards the scheme and not the partner company, and it is also difficult to pilot such programs. For a majority of practitioners and academics, the advantages nevertheless seem to outweigh the disadvantages.

As far as the few pieces of literature on this topic are concerned, some ground is covered by studies from market research organizations (usually commissioned by coalition operators, however; e.g. TNS Emnid 2006 or GfK 2007), and in fact, some of the rare academic literature was also written by practitioners from research organizations (e.g. Capizzi & Ferguson 2005 or Ferguson & Hlavinka 2006). Next to a few current or former practitioners (e.g. Humby et al 2008 or Clark & Clark 2009), the truly academic view on coalition schemes remains extremely limited, with only a handful of papers such as those by Sharp & Sharp (1997) or Lara & De Madariaga (2007). At best, authors with an academic background have mentioned examples of coalition schemes within studies of other

aspects of loyalty schemes (e.g. Stone et al 2004 referred to UK's Nectar coalition in a general evaluation of loyalty schemes or Rowley 2005 in a case study of Tesco's Clubcard). Scientific information on this topic is consequently scant, with unbiased, empirical evidence of the superiority of coalition schemes still outstanding.

## 2. Research Objective

Given these prophecies made with regard to the superiority of multi-partner schemes on the one hand, and the scarcity of work on this topic on the other hand, the decision was taken to primarily engage in (1) success research with (2) special focus given to the subject of coalition schemes. In addition, a general survey component will form part of this study in order to retrieve answers to a range of further questions that are expected to be relevant to practitioners.

Specifically, the following research questions have been singled out as the focus of this paper (see Figure 3 for a graphical illustration):

- How do coalition schemes perform in direct comparison with stand-alone solutions, or put in more concrete terms, what is the differential impact of these two loyalty program types (1) on a classical behavioral success indicator such as share-of-wallet and (2) on attitudinal loyalty measures?
- What dependencies and interrelationships exist between loyalty, program membership, and other variables often cited in connection with the subject (namely store satisfaction, membership in competing loyalty schemes, and effect of certain shopper characteristics)?
- What do loyalty executives think about these program types and what experiences have they gathered?
- What do members of these program types think about a whole range of questions revolving around different facets of this topic that might be relevant to practitioners (e.g. privacy concerns, exit barriers, program/reward attractiveness, redemption behavior, response to up- or cross-selling incentives, etc.)?

## 2. Empirical Study Results

### 2.1 Sample Description and Data Cleansing Processes

Table 1 gives an overview of the key data associated with the sample of this customer survey. Altogether, 8,260 people were approached to hand out the 2,000 questionnaires. Next to the quota of people willing to participate in the study, the quota of loyalty program members acted as the second important driver of the number of people that had to be addressed. 1,149 of the 2,000

distributed survey forms were returned, resulting in a surprisingly high response rate of 57.5%. Out of those returned, 65 questionnaires had to be excluded for one of two reasons: (1) either because the respondent turned out to belong to the wrong target group (e.g. the possession of a Clubsmart card was indicated on a Shell control group form meant for non-members – despite the fact that the membership status was checked verbally when handing out the questionnaires) or (2) because a significant segment of the questions was not answered (i.e. when more than 50% of a whole section of the survey, and not just individual answers, were omitted; see Backhaus & Blechschmidt 2009 for further details on possible ways of handling missing values). Ultimately, 1,084 filled-out forms were used for this study.

Overview	Aral	Shell
Survey take-home quota (eligible) <sup>1</sup>	34.8%	31.9%
Loyalty program membership quota	42.7%	32.1%
Number of surveys distributed	1,000	1,000
Absolute number of people approached	3,364	4,896
Survey take-home quota (overall) <sup>2</sup>	29.7%	20.4%

Response Rate		Aral	Aral Control	Shell	Shell Control
distr.	Number distributed	500	500	500	500
	Number returned	312	267	299	271
returned	Response rate	62.4%	53.4%	59.8%	54.2%
	Number returned (total)	1,149			
	Response rate (total, returned)	57.5%			
	Number excluded wrong target group - signif. incomplete -	<b>8</b> 7 1	<b>25</b> 15 10	<b>6</b> 4 2	<b>26</b> 15 11
usable	Number usable	304	242	293	245
	Response rate	60.8%	48.4%	58.6%	49.0%
	Number usable (total)	1,084			
	Response rate (total, usable)	54.2%			

**Table 1: Study Sample Description**

<sup>1</sup> Percentage of *eligible* people that was willing to take the questionnaire home (i.e. only non-members were eligible to receive a control group survey form, while program members were the target for the main group questionnaires)

<sup>2</sup> Taking all approached people into account; calculation based on two variables: (1) the quota of eligible people that was willing to take the questionnaire home and (2) the loyalty program membership quote (i.e. as this quota is below 50% for both Aral and Shell, control group questionnaires were distributed faster than those for program members)

Prior to all statistical evaluations, a systematic process of data cleansing was conducted. Hereby, the following five issues were addressed (see appendix for the original questionnaires):

- (1) Affected Question: “Which type of loyalty scheme do you like best?”

Problem: Some respondents indicated more than one answer.

Solution: All answer pairs of a specific kind were selected (e.g. all instances where both Type 1 and Type 2 were indicated) and one of these two answers deleted in an alternating manner. This process was conducted separately for each of the four sample groups and applied to all answer pair variations.

- (2) Affected Question: “Please estimate how your total expenditure for fuel is divided up among the following fuel stations. Please distribute 100% among the different chains (leave chains you do not visit blank).”

Problem: The sum of percentages allocated by respondents did not always add up to exactly 100%.

Solution: The allocated percentage values were reduced (if the sum exceeded 100%) or increased (if the sum turned out to be below 100%) according to their proportions to reach a total of 100%.

- (3) Affected Question: “Please indicate your highest, already completed level of education.”

Problem: Some respondents indicated more than one answer.

Solution: As the different answer options were considered ordinal, all but the highest indicated level of education were removed.

- (4) Affected Question: “Please indicate the professional position you currently hold.”

Problem: Some respondents indicated more than one answer.

Solution: In cases of answer pairs where only one generates income (e.g. student and employee, homemaker and freelancer, etc.), the professional position which generates income was selected as the single answer. In cases where the answer pair includes two types of professional position that the respondent gets paid for, the same process used for issue 1 was applied (i.e. within all instances of each type of answer pairs, one answer was deleted in an alternating manner).

- (5) Affected Question: “Lastly, please indicate your approximate monthly net-income (= income at your disposition after taxes and social insurance contributions are deducted).”

Problem: Some respondents indicated very high monthly net-incomes (i.e. among the 1,149 returned questionnaires, 22 out of the 1,024 respondents who had answered this question indicated net-incomes of more than 15,000 EUR per month. Answers ranged from 17,000 to 180,000 EUR).

Solution: It was decided to treat all answers above 15,000 EUR as missing values to prevent these few extreme cases from interfering with the analysis. This decision was made, as it was unclear whether the respondents had unintentionally indicated their yearly instead of monthly net-income, whether they indicated their household instead of their personal net-income, whether any other error caused this outcome, or whether they really made that much money.

### 3. Conclusion

Based on an extensive literature review, an overview of the loyalty concept, customer loyalty schemes in general, and coalition schemes as a particular type of these programs has been given in the course of this paper. While this review has revealed a whole range of topics that would require further research, the focus of this study has always been the success impact of loyalty programs. In addition, a range of more general questions was included in the empirical part of this study, which addressed both loyalty managers and consumers.

#### 1) How do coalition schemes perform in direct comparison with stand-alone solutions?

Stand-alone programs were found to outperform multi-partner schemes in their ability to engender behavioral loyalty, attitudinal loyalty, and word-of-mouth behavior. In other words, stand-alone scheme members distributed a higher share-of-wallet to the company, were characterized by a more positive attitude towards the organization, and were more likely to talk positively about the firm and recommend it to friends, family, or coworkers. While generally, members of loyalty programs showed significantly higher levels of loyalty than non-members, those of the stand-alone solution did so to an even greater extent than those of the coalition scheme.

What is particularly interesting is that falling in line with theory, coalition members found their program more appealing than stand-alone members. For instance, they found the program better as compared with competitors, the advantages it had to offer more appealing, and also, they found it less arduous to collect points and felt they could obtain good rewards more quickly. In addition, members of the multi-partner scheme were also more likely to have redeemed their points for a reward at least once. For some reason, however, the coalition seemed to have problems translating this edge into actual results. To be specific, multi-partner program members were characterized by a (slightly) lower regularity of use, they were less easily persuaded by a program-related up-selling incentive, and fewer respondents indicated that they had increased their frequency of purchase since becoming a member of the scheme.

A good indicator for the ability to affect the bottom-line in the study's context of fuel retailing is probably the program members' answers to the following three questions asked in the survey: whether they try to favor the company when having to refuel, whether they sometimes make a little detour to reach the respective chain, or whether they even purposely postpone their next fuel stop to be able to collect points. With regard to all these questions, the stand-alone scheme clearly outperformed the multi-partner program, and it is probably the combination of all these factors that has led to the significantly better performance of the company-owned stand-alone solution in terms of affecting customer loyalty. While loyalty is a multifaceted construct, behavioral loyalty is sometimes considered the real bottom-line of business. Leaving any judgment on this matter aside, it is this factor that most clearly differentiates the program types: the average share-of-wallet of both control groups hovered around 31-32%, while that of the coalition members turned out to be roughly 49% and that of stand-alone members an astonishing 66%.

## 2) What dependencies and interrelationships exist between loyalty, program membership and store satisfaction, membership in competing loyalty schemes, and certain shopper characteristics?

Loyalty program membership was found to have a significant positive effect on satisfaction, with satisfaction in turn having a significant positive effect on loyalty. As far as memberships in competing schemes are concerned, the negative effects on the relationship between membership in the original program and loyalty were not as strong as expected. Most importantly, a moderating effect of competitive schemes on this relationship was non-existent in relation to behavioral loyalty as the dependent variable for both the stand-alone and the coalition program. A similar situation persisted in case of word-of-mouth, with the single exception being attitudinal loyalty. Under these circumstances, it was only the stand-alone program that experienced a negative effect. Why this was the case is not entirely clear. It should be noted, however, that the percentage of multiple card holders was generally very low (the average number of cards within the industry under review was 1.2 per customer for coalition scheme and 1.4 for stand-alone scheme members) and in most cases, the second card held was that of the competitive scheme also evaluated in this study. This can easily be explained by the fact that the two evaluated programs are also the two strongest in the industry, with the difference in card ownership attributed to the coalition's higher overall penetration rate. Therefore, it may have been due to the greater likelihood of being tempted by membership in a competitive scheme to become disloyal that led to the slightly more negative outcome in case of the stand-alone program.

The last set of variables included in the study's main model was that of shopper characteristics.

Together with a construct termed economic shopping orientation (i.e. price-consciousness), five demographic and socio-economic variables were tested for their direct or moderating effect on loyalty. Among these six variables, none were found to have a significant moderating effect on either the relationship between satisfaction and loyalty or that between loyalty program membership and loyalty. Effects were only observed with regard to the direct impact on the loyalty construct. Specifically, price consciousness had a significant negative effect on behavioral and attitudinal loyalty for both program types, while a significant effect of educational background on at least one loyalty component could only be witnessed in case of the stand-alone program (here, a lower level of education was found to be associated with higher levels of attitudinal loyalty and word-of-mouth). As for the coalition scheme, the only other shopper characteristic, aside from price consciousness, where an effect could be noted was professional position (employees and civil servants *without* leadership responsibilities showed the highest level of word-of-mouth behavior, followed by employees and civil servants *with* leadership responsibilities, and finally freelancers exhibiting the lowest level). All other tested variables – namely gender, age, and income – had neither a direct, nor a moderating effect.

### 3) What do loyalty executives think about these program types and what experiences have they gathered?

In an attempt to provide nothing but the distillate of what was discussed, a single bullet point will now be listed for each of the 14 topics that were covered without distinguishing between the three interviewed parties (and without passing judgment on the interviewees' statements):

- **Advantages of coalitions over stand-alone programs:** immediate high market penetration, access to know-how, and access to high data volume; higher perceived point value; lower variable cost; higher customer interest in the case of a strong partner portfolio; cross-/up-selling potential, competitive advantage when the partner portfolio is made up of market leaders
- **Disadvantages of coalitions in comparison to stand-alone programs:** smaller amount of flexibility; higher cost in absolute terms; potentially egoistic behavior of other partners; less effective marketing activities; no brand focus of consumer due to big clutter of partners; loyalty of the consumer towards the program instead of the partners; expensive address list rental; potential complications with IT
- **Ability of loyalty programs to alter customer behavior:** share-of-wallet can be increased; new customers can be acquired; churn can be prevented and cross-/up-selling measures implemented
- **Ability of loyalty programs to alter customer attitude:** this is the goal of the program; it is unclear whether customers really respond with increased attitudinal loyalty (note: differing

opinions given by interviewees)

- **Measurement of success:** uplift effect upon introduction of the program is measurable; no long-term control mechanism is possible; pseudo-control groups are formed with program members who behave like non-members; calculations are conducted with experience values; market research is commissioned; cost-effectiveness studies are carried out; the only long-term option of measurement would be to terminate the program; “in the end, it’s partly about gut feeling!”
- **Data:** available at article level per transaction; usually processed at a higher level of aggregation (particularly by the coalition scheme administrator); analysis of data by the administrator possible upon request from other coalition members; administrator possesses registration data while transaction data is owned by both administrator and partner
- **Tiering:** difficult to implement tiers in a heterogeneous program like a loyalty coalition; showing the card during a regular act of purchase was shown to have a status element to it; implemented in the stand-alone scheme in a mild form, but no further measures are planned
- **Industry-specific success:** companies in other industries certainly benefit more from a loyalty program due to a different business model (e.g. some retailers are better able to recuperate costs from manufacturers than others)
- **Costs and other financial aspects:** looking at fixed costs, a coalition is the most expensive in the long run, followed by a stand-alone program developed from scratch and finally, a stand-alone program adapted from another country; in terms of efficiency, however, the coalition scheme is the least expensive (cost-sharing among partners); variable costs (i.e. the points) are the biggest cost component; value per point is perceived to be higher in a coalition and thus the variable costs will be lower as fewer points need to be handed out; compared to a coalition, a break-even time of three years was experienced for the stand-alone scheme with adaptation from a program active in another country; 20-40 million GBP to develop a big fuel retailing scheme from scratch sound plausible
- **Are loyalty coalitions the next evolutionary step?:** in terms of technical complexity and possibly also scientific relevance, yes; limitations are mostly due to privacy regulations; access to new customers through strong program partners is very important; partnerships are important, but can also be established with a stand-alone program
- **Success factors for a loyalty scheme:** good communication measures; offer of a high perceived value; in case of coalitions, a strong partner network, strong brand positioning, and brand building
- **Program types used in other countries:** standardized approach works well; each country is different in terms of customers’ loyalty behavior, thus requiring a different approach (note:

differing opinions given by interviewees); also profit margins are different in every country and determine what one can afford to forfeit in terms of margin; program is used to facilitate selling of excess capacities (e.g. as the output volume of refineries cannot easily be reduced or increased it might make more business sense to sell excess volume on the German market with a rebate in the form of loyalty points as opposed to shipping it to the USA, for example)

- **Cannibalization effect:** it is believed that other benefits have overcompensated for this problem
  
- **The fuel chain DEA's decision to leave Payback** (thereby making Aral's membership in 2006 possible): this was due to a different strategy of Shell (DEA's acquirer), whereby a uniform European strategy has trumped a localized approach; this was a case where "control came before customer offer;" the decision was taken due to limited flexibility and only temporary and costly access to customer data from other coalition partners (note: differing opinions given by interviewees)

#### 4) What do members of these program types think about a whole range of questions revolving around different facets of this topic that might be relevant to practitioners?

Figure 3 gives an overview of all the topics that were covered in the questionnaires filled out by respondents to the survey. Similar to the previous paragraph outlining the qualitative study component, this will be done by condensing the findings into roughly one bullet point per topic. In this respect, a distinction will be made between the stand-alone program, the coalition, and the control groups (where applicable), whereby in the latter case, a single weighted average value will be presented for the two control groups.

Loyalty Cards - Part 1 General Section (including comparison with control groups)	Loyalty Cards - Part 2 Membership-Specific Section (coalition vs. stand-alone comparison)	Loyalty Cards - Part 3 Program Type-Specific Section (no comparison possible)
<ul style="list-style-type: none"> <li>▪ Memberships with loyalty schemes in the industry</li> <li>▪ Memberships with other coalition schemes</li> <li>▪ Number of loyalty cards carried</li> <li>▪ Preferred type of loyalty scheme</li> <li>▪ Barriers of exit</li> <li>▪ General attitude towards loyalty programs</li> <li>▪ Privacy Concerns</li> </ul>	<ul style="list-style-type: none"> <li>▪ Place where loyalty card is kept</li> <li>▪ Reward redemption behavior</li> <li>▪ Patronization prior to program membership</li> <li>▪ Reaction to up-selling incentives</li> <li>▪ Rating of own program</li> <li>▪ Assessment of point and reward structure</li> <li>▪ Regularity of use</li> <li>▪ Alteration of purchase behavior through membership</li> <li>▪ Loyalty scheme-related loyalty</li> <li>▪ Penetration rate<sup>1</sup></li> </ul>	<ul style="list-style-type: none"> <li>▪ Coalition partner where membership was concluded</li> <li>▪ Number of coalition partners patronized</li> <li>▪ Collection of sticky points prior to the coalition start</li> <li>▪ Reaction to cross-selling incentives</li> <li>▪ Membership in special club tier</li> <li>▪ Response to specials from stand-alone program partner</li> <li>▪ Channel used for point redemption</li> </ul>
<p style="text-align: center;"><b>Satisfaction, Loyalty, and Other Purchase Behavior</b></p> <ul style="list-style-type: none"> <li>▪ Store satisfaction</li> <li>▪ Attitudinal loyalty</li> <li>▪ Word-of-mouth</li> <li>▪ Share-of-wallet</li> <li>▪ Purchase frequency</li> <li>▪ Monthly category spend</li> <li>▪ Cost per tank</li> </ul>	<p style="text-align: center;"><b>Demographic, Socio-Economic, and Other Shopper Characteristics</b></p> <ul style="list-style-type: none"> <li>▪ Gender</li> <li>▪ Age</li> <li>▪ Education</li> <li>▪ Professional position</li> <li>▪ Income</li> <li>▪ Economic shopping orientation</li> <li>▪ Convenience orientation<sup>2</sup></li> </ul>	

**Figure 3: Topics Addressed by the Consumer Survey**

<sup>1</sup> Not covered in Chapter 6.2, but in the sample description of Chapter

6.1

<sup>2</sup> Not used for main model

test

Note: Boxes shaded in gray will not be part of this chapter's summary

## 4. Managerial Implications

The fundamental goal of this paper was two-fold in that it was written to advance academic research on loyalty programs while at the same time being practically relevant. To fulfill these demands, care was taken to ensure that neither the literature review nor the empirical study developed in only one of these directions. After all, academic rigor and practical relevance certainly do not have to be mutually exclusive. As far as managerial relevance is concerned, the literature review can be considered a baseline overview. Particularly the outline of issues surrounding loyalty schemes, such as data mining, ways to structure a program, its positive and negative effects, or the idiosyncrasies of loyalty coalitions form a frame of reference for managerial decisions on the subject. The primary contribution of the empirical study to academic literature was to provide a comparison between multi-partner programs and stand-alone solutions in terms of their effect on customer loyalty. In addition to that, however, various other findings of this study are expected to have further enhanced the managerial decision base on which to draw from when dealing with a range of subjects related to loyalty schemes. Furthermore, several independent issues surrounding that topic have also been evaluated in this study.

Within this chapter on managerial implications, a general overview of considerations necessary for deciding between the implementation of either a multi-partner or a stand-alone program will be given first. Subsequently, a range of further implications will be formulated based upon the various remaining individual findings of this study.

### Multi-Partner or Stand-Alone Program?

A high-level comparison of the two program types under review can be found. In essence, these are the primary criteria that would need to be evaluated when deciding between these two program formats. On the one hand, the cost-side will be taken into account, including both fixed costs (i.e. especially the program infrastructure) and variable costs (i.e. particularly points and communication costs). A stand-alone program would require a larger up-front investment, while annual management fees will need to be paid to become a partner in a coalition. On the other hand, potential benefits of the two types need be considered. It was discovered in this study that as far as the bottom-line is concerned (namely the effect of program membership on customer loyalty), it is the well-managed stand-alone scheme that can generate a higher impact due to its more focused nature. It needs to be kept in mind, however, that there are many other factors that cannot be neglected when taking such a decision. When joining a coalition scheme, certain things will be handed to you on a plate (albeit for a price). For example, a larger number of customers can be reached with a multi-partner program, and necessary know-how for program administration and data analysis does not have to be built in-house. At the same time, to name just one other example, flexibility will be lost in a loyalty coalition because changes to the program structure cannot be made without the prior consent of the steering committee, and furthermore, partnerships are also established for a minimum amount of time. Thus, it is a strategic decision that needs to be based on the specific situation of the company and its goals (s. Fig. 4).

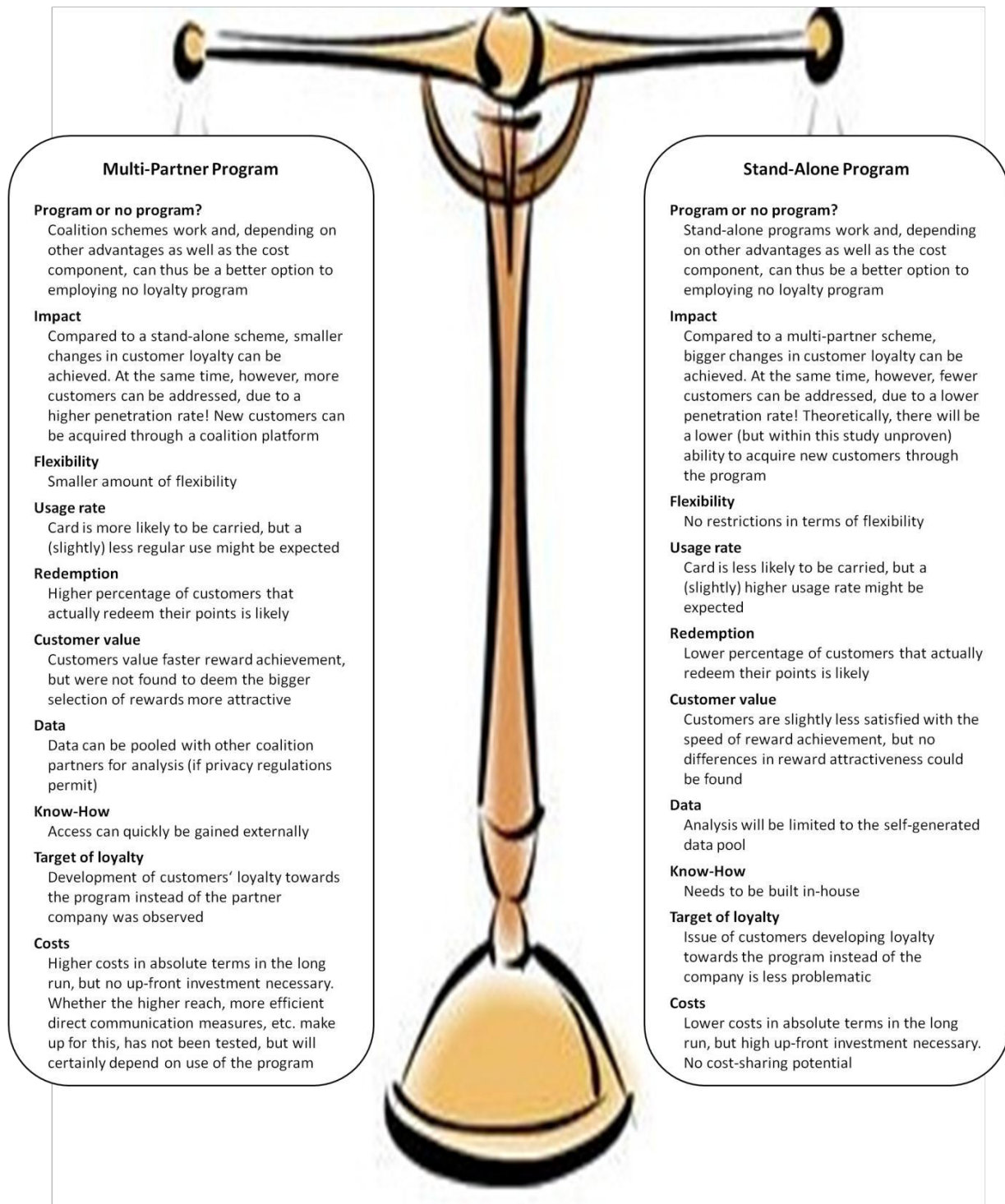


Figure 4: Cost/Benefit Comparison for Multi-Partner and Stand-Alone Programs

## 5. Limitations and Further Research

Like every empirical investigation, this study suffers from various limitations. These will be discussed in the course of this section and furthermore, links to potential future research endeavors

established.

Limitations of the consumer survey revolve around the following issues:

- First, Munich was selected as the single place to conduct the study. Possible nation-wide differences have thus not been taken into account and despite the fact that multiple locations within Munich were carefully selected to minimize bias, neither can it be ensured that the sample is perfectly representative of the city itself. While the usable sample size of 1,084 appeared satisfactory, a possible step to remedy this situation might be to extend the focus of a future survey into rural areas to include the effect of a lack of competitive options. In any case, the sampling process pursued was not necessarily designed to guarantee for external validity.
- Second, perfect comparability of the two programs under review can naturally not be warranted either. Again, care has been taken to minimize potential interferences by choosing programs of two competitors with similar size and regional strength, comparable differentiated strategic positioning, similar program configurations (e.g. value per point, redemption options, etc.), and which had no particular loyalty campaign in progress during the study. Nevertheless, certainly not all covariates could be accounted for. For example, gender and income were found to differ between the two main sample groups. It should be noted, however, that these two demographic/socio-economic characteristics had no direct or moderating effect on the model. Still, control groups are expected to have held off potential negative interferences.
- Third, the general success research bias of customers having joined the program because they already were loyal customers of the company and hence got the biggest benefit out of becoming a member is also a limiting factor of this study. What came first, the chicken or the egg? Or in other words, was the difference in observed loyalty really caused by the program membership or rather by the higher likelihood that already loyal customers join the program? One of the few attempts to account for these self-selecting members was made by Leenheer et al (2007), who compared their observations with a model that tries to predict attraction of customers. Leenheer et al's approach is somewhat similar to the work of Lewis (2004), who tried to model the optimizing behavior of the consumer. It is important to note that these approaches naturally also suffer from a range of limitations in that they simply *model the expected* customer behavior or attraction, as it is highly difficult to measure the actual impact of self-selecting members (plus, any model is incomplete in the first place). Despite these measures to account for this issue, however, these authors come to the

conclusion that program membership has a significant effect on behavioral loyalty. This survey's conclusion is thus perfectly in line with their findings on the positive nature of this relationship – an outcome that has further been backed by the answers to two questions included in the survey: (1) while around 94% of respondents declared that they had patronized the company prior to becoming a program member, between 27% and 38% (depending on program type) of these also stated that their frequency of purchase had been “rather less frequent” before. (2) Furthermore, program members only indicated an agreement of between 2.4 and 2.6 on the 5-point Likert scale (5 being highest; value depending on program type) with the statement that they would continue to prefer patronizing the company if the respective loyalty scheme no longer existed.

- Fourth, this study was conducted with members of two strong German fuel retailing schemes. Further studies could contribute to the generalizability of these findings on the differences between loyalty coalitions and stand-alone programs by evaluating these in the context of other retail sectors and possibly also multiple geographical regions.
  
- Fifth, limitations regarding the methodological approach include the following: (1) reliability issues inherent to a survey design relying on self-reported data were certainly a problem associated with this study, but had to be accepted due to a lack of better alternatives. (2) A common method bias might be present due to the focus on questionnaires as the primary instrument of data collection (Homburg et al 2009, Homburg & Klarmann 2009). While adding a qualitative component to the study could be interpreted as an attempt to counteract this issue, this really is the case only to a very limited extent. However, common method variance (i.e. variance caused by the measurement method instead of the construct that is supposed to be measured) has been minimized by following Temme et al's (2009) recommendations. (3) A key informant bias might be present in relation to the qualitative study component (Homburg & Klarmann 2009). However, the threat of a biased view or incomplete information due to interviewing only one representative of each company is deemed to be rather small at least with Aral and Shell, because their loyalty departments consist of only 3 to 10 people. Furthermore, in each case the most suitable employee was selected for the interview (which was of particular importance in the case of Payback, which employs around 130-180 people).

The field of loyalty schemes still offers a lot of potential for further research into a wide range of topics. As it would go a little too far to elaborate on all these topics, this paper's discussion on future

research opportunities will focus on success research, the study's primary objective. In addition to the suggestions that have been formulated in the previous paragraphs on this study's limitations, the following research endeavors would be worthwhile: (1) what just might be the holy grail of loyalty scheme success research is a longitudinal study with customers both before and after their membership in a loyalty program and/or during their membership and after the termination of that scheme. If a practicable way of capturing the purchase data of a range of customers prior to a program membership could be found and it could be compared with data from a later (uninfluenced) scheme participation, precise conclusions could then be drawn about the actual magnitude of the program's effects as well as that of self-selecting members (e.g. Meyer-Waarden & Benavent 2009 made a noteworthy step in that direction using panel data). (2) It would be interesting to find out what really determines the strength or weakness of a loyalty program and to consequently compare strong and weak schemes in terms of their effect on loyalty, ability to insulate from competitive programs, effect on satisfaction, etc. (3) In addition to that, it might be fascinating to contrast the effectiveness of different coalition schemes based on the strength of their partner portfolio. (4) Apart from extending the comparison of multi-partner and stand-alone programs into other industries or geographical regions, further research projects could focus on advantages and disadvantages of

these scheme types, aside from just their effect on customer loyalty. From a practical point of view, it appears particularly necessary to shed more light on the cost component of these options in order to be able to conduct a meaningful cost-benefit analysis. Furthermore, the relative ability of different program types to acquire new customers is a severely understudied subject. It remains untested whether coalition partners can really afford to hand out fewer points due to the purported fact that customers perceive these points as more valuable (as suggested by the interviewed coalition scheme manager). (5) Still loosely connected to the topic of success research is the question of how other factors that even program members rated negatively influence their behavior (e.g. privacy concerns, having to carry many cards in the wallet, etc.). Likewise, what are the most important considerations for non-members? (6) Moreover, further insight is required in order to determine what reward configurations are most effective at positively influencing customer loyalty (see Chapter 3.3.8 for a review of the available body of knowledge).

"Are coalition schemes the next evolutionary step?" is the question that was asked in the introduction and repeated throughout this paper. To answer this question, one should keep in mind that natural selection is a key mechanism of evolution. It is, in essence, a process during which the specific traits of individuals become more or less common in the general population, depending on the fitness of these individuals (Darwin 1859, Futuyma 2009). Applied to the context of this paper,

this would mean that to be the next evolutionary step, the net positive characteristics inherent in multi-partner schemes would have to be superior to those of stand-alone programs. Thinking this logic through, this would also mean that coalitions would eventually become the dominant loyalty solution.

This is not believed to be the case, however, for the simple reason that both multi-partner and stand-alone programs offer distinct advantages. These two program types complement one another and neither one should be seen as the logical replacement for the other. Which type is chosen by the company will depend on the specific situation, with factors such as the willingness to commit to a high up-front investment in program infrastructure, marketing, and human resources or the amount of desired flexibility in relation to the scheme's configuration influencing this decision. Each program type offers a unique combination of costs and benefits and it will be up to the loyalty manager to decide which profile best fits the requirements of his company.

What is important for every organization to understand is that loyalty programs will not work wonders in terms of influencing customer loyalty and increasing turnover. This, in fact, is the task of

the core activities of the company, such as offering a desirable product at a good price, coupled with sound customer service (Volk 2010). These activities are the actual, fundamental drivers of satisfaction and customer loyalty, and only once these are taken care of, should the company consider boosting loyalty further with the help of a loyalty program. With a well-managed solution, the resulting effect on turnover and consequently profits will certainly be noticeable, but should not be overestimated. Furthermore, one needs to remember that this impact will not be the sole benefit of such a scheme. The ability to generate customer data probably constitutes the single most important source of additional value.

Moreover, the administration of a loyalty program will require a continuous and not a one-off effort. Customer loyalty schemes rely on the idea of developing the customer over time and whenever an effect is to be measured, companies need to take several time periods into account. As far as multiple time intervals are concerned, these programs follow the basic idea of Gutenberg (1955), sometimes referred to as the father of modern business studies in the German-speaking area (Pierenkemper 2000). Among other things, he criticized the previously very constricted view on specific elements of business, while the consideration of different time periods was neglected (Homburg & Fürst 2008). For loyalty schemes, this not only includes providing novelty to the customer to maintain interest over time, but also primarily focusing on optimizing customer lifetime

value in the long run.

In any case, loyalty programs have generally been shown to work, but how well they perform will depend on the specific industry conditions and the particular program configuration. This study has focused on one specific industry only and the applied sampling approach needs to be kept in mind when making judgments about external validity. Stories of both success and failure exist within the very same sector and geographical market, illustrating that the outcome is above all influenced by the administrator of the loyalty solution. In the end, what loyalty schemes need to do is to deliver value to the customer. Hopefully, this paper has helped to strengthen the decision base for loyalty managers, while at the same time contributing a further piece of the puzzle to academic research.

## Literature

Backhaus, K. & Blechschmidt, B. (2009). Fehlende Werte und Datenqualität. Eine Simulationsstudie am Beispiel der Kausalanalyse. *Die Betriebswirtschaft*, 69(2), 265-287.

Barlow, R. (1999). Marketing Trends That'll Change Your Business. *Card News*, 14(12), 1.

Capizzi, M.T. & Ferguson, R. (2005). Loyalty Trends for the Twenty-First Century. *Journal of Consumer Marketing*, 22(2), 72-80.

Clark, P. (2006). *The 22 Major Factors That Will Shape the Future of Customer Loyalty*. Retrieved on March 30, 2009, from <http://www.customerlifecycle.us/pdfs%5Cwhitepapers%5CThe%2022%20Major%20Factors%20that%20will%20Shape%20the%20Future%20of%20Customer%20Loyalty.pdf>.

Clark, R. & Clark, P. (2009). *The Loyalty Guide III*. Retrieved on April 2, 2009, from <http://www.theloyaltyguide.com/order.asp>.

Darwin, C. (1859). *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*. London: John Murray.

Ferguson, R. & Hlavinka, K. (2006). Loyalty Trends 2006: Three Evolutionary Trends to Transform Your Loyalty Strategy. *Journal of Consumer Marketing*, 23(5), 292-299.

Futuyma, D.J. (2009). *Evolution*. Sunderland: Sinauer Associates.

Gutenberg, E. (1955). *Grundlagen der Betriebswirtschaftslehre*. Berlin: Springer.

Hoffmann, A. (2008). *Die Akzeptanz kartenbasierter Kundenbindungsprogramme aus Konsumentensicht. Determinanten und Erfolgswirkungen*. Wiesbaden: Gabler.

Homburg, C. & Fürst, A. (2008). Gutenbergs Werk aus Sicht der heutigen Marketing-Forschung. In: Reese, J. & Steven, M. (eds.). *ZfB Special Issue 5/2008. Erich Gutenbergs Theorie der Unternehmung – Wirkungen auf die heutige Betriebswirtschaftslehre*. Wiesbaden: Gabler, 17-50.

Homburg, C. & Klarmann, M. (2009). Multi Informant-Designs in der empirischen betriebswirtschaftlichen Forschung. Problemfelder und Anwendungsempfehlungen. *Die Betriebswirtschaft*, 69(2), 147-171.

Humby, C., Hunt, T. & Phillips, T. (2008). *Scoring Points: How Tesco Continues to Win Customer Loyalty*. London: Kogan Page.

Lara, P.R. & De Madariaga, J.G. (2007). The Importance of Rewards in the Management of Multisponsor Loyalty Programmes. *Journal of Database Marketing and Customer Strategy Management*, 15(1), 37-48.

Leenheer, J., van Heerde, V.J., Bijmolt, T.H.A. & Smidts, A. (2007). Do Loyalty Programs Really Enhance Behavioral Loyalty? An Empirical Analysis Accounting for Self-Selecting Members. *International Journal of Research in Marketing*, 24(1), 31-47.

Meyer-Waarden, L. & Benavent, C. (2009). Grocery Retail Loyalty Program Effects: Self-Selection or Purchase Behavior Change? *Journal of the Academy of Marketing Science*, 37(3), 345-358.

Payback (2001). *Payback punktet nun mit 10 Millionen Karten*. Retrieved on April 3, 2009, from [http://www.loyaltypartner.com/presse/pressemitteilungen/meldung/select\\_category/7/article/payback-punktet-nun-mit-10-millionen-karten/?tx\\_ttnews\[backPid\]=33&cHash=6cbb8e40cf](http://www.loyaltypartner.com/presse/pressemitteilungen/meldung/select_category/7/article/payback-punktet-nun-mit-10-millionen-karten/?tx_ttnews[backPid]=33&cHash=6cbb8e40cf).

Pierenkemper, T. (2000). *Unternehmensgeschichte. Eine Einführung in ihre Methoden und Ergebnisse*. Stuttgart: Franz Steiner.

Reichheld, F.F. & Seidensticker, F.-J. (2006). *Die ultimative Frage. Mit dem Net-Promotor-Score zu loyalen Kunden und profitablen Wachstum*. München: Hanser.

Rowley, J. (2005). Building Brand Webs. Customer Relationship Management Through the Tesco Clubcard Loyalty Scheme. *International Journal of Retail and Distribution Management*, 33(3), 194-206.

Sharp, B. & Sharp, A. (1997). Loyalty Programs and their Impact on Repeat-Purchase Loyalty Patterns. *International Journal of Research in Marketing*, 14(5), 473-486.

Stone, M., Bearman, D., Butscher, S.A., Gilbert, D., Crick, P. & Moffett, T. (2004). The Effect of Retail Customer Loyalty Schemes – Detailed Measurement or Transforming Marketing? *Journal for Targeting, Measurement and Analysis for Marketing*, 12(3), 305-318.

Temme, D., Paulssen, M. & Hildebrandt, L. (2009). Common Method Variance. Ursachen, Auswirkungen und Kontrollmöglichkeiten. *Die Betriebswirtschaft*, 69(2), 123-146.

TNS Emnid (2006). *Bonusprogramme in Deutschland. Eine Studie der TNS Emnid Medien- und Sozialforschung GmbH*. Retrieved on November 3, 2008, from [http://payback.net/fileadmin/bilder/pdf/Kundenkarten\\_Deutschland\\_Emnid\\_LP.pdf](http://payback.net/fileadmin/bilder/pdf/Kundenkarten_Deutschland_Emnid_LP.pdf).

Volk, H. (2010). Illusion der Begeisterung. *Der Standard*, Jan 23/24, K12.

# Collectivism: An effective multifaceted concept for fostering consumer adoption of a loyalty-card program?

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## Abstract

**Purpose** – To conceptualise and operationalise collectivism in three various facets: a national culture; a psychological concept (self-concept); and a corporate branding strategy. More specifically, this study seeks to explore if the ‘good fit’ among these three facets of collectivism will foster consumer adoption of a collectivistic loyalty-card program.

**Design/methodology/approach** - Literature associated with collectivism was reviewed, particularly in the domains of national culture and self-concept. Further review is needed in the domain of corporate branding or culture. Literature concerning loyalty-card program was also reviewed.

**Findings** – The preliminary literature review indicates the possibility of conceptualising and measuring collectivism as three various facets: a national culture; a self-concept; and a corporate branding strategy. Very few studies, however, have measured collectivism as three various facets and their interrelationships in one-single context. The literature review also indicates a lack of attention on collectivism-inspired loyalty-card program.

**Research limitations/implications** – There are several knowledge gaps on loyalty-card schemes as previous studies have predominantly focused on: i) individualistic loyalty-card schemes that emphasise solitary shopping efforts and self-rewarding, as opposed to collectivistic loyalty-card schemes that promote communal efforts, profit sharing, and altruistic benefits; ii) preaching to existing (converted) members, as opposed to prospective members; and iii) a single nation, as opposed to multiple nations especially those of different cultures (e.g. individualist versus collectivist). The research project attempts to address these knowledge gaps.

**Originality/value** – This study seeks to provide an enriched understanding of collectivism as a multifaceted concept and the interrelationships among the various facets of collectivism in shaping consumer behaviour.

**Keywords** collectivism, culture, self-concept, corporate branding

**Paper type** Conceptual paper

# Collectivism: an effective multifaceted concept for fostering consumer adoption of a loyalty-card program?

## Introduction

Loyalty-card scheme is a ubiquitous marketing strategy in UK retail sectors (Moore & Sekhon, 2005; Smith & Sparks, 2009b). Many renowned retailers in UK like Tesco, Sainsbury's and Boots have used loyalty-card schemes to foster relationships with and to engender behavioural loyalty of their customers (Rowley, 2007; Smith & Sparks, 2009b). More specifically, using a loyalty-card scheme, retailers seek to encourage their clientele to visit and spend more often at their outlets and, simultaneously, to discourage their clientele from patronising competitors' outlets. Moreover, retailers also seek to garner useful data on their patrons' purchase and consumption habits (Hosea, 2011; Smith & Sparks, 2009b). UK represents an ideal nation for examining loyalty-card scheme because of: the widespread offering of loyalty-card schemes by various retail sectors (e.g. supermarket, fashion, and health and beauty); the existence of various loyalty-scheme formats (e.g. individualistic versus collectivistic); and the co-habitation of individuals from various cultural orientations (e.g. individualism versus collectivism).

The recent economic crisis in UK seems to have rekindled consumers' passion for loyalty-card schemes, and thus have stimulated retailers to rethink the significance and/or conditions of their loyalty-card schemes. This is exemplified by some retailers (e.g. Boots) bulking up investments in existing loyalty-card schemes, some (e.g. Tesco) innovating or revamping their loyalty-card rewards or promotional offers, and some sceptics (e.g. Waitrose) adjusting their attitude and partaking in loyalty-card schemes (Charles, 2011). Furthermore, the economic crisis also seems to have increased the exigency for data mining to gain customer insights by retailers. Several market research reports (Bohlen, Carlotti, & Mihas, 2010; Datamonitor, 2009) have consistently asserted that the economic has altered consumers' shopping and consumption habits in many ways. More specifically, consumers are seeking deals more intensively, shopping more cannily, and switching brands more frequently. As a result, retailers believe that the data garnered from loyalty-card schemes can facilitate them in strategising marketing efforts and, in turn, targeting their clientele more effectively in this difficult trading time (Hosea, 2011).

Many mainstream loyalty-card schemes in UK (e.g. Tesco Clubcard, Boots Advantage Card, and Nectar Card) share a major commonality in terms of consumption culture. That is, they consistently and predominantly focus on individualistic consumption, specifically engagement in and reward for solitary shopping efforts (Moore & Sekhon, 2005; Rowley, 2007). None of those aforementioned loyalty-card schemes seek to promote collective shopping efforts, profit sharing with other members enrolled in the same scheme, engagement in altruistic or charitable behaviours. The popular emphasis on individualistic loyalty-card schemes can be attributed to the strong individualist culture of UK as a nation (Itim, 2011). In an individualist society people are claimed to look after themselves and their direct family only (Itim, 2011).

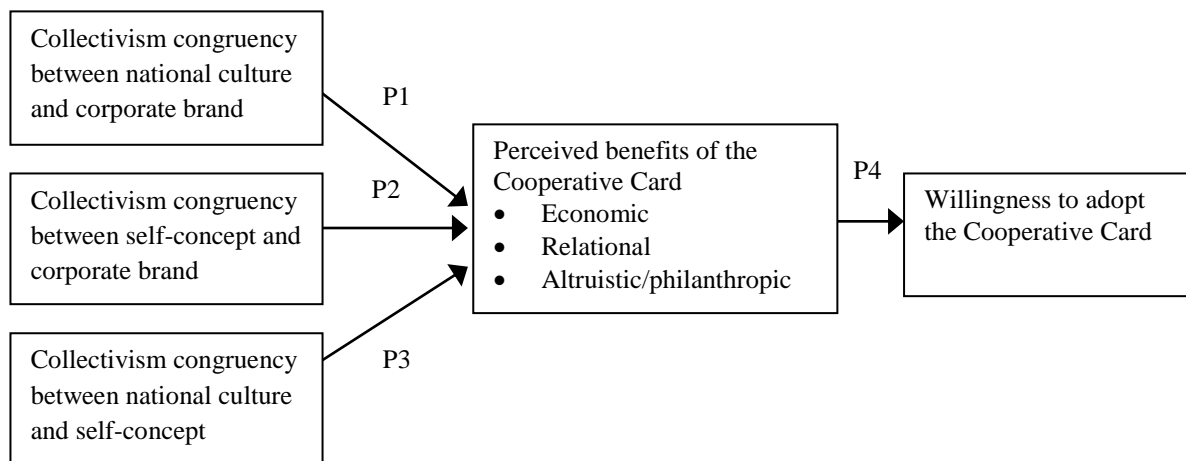
Beyond the retail sector, the popularity of individualistic loyalty-card schemes has permeated through academic research. In marketing literature, previous studies have typically focused on *why*, *how*, and *what* individuals consume the individualistic loyalty-card scheme such as

perceived benefits of adoption (Moore & Sekhon, 2005; Steyn, Pitt, Strasheim, Boshoff, & Abratt, 2010), points redemption motives (Smith & Sparks, 2009a, 2009b), and behavioural segmentation (Allaway, Gooner, Berkowitz, & Davis, 2006; Smith & Sparks, 2009b). There is a lack of attention on the collectivistic loyalty-card scheme, like the one offered by the Cooperative Group, that seeks to promote communal efforts, profit (dividend) sharing, and altruistic rewards. Furthermore, those previous studies have primarily focused on preaching to existing (converted) members as opposed to sourcing prospective members.

We seem to have ample knowledge on consumer adoption and resistance to an individualistic loyalty-card scheme as previous studies have typically paid attention to this loyalty-scheme format. For this reason, we have a knowledge gap on what motivate or prevent consumers from adopting a collectivistic loyalty-card scheme. This study seeks to explore if collectivism congruency is a meaningful factor in fostering consumer adoption of a collectivistic loyalty-card scheme. In terms of target sample, this study aims to research prospective members as opposed to existing members. Besides nourishing existing clientele, a retailer also ought to actively, and selectively, recruit new prolific members as an ‘integrated’ attempt to foster its organic growth. The research question of this study is: *will collectivism congruency at various levels foster the adoption of a collectivistic loyalty-card scheme by prospective members?*

The collectivism congruency will be measured in three facets: a national culture, a self-concept; and a corporate branding strategy. This will result in three forms of collectivism congruency: nation-corporate congruency; self-corporate congruency; and nation-self congruency. These three forms of collectivism congruency will serve as the antecedents; perceived benefits of a collectivistic loyalty-card scheme and willingness to adopt the scheme will serve as the outcomes. These five constructs will translate into four propositions, which are illustrated in Figure 1.

**Figure 1: A proposed model for collectivism congruency in fostering consumer adoption of a loyalty-card program**



Source: developed for this study

P1: When a consumer perceives the Cooperative brand is congruent with his (her) national culture, he (she) will perceive the Cooperative Card to be more beneficial.

P2: When a consumer perceives the Cooperative brand is congruent with his (her) collective self, he (she) will perceive the Cooperative Card to be more beneficial.

P3: When a consumer perceives his (her) national culture is congruent with his (her) collective self, he (she) will perceive the Cooperative Card to be more beneficial.

P4: When a consumer perceives the Cooperative Card is beneficial, he (she) is more willing to adopt the Cooperative Card.

To facilitate the research design process, this study will adopt a case study approach and focus on the Cooperative Group (UK) and its loyalty-card scheme. The concept of collectivism is addressed next.

### **Collectivism: conceptualisation and measurement**

Collectivism generally emphasises strong links among members of a social group, who subrogate personal needs for the good of the in-group, or choose goals which do not threaten the in-group harmony (Ayçiçeği-Dinn & Caldwell-Harris, 2011; Triandis, McCusker, & Hui, 1990). Few studies have measured collectivism at three various levels: at a national level; at a personal level; and at a corporate level.

**National culture.** Representing the most popular conceptualisation in marketing literature, collectivism is typically treated as a construct of national culture (Ayçiçeği-Dinn & Caldwell-Harris, 2011; Chang, 2006). Collectivism generally refers to the close relationship among individuals that perceive themselves as parts of one or more collectives and are mainly motivated by the norms and duties of those collective, emphasising connectedness with other members of the collectives. Moreover, in collectivist societies, individuals tend to surrender their personal interest or goals for the interest or goals of the collective(s) or in-group(s). A direct opposite of collectivism is individualism, which refers to a social pattern that involves loosely linked individuals that view themselves as independent of collectives and are mainly concerned with their own needs, interests or goals, and the contracts they have established with others (Dutta-Bergman & Wells, 2002; Triandis, Chan, Bhawuk, Iwao, & Sinha, 1995; Triandis, et al., 1990). Hofstede's framework is most commonly used when conceptualising and/or measuring collectivism as a construct of national culture (Huff & Alden, 1998; C. Lee & Green, 1991; Triandis, 2004).

**Self-concept.** Self-concept broadly refers to the totality of an individual's thoughts and feelings having reference to himself or herself as an object. Self-concept is not an objective entity independent of the perceiver. It instead denotes an individual's subjective thoughts and feelings about himself or herself (Hong & Zinkhan, 1995; Robertson, 2009).

The significance of self-concept in influencing a consumer's brand or product choice is widely reported in the contexts of apparel goods (O'Cass & Lim, 2001, 2002), advertisements (Chang, 2005a; Hong & Zinkhan, 1995), and retail patronage (Sirgy, Grewal, & Mangleburg, 2000; Sirgy & Su, 2000). Very few studies, however, have explored the impact of self-

concept on consumer adoption of a loyalty-card scheme. A tenable explanation is that few academics, and possibly business practitioners as well, consider a loyalty-card scheme as a meaningful prop for self-expression.

In social psychology, collectivism is commonly treated as a facet of self-concept. It is more widely known as allocentrism (Dutta-Bergman & Wells, 2002; J. A. Lee, 2000; Triandis, Bontempo, Villareal, Asai, & Lucca, 1988; Triandis, et al., 1995). Allocentrism is literally a psychological manifestation of collectivism (a national-culture construct) (Triandis, et al., 1988; Triandis, et al., 1995). The direct opposite of allocentrism is idiocentrism, which is a psychological manifestation of individualism (a national-culture construct).

Idiocentrism and allocentrism are characterized by the following differences: (a) a sense of the self as being autonomous versus being connected to groups, (b) priority of personal interests versus priority of group goals, (c) emphasis on personal attributes versus emphasis on group norms, and (d) the idea of relationship maintenance being a vehicle for personal benefit versus being a means of obtaining a sense of belonging (Chang, 2005a, 2005b, 2006).

Individuals in a collectivist culture tend to view the self as part of their social context and believe that the self becomes most meaningful and complete when it is connected to others in social relationships (Markus & Kitayama, 1991). More specifically, individuals in a collectivist culture are motivated to embed themselves in a social network by finding a way to fit in with relevant others, to create and fulfil duties, and to become part of various interpersonal relationships (Markus & Kitayama, 1991). The Cooperative Card can indeed offer opportunities for collectivistic (allocentric) individuals to be part of a large social network (i.e. be part of the corporative movement), affiliate with others that share similar values (e.g. cooperation and altruism), and simultaneously partake in various charitable activities (e.g. raising funds for a local community project).

**Corporate branding.** In marketing literature, collectivism is widely treated as a construct of national culture. In social psychology literature, collectivism is commonly measured as a construct of personality trait and it is also known as allocentrism. Whilst it is rarely measured as a corporate branding strategy, collectivism is indeed being practised by some retailers like the Cooperative Group and John Lewis Partnership. As stated earlier, many of the Cooperative's principles are closely parallel to the core characteristics of collectivism (e.g. interdependence, group harmony, cooperation, reciprocity, and altruism).

### **Case study: The Cooperative Group (UK) and its loyalty-card scheme**

The word 'co-operative' generally refers to 'a group of people acting together to meet the common needs and aspirations of its members, sharing ownership, and making decisions democratically.' (The Co-operative Group, 2012, p. n.d.). Seven corporate principles to date serve as the bedrock of the Cooperatives' practices: i) voluntary and open membership; ii) democratic member control; iii) member economic participation; iv) autonomy and independence; v) education, training and information; vi) cooperation among co-operatives; and vii) concern for community. For the description of each of these principles, please refer to the official website of the International Co-operative Alliance (<http://www.ica.coop/coop/principles.html>).

Many of these Cooperatives' principles are seemingly in perfect harmony with the core characteristics of collectivism: interdependence; group harmony; cohesion; cooperation; and

reciprocity (Dutta-Bergman & Wells, 2002; Triandis, et al., 1995; Triandis, et al., 1990). The Cooperative can indeed be a sound business concept in collectivist nations like China and India. Besides acting as its corporate values, the Cooperative Group in UK also promote those aforementioned principles as the unique selling propositions of its loyalty-card scheme, namely the Cooperative Card (Co-operative Group, 2012). For this reason, the Cooperative Card can be conceptualised as a collectivistic loyalty-card scheme and thus represent the immediate interest of this study.

### **Potential contributions to marketing theory**

**Collectivism and loyalty-card scheme.** Existing literature has primarily focused on individualistic loyalty-card schemes. Very few studies, if any, have examined collectivistic loyalty-card schemes like the one offered by the Cooperative Group (UK). Existing literature on collectivism has typically theorised this construct as a national culture or a personality trait. Very few studies, however, have conceptualised collectivism as a corporate strategy concept. Simultaneous measurement of collectivism as a national culture, as a personal trait, and a corporate strategy are indeed scarce in existing literature. This study, therefore, seeks to fill this knowledge gap by measuring collectivism in those three levels and their interrelationships via self-congruency and assimilation theories. Moreover, this study also seeks to explore the impact of those three levels of collectivism congruency on consumer adoption of a collectivistic loyalty-card scheme.

**Self-concept and consumer adoption of loyalty-card schemes.** Marketing studies have so far commonly emphasised why, how, and what consumers adopt a loyalty-card schemes such as points-redemption motives (Smith & Sparks, 2009a, 2009b), perceived benefits (Steyn, et al., 2010), and behavioural segmentation (Smith & Sparks, 2009b). Very few studies have investigated the possibility of self-concept in dictating consumer acceptance of or resistance to a loyalty-card scheme. Self-concept is a critical marketing construct in influencing consumer attitude (e.g. perception, emotion, and behavioural intention) towards a brand, as evidenced in the contexts of advertising (Chang, 2005a, 2005b, 2006), apparel consumption (O'Cass & Lim, 2001, 2002), and luxury consumption. There is a visible gap between the literature of loyalty-card schemes and self-concept. A tenable explanation is that very few academics have envisaged the use of a loyalty-card scheme to express one's self-image because of its ubiquity and free of charge nature in UK. If this study is able to establish that "collective self" consumers are more inclined to adopt the Co-operative Card than "individual self" consumers, it will help to bridge the literature gap. An examination of the relationship between self-concept and consumer adoption of a loyalty-card scheme represents a strategic approach of being customer-centric (Hosea, 2011).

**Loyalty-card scheme and altruistic behaviours.** A USP of the Cooperative Card is the opportunity to donate the allocated profit to a local community project. There is a possibility to explore the degree to which the Cooperative Card can foster altruistic or charitable behaviours. The examination of the three levels of collectivism congruency will provide an understanding of whether some individuals are more altruistic in nature, and thus place more emphasis on the charitable benefit and more inclined to adopt the Cooperative Card for this reason.

## Conclusion

Previous studies have predominantly focused on individualistic loyalty-card schemes; very few studies have devoted attention to collectivistic loyalty-card schemes that seek to promote cooperation, interdependence, group harmony, cohesion, and reciprocity. This study therefore aims to explore if consumer adoption of a collectivistic loyalty-card scheme will be influenced by the 'good fit' (congruency) between national, personal, and corporate branding characteristics. As a focal point, this study will utilise collectivism as the conceptualisation and measurement of the national, personal, and corporate branding characteristics. This study aims to examine the extent to which the collectivism congruency between national culture and corporate branding, between self-concept and corporate branding, and national culture and self-concept will influence consumer perception of the benefits of a collectivistic loyalty-card scheme, and in turn their adoption of the scheme. To facilitate the research design process, a case study approach will be used. It will focus on the Cooperative Group (UK) and its loyalty-card scheme. The case study approach will involve an integration of qualitative and quantitative methods (e.g. in-depth interviews with management, focus groups with loyalty-card holders, and a cross-cultural survey). Once the research model is validated in UK, it will be replicated in countries where the presence of the Cooperative is pertinent like Japan or countries where the Cooperative concept denotes potential like China.

## List of references

- Allaway, A. W., Gooner, R. M., Berkowitz, D., & Davis, L. (2006). Deriving and exploring behavior segments within a retail loyalty card program. *European Journal of Marketing*, 40(11/12), 1317-1339.
- Ayçiçeği-Dinn, A., & Caldwell-Harris, C. L. (2011). Individualism-collectivism among Americans, Turks and Turkish immigrants to the U.S. *International Journal of Intercultural Relations*, 35(1), 9-16. doi: 10.1016/j.ijintrel.2010.11.006
- Bohlen, B., Carlotti, S., & Mihas, L. (2010). How the recession has changed US consumer behavior. [Article]. *McKinsey Quarterly*(1), 17-20.
- Chang, C. (2005a). Ad-self-congruency effects: self-enhancing cognitive and affective mechanisms. *Psychology & Marketing*, 22(11), 887-910.
- Chang, C. (2005b). The moderating influence of ad framing for ad-self-congruency effects. *Psychology & Marketing*, 22(12), 955-968.
- Chang, C. (2006). Seeing the small picture: Ad-self versus ad-culture congruency in international advertising. *Journal of Business and Psychology*, 20(3), 445-465.
- Charles, G. (2011, 26 October 2011). Waitrose unveils loyalty-card programme in strategic shift. *Marketing Magazine*, 1.
- Co-operative Group. (2012). The Co-operative Group Membership Retrieved 4th January, 2012, from <http://www.co-operative.coop/membership/>
- Datamonitor. (2009). UK consumers: shopping for value, but reluctant to compromise on quality *MarketWatch: Personal Care* (Vol. 8, pp. 11-12): Datamonitor Plc.
- Dutta-Bergman, M. J., & Wells, W. D. (2002). The Values and Lifestyles of Idiocentrics and Allocentrics in an Individualist Culture: A Descriptive Approach. [Article]. *Journal of Consumer Psychology (Lawrence Erlbaum Associates)*, 12(3), 231-242. doi: 10.1207/153276602760335077
- Hong, J., & Zinkhan, G. (1995). Self-concept and advertising effectiveness: The influence of congruency, conspicuousness, and response mode. *Psychology & Marketing*, 12(1), 53-77.
- Hosea, M. (2011). The new guard of loyalty schemes. *Marketing Week*, 44-45.
- Huff, L. C., & Alden, D. L. (1998). An investigation of consumer response to sales promotions in developing markets: a three-country analysis. *Journal of Advertising Research*, 47-56.
- Itim. (2011). Geert Hofstede: National Culture Retrieved 4th January, 2012, from <http://geert-hofstede.com/united-kingdom.html>
- Lee, C., & Green, R. T. (1991). Cross-cultural examination of the Fishbein behavioural intentions model. *Journal of International Business Studies*, 22(2), 289-305.
- Lee, J. A. (2000). Adapting Triandis's Model of Subjective Culture and Social Behavior Relations to Consumer Behavior. [Article]. *Journal of Consumer Psychology (Lawrence Erlbaum Associates)*, 9(2), 117-126.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, 98(2), 224-253. doi: 10.1037/0033-295x.98.2.224
- Moore, G., & Sekhon, H. (2005). Multi-brand loyalty cards: A good idea. *Journal of Marketing Management*, 21, 625-640.
- O'Cass, A., & Lim, K. (2001). The influence of brand associations on brand preference and purchase intention: an Asian perspective on brand associations. *Journal of International Consumer Marketing*, 14(2/3), 41-71.
- O'Cass, A., & Lim, K. (2002). Toward understanding the young consumer's brand associations and ethnocentrism in the Lion's port. *Psychology & Marketing*, 19(9), 759-775.
- Robertson, N. (2009). 'Co-operation: the hope of the consumer'? The co-operative movement and consumer protection, 1914-60. In L. Black & N. Robertson (Eds.), *Consumerism and the Co-*

*operative movement in modern British history: Taking stock* (pp. 222-239). Manchester: Manchester University Press.

- Rowley, J. (2007). Reconceptualising the strategic role of loyalty schemes. *Journal of Consumer Marketing*, 24(6), 366-374.
- Sirgy, J., Grewal, D., & Mangleburg, T. (2000). Retail environment, self-congruity, and retail patronage: an integrative model and a research agenda. *Journal of Business Research*, 49, 127-138.
- Sirgy, J., & Su, C. T. (2000). Destination image, self-congruity, and travel behaviour: toward an integrative model. *Journal of Travel Research*, 38(May), 340-352.
- Smith, A., & Sparks, L. (2009a). "It's nice to ge a wee treat if you've had a bad week": Consumer motivations in retail loyalty scheme points redemption. *Journal of Business Research*, 62, 542-547.
- Smith, A., & Sparks, L. (2009b). Reward redemption behaviour in retail loyalty schemes. *British Journal of Management*, 20, 204-218.
- Steyn, P., Pitt, L., Strasheim, A., Boshoff, C., & Abratt, R. (2010). A cross-cultural study of the perceived benefits of a retailer loyalty scheme in Asia. *Journal of Retailing and Consumer Services*, 17, 355-373.
- The Co-operative Group. (2012). What is a co-operative? Retrieved 4th January, 2012, from <http://www.co-operative.coop/corporate/>
- Triandis, H. C. (2004). The many dimensions of culture. [Article]. *Academy of Management Executive*, 18(1), 88-93. doi: 10.5465/ame.2004.12689599
- Triandis, H. C., Bontempo, R., Villareal, M. J., Asai, M., & Lucca, N. (1988). Individualism and collectivism: Cross-cultural perspectives on self-ingroup relationships. *Journal of Personality and Social Psychology*, 54(2), 323-338. doi: 10.1037/0022-3514.54.2.323
- Triandis, H. C., Chan, D. K. S., Bhawuk, D. P. S., Iwao, S., & Sinha, J. B. P. (1995). Multimethod Probes of Allocentrism and Idiocentrism. [Article]. *International Journal of Psychology*, 30(4), 461.
- Triandis, H. C., McCusker, C., & Hui, C. H. (1990). Multimethod probes of individualism and collectivism. *Journal of Personality and Social Psychology*, 59(5), 1006-1020. doi: 10.1037/0022-3514.59.5.1006

# Effect of channel congruence on a retailer's image

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# Effect of channel congruence on a retailer's image

## Abstract

**Purpose** – The purpose of this paper is to assess whether the image of a retailer – beyond the distinct contributions of the website and the stores - is improved by the perceived congruence of its channels, and for what types of customers.

**Design methodology** – An online survey was conducted on 1,478 customers taken from the behavioural data bases of a major French multichannel retailer. Structural modelling and One-way Anova were used to test the working hypotheses.

**Findings** – Congruent channels improve retailer image even when these channels have a less good image. However, channel congruence cannot be elevated to a universal guiding principle as it only affects multichannel and online buyers, with no detrimental impact on retailer image.

**Research limitations/implications** - The study is mainly limited by the the type of retailer studied, and the choice of an online questionnaire, limiting the representativeness of the offline purchasers.

**Practical implications** – In order to improve its image, a multichannel retailer must seek maximum congruence of its website and stores. Congruent channels lead to benefits for the retailer even when they are poorly valued by consumers.

**Originality value** – Despite a broad theoretical consensus, this is the first study to demonstrate empirically that website and store congruence improve retailer image, and not only online purchase intentions. It is also one of the first published researches that uses congruence as a mediating variable.

**Keywords** – Multichannel customer management, channel congruence, website image, store image, retailer image

**Paper type** – Research paper

## Introduction

Now a major marketing function for capturing and retaining customers (Neslin *et al.*, 2006), multichannel management is an efficient source of differentiation for retailers (Rosenbloom, 2007). As it builds the relationship with their customers, it enhances their profitability and loyalty (Kumar and Venkatesan, 2005). In that way, the question of congruence between distribution channels has become critical. This involves combining the channels adequately to make customers' perceived experience seamless (Geyskens *et al.*, 2002; Coelho *et al.*, 2003; Payne and Frow, 2004). The question is about the desirable degree of interactions between those channels. It has two practical implications.

The first one is related to channel performance. Should the features of the retail website (offerings, pricing, discounts, layout, etc.) be consistent with the stores' to enable the learning and cross-channel mobility of the retailer's customers (Katerattanakul and Siau, 2003) and thus curtail the phenomenon of free riding highlighted by Van Baal and Dach (2005)? Or should they differ to prevent any risk of cannibalisation (Alba *et al.*, 1997; Geyskens *et al.*, 2002)? Although inadequately addressed at an empirical level, this question has been widely debated at a theoretical level. It will not be tackled in this research.

The second implication involves the role of channel congruence as a "guiding principle" in sustaining strong retailer image (Del Franco and Chiger 2002, p.16). The synergies of front-office (information consistency of the various channels) and cutting consumer learning costs may boost retailers' overall image. A retailer leveraging multiple channels of distribution (Weinberg *et al.*, 2007) under an umbrella brand (Gulati and Garino, 2000) may make its perceived congruence even more essential. Indeed, congruent channels supposedly improve retailer image by helping to trigger a holistic judgment favourable to the retailer both in terms of memorisation and resistance to the competition's actions (Keller, 1993). Still, despite a broad consensus, no research has demonstrated empirically that congruent distributions channels improve the retailer's image. On that issue, Puccinelli *et al.* (2009, p.25) argue that "the importance of consistency between the brick-and-mortar store and the click-and-mortar site remains an open question".

This quantitative research was conducted on a real B to C case and aims to answer three questions with major managerial implications for retailers: 1) Relative to the specific contributions of each channel, what is the actual added value of the site and store's perceived congruence in improving the retailer's image?; 2) Does the impact of congruence differ depending on whether the customer buys only in-store, only online, or across these two channels? 3) Is there any fallout from intermediary incongruence thresholds?

First, a review of literature delineates the conceptual framework of this research. A second section verifies the tested hypotheses. A third section presents the methodology and the measurement scales used. The main findings are then encapsulated. Finally, the additional contributions of perceived congruence are discussed in relation to the contributions of each channel.

## 1. Review of literature

This research is based on the concept of congruence rather than fit, mainly because of the position these concepts occupy in individuals' cognitive processes. That is, among the few marketing researchers who do not use these concepts interchangeably, Maoz and Tybout (2002) utilise congruence to link together beliefs – compatibility and alignment of the parent brand's image with its possible extensions – prior to any other kind of evaluation (Lee, 1995). In contrast, fit is used to connect attitudes (Mao and Tybout, 2002; Czellar, 2003). This research looks at channel and retailer images – therefore, beliefs rather than attitudes – engaging the concept of perceived congruence to connect objects that are different in nature: the retail website, the stores and the retailer.

### 1.1. Perceived congruence of distribution channels

Congruence is a comparison of structured representations (Mandler, 1982). It makes it easy to evaluate relationships between objects from a descriptive and analytical perspective (Lwin *et al.*, 2007) and gauge how they align with individuals' initial expectations (Gürhan-Canli and Maheswaran, 1998). Two retail channels are perceived as congruent by consumers when they have common characteristics, are similarly structured and organised around the same mental pattern. This schema builds familiarity with the new channel and facilitates customers' cognitive effort, making it easier for them to switch from one channel to the other when making purchases. According to Fiske *et al.* (1987), the judgment of congruence operates holistically (here at the level of each channel's overall image), and then, analytically, should the categorisation attempt fail (here by comparing all or some of the information provided by the two channels: offerings, pricing, discounts, etc.). Nevertheless, personal factors (level of involvement, need for knowledge, expertise) or situational factors (sense of urgency, for example) can facilitate resort to one judgment or the other.

In the retail sector, the first studies resorting to the concept of congruence have focused on self-image and perception of stores (Sirgy and Samli, 1985) or managers' perception of stores (Osman, 1993). Bellman and Rossiter (2004) apply it to e-commerce by showing that an

individual having developed a mental pattern congruent with a website can more easily navigate it.

Studies examining perceived congruence between the store and the website have been few and far between. Moreover, they all focus on channel congruence's capacity to facilitate the transfer of attitudes from stores to the website and indirectly online purchase intentions. Wang *et al.* (2009) conclude that high congruence between offline and online enables belief transfer between these two channels and reduces attention paid to the site's features. If the stores have a good image in the consumer's mind, it is important to make the site congruent with them; this may account for the advantage of well-established mortar to click retailers in e-commerce. In the opposite scenario, the site should differentiate itself from the store to trigger an analytical judgment from consumers, one that is more focused on its distinctive performances than on extrinsic guidelines (subtyping). This is corroborated by the research conducted by Kwon and Lennon (2009a), which shows that the online store may leverage the halo effect initially created by stores, and in turn, impact on the attitude towards retail outlets. However, this image congruence facilitates the transfer of attitudes and trust from stores to the website only in holistic thinkers (Badrinarayanan *et al.*, 2010).

However, no published research has yet examined whether congruent channels improve the retailer's image or if moderate channel incongruence generates significant effects and for what types of customers.

## *1.2 Channel image and retailer image*

Whether it applies to a product, a retailer or channels of distribution, image is a sense-driven mental representation that links together all the sensory perceptions and thoughts associated with an entity by an individual (Enis, 1967). Based on what an individual has directly or indirectly experienced, it is "an abstraction, a simplification of reality" (Enis 1967, p.51). This research focuses on perceived image.

### *1.2.1 Store image and website image*

Mazursky and Jacoby (1986, p.147) define store image as "a cognition and/or affect (or a set of cognitions and/or affects), which is (are) inferred, either from a set of ongoing perceptions and/or memory inputs attaching to a phenomenon (i.e., either an object or event such as a store, a product, a "sale," etc.) and which represent(s) what that phenomenon signifies to an individual." Since Martineau's pioneering work (1958), studies on this issue have demonstrated its influence on the choice of retailer (Hildebrandt, 1988; Grewal *et al.*, 1998).

Store image includes a myriad of functional and tangible elements (location, price, easy credit terms, layout) as well as intangible elements (salespeople's attitudes, atmospherics, smells, colours, etc.). It can be studied holistically (Zimmer and Golden, 1988) or more analytically as these rational and emotional elements (Golden *et al.*, 1987) are perceived and balanced (Doyle and Fenwick, 1974).

Still, few scholars have utilized the concept of website image so far. Spiller and Lohse (1997), or Katerattanakul and Siau (2003) have shown that the image of a retail website can be analysed in the same way as stores, particularly across merchandise, pricing, discount or service dimensions; the effects of those characteristics were then tested on the online purchase attitude (Lim and Dubinsky, 2004), traffic and sales (Van der Heijden and Verhagen, 2004). But in the field of e-commerce, research has mainly focused on the acceptance conditions of the technology (Davis *et al.*, 1989), the ergonomics and quality of the website (Palmer, 2002 ; Loiacono *et al.*, 2007), its atmosphere (Childers *et al.*, 2001) or e-satisfaction (Zsymanski and Hise, 2000). Yet, retail websites have become distribution channels in their own right and must now be analysed by using all the classic variables of the retailing mix. That is why Rolland and Freeman (2010) have incorporated image dimensions (offering, price) into their research on website quality.

### *1.2.2. Retailer image*

The retailer's image is a multi-faceted concept linking multiple entities, including several channels of distribution, sometimes different store formats utilising the retailer's name (e.g., Carrefour, Tesco), often stores' own brands. Reputedly more stable and less specific than store image, it constitutes the foundation of brand equity (Ailawadi and Keller, 2004), that is, the added value endowed by a retailer to its market offerings (Arnett *et al.*, 2003). It includes a great deal of channels' tangible and intangible characteristics, functional, experiential and symbolic benefits, or even the overall attitudes associated with the retailer (Keller, 1993). However, the extension of the retailer's scope – and consequently of its image – raises the issue of how to measure it. Thus, some researchers evaluate store image more than retailer image: such as Ailawadi and Keller (2004). Others, conversely, averting the risk of overlapping concepts, only take into account certain dimensions of store image. This research considers that channel image and retailer image are related but distinct: “some multi-channel shoppers may form a brand image based upon information about the retailer from all channels they have experienced, while others may have a distinctive set of brand images and expectations about each of the retailer's channels” (Kwon and Lennon, 2009b, p. 558).

## 2. Hypothesis development

These hypotheses apply to customers familiar enough with the retailer's site and stores alike, having visited them during the information phase. They can all make congruence judgments. However, they either buy in a single channel only (offline or online buyers) or across both depending on the products or the situation (multichannel buyers). The purchase behaviour of each type of clients is highly dependent on their familiarity with each channel (see sample). Therefore, it is possible to test most following hypotheses by differentiating between each group of customers. The purchase behaviour of each type of clients is highly dependent on their familiarity with each channel (see sample). Therefore, it is possible to test most following hypotheses by differentiating between each group of customers.

### 2.1. Effects of channel image on retailer image

With respect to the literature review above, store image appears to be a component of retailer image. Collins-Dodd and Lindley (2003) show that store image is positively correlated with the image of the retailer's own brands as well as its overall image. This is likely to hold true for the online store as it may be considered as a type of store, defined by similar characteristics. Of course, the scope ascribed to a retailer's image dictates the strength of its relationship with the channels' image. Still, the more an individual accumulates and memorises experiences with an object, the more he/she taps the mental schema associated with that object to guide themselves through "action, perception, and thought" (Mandler 1982, p.3). In fact, familiarity reinforces this internal rationale, which alters the type of information and how it factors into the judgment (Johnson and Russo, 1984; Coupey *et al.*, 1998). The more familiar an individual is with a distribution channel (visit and purchase frequency), the more their perception of the retailer may be influenced by the image of this channel: offline shoppers by the stores', online shoppers by the site's and multichannel shoppers by both images.

*H1 – Store image positively influences the retailer's overall image:*

- a) for offline buyers*
- b) for multichannel buyers*
- c) for online buyers.*

*H2 – Website image positively influences the retailer's overall image*

- a) *for offline buyers*
- b) *for multichannel buyers*
- c) *for online buyers.*

### 3.2 Effects of channel image on perceived congruence

The research examining perceived congruence (e.g., Meyers-Levy and Tybout 1989, Wang *et al.* 2009) has consistently addressed perceived congruence as a moderator. This choice is justified either because the concepts linked are effectively distinct (for example, self-image and store image in O’Cass and Grace’s research) or for methodological reasons (Meyer-Levy and Tybout’s experiments based on three groups of stimuli predefined as variously congruent).

By contrast, in this study, perceived congruence is addressed as a mediator between channel image and retailer image. The review of literature reveals that the two channels are viewed as congruent when they have a common structure and cognitive schema. Therefore, the congruence judgment results from connecting store and website images. Also, these are supposed to have a strong relationship with the retailer’s image as the perceived congruence does not operate on the same level as the image of the two channels, but *ex post*. This assumption is consistent with the work of Fishbein and Ajzen (1972) who argue that a behavioural belief can also consist in connecting two objects. Perceived congruence is tied to cause and effect, and therefore it should be addressed as a mediating variable in order to achieve a clear interpretation of the interactions (Baron and Kenny, 1986). This conceptual standpoint is corroborated by Badrinarayan *et al.* (2010) who conclude that in multichannel distribution, image congruence has a direct effect on the online purchase attitude but no moderating effect on the transfer of attitudes from the stores to the website.

The image of each channel simultaneously influences the judgment of perceived congruence. The point here is not to analyse what image dimensions this judgment is built on (merchandises, pricing, layout, etc.). The fact that all customers studied are necessarily familiar with both channels warrants their ability to evaluate congruence. Besides, limited familiarity with an object (here the website or the stores) may paradoxically strengthen the perceived congruence between channels (Bijmolt *et al.*, 1998).

*H3 – Store image positively influences the perceived congruence between channels.*

*H4 – Website image positively influences the perceived congruence between channels.*

However, the relative contribution of each channel may differ based on whether or not it is the foundation of the customer's cognitive schema. The perception of the site may actually shape online shoppers' judgment of perceived congruence whereas other shoppers, even multichannel ones, may consider stores as their historic anchor.

*H5 – The congruence judgment is shaped*

- a) by store image for offline buyers*
- b) by store image for multichannel buyers*
- c) by website image for online buyers.*

### *3.3 Effects of perceived congruence between channels on retailer image*

In social psychology, congruence is said to drive and buttress individuals' judgments (Marschark and Paivio, 1979). In advertising, it also shapes the customer's relationship with the brand (Ogilvy, 1983; Farquhar, 1990). Thus, congruent associations facilitate holistic judgments, which reinforces corporate image (Keller, 1993).

Besides, congruent channels of distribution, that is, with similar image characteristics, can reinforce attitude towards the other channel (Kwon and Lennon, 2009a; Badrinarayanan *et al.*, 2010). This helps enhance credibility and, more broadly, the retailer's image. However, this positive effect of congruence may be more pronounced in individuals least familiar with one of the channels. That is, reduced familiarity is conducive to overestimating perceived congruence (Bijmolt *et al.*, 1998), and as a result, individuals least familiar with a channel may attach more importance to it when evaluating the retailer's image. Conversely, individuals most familiar with the two channels – paradoxically they are the most capable to evaluate their actual congruence – may consider the image of each channel over their actual consistency.

*H6 – Perceived congruence between channels positively influences retailer image*

- a) for offline buyers*
- b) for multichannel buyers*
- c) for online buyers.*

Nevertheless, the value and intensity of affect, caused by moderate incongruence, may be higher, in some instances, than those generated by seamless congruence (Mandler, 1982; Meyers-Levy and Tybout, 1989; Stayman *et al.*, 1992). This effect has been implicitly highlighted by cross-matching relevant congruence and expected congruence (Heckler and Childers, 1992). However, the use of these dimensions, particularly the latter, seems more

tailored to advertising and sponsorship than channels of distribution, which are quintessentially slow media where sudden concept changes are few for the website and unworkable in real time for the entirety of stores.

Arguably, the effects of perceived congruence on the retailer's image are likely to peak when the online store and the physical stores cannot be considered as mirror channels, that is, at an intermediate level of congruence. But the effects of this moderate congruence may diminish among shoppers who routinely frequent one channel only. As it reinforces habituation and memory, familiarity enhances the polarisation of the stimuli pairings compared, which makes moderate incongruence less likely (Johnson, 1981; Dahlén and Lange, 2004). Conversely, highly congruent channels may enhance the risk of cannibalisation (Deleersnyder *et al.*, 2002) and, as a result, bring no further added value to the retailer (Weinberg *et al.*, 2007).

*H7 – The effect of congruence peaks at an intermediate level, particularly for customers buying across the two channels.*

Figure I presents the structural relationships tested.

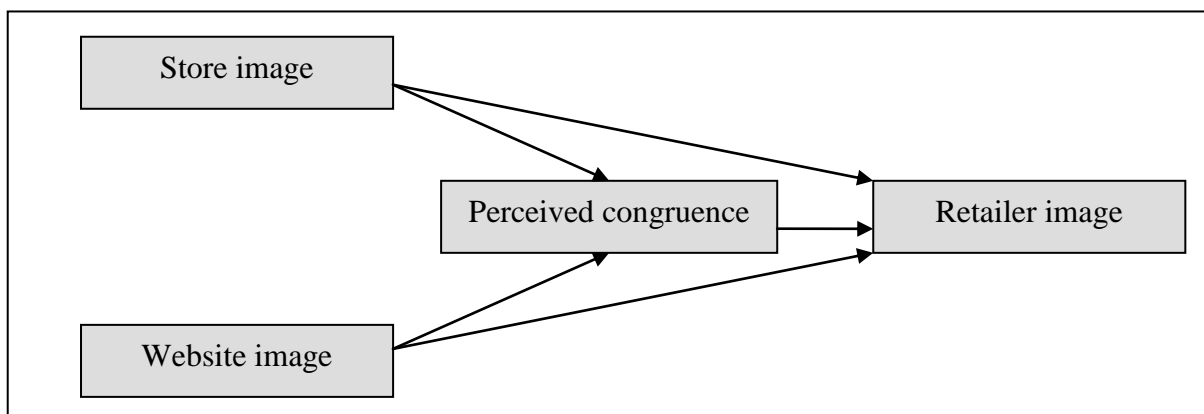


Figure I. Conceptual model tested

### 3. Methodology

#### 3.1. Selected environment and sample

This research was conducted on the website and store customers of a major French retailer specialised in technology and cultural products. There are four reasons behind this methodological choice: 1) a concern for grounding the study in the multichannel reality; 2) the long-standing experience of the retailer in the field of multichannel management; 3) the requirement that the respondents have adequate knowledge of the two channels of distribution; 4) the desire to work on a significant sample depicting the variety of usage behaviours across the retailer's channels.

The sample consists of 1,478 individuals taken from the retailer's behaviour databases and familiar with both website and stores: 152 loyalty card holders having bought only in-store in the last 2 years; 1,015 members having bought sometimes online sometimes in-store; 311 non-member customers having bought only on the website in the last 2 years<sup>1</sup>. These three groups do not differ in terms of age (average: 47.7 years old) or education level (78.6 % of college graduates), little in terms of gender (68.6% males), except for offline buyers (77.7% males). The differences observed document their proximity to the retailer's stores, their degree of familiarity with each channel and the number of products bought in it:

- offline buyers mainly live in major cities where the retailer's stores are located. These constitute their single purchase channel and they visit them at least once a month (63.1%). Although they frequent the website less than the other groups, more than 30% of them visit it at least once a week for information purposes;
- online buyers live in small towns, away from the retailer's stores. They visit the website more than offline buyers ( $X^2=78.15$ ; 8df  $p<0.000$ ) and the stores less than the other two groups ( $X^2=332.93$  ; 8df  $p<0.000$ );
- multichannel buyers live predominantly in middle-sized cities. They frequent the stores as much as offline buyers and the website more than the other two groups (84% of them at least once a month). The total number of products bought by them is even higher than that of offline buyers due to their additional online purchases.

The questionnaire was administered online, in the name and usual presentation form of the retailer. Given their education level and their command of information technologies, most customers, even those who only buy in-store, use the Internet to read their emails and respond to feedback questionnaires and sales promotions efforts. Thus, the danger of exclusion, stressed by Duffy *et al.* (2005) is limited.

### 3.2 Measurement scales

The scales used were 7-point scales with one neutral point. To facilitate comparison between these two channels, the overall site and store images were measured using a scale comprising 3 strictly identical items. This measurement instrument was favoured over a 10-dimension index (offerings, pricing, layout, accessibility, discounts, etc.) it had helped develop across the same sample, using a MIMIC<sup>2</sup> (Diamantopoulos *et al.*, 2008). In fact, resorting to reflexive constructs turns out to be well suited to modelling the effects of congruence as this judgment

operates predominantly on a holistic level. This scale has excellent psychometric qualities for both the website and the stores (Table I).

Overall site and store images	Items	Stores		Website	
		t	$\lambda$	t	$\lambda$
<b>IMG1</b>	Overall, the website (the store) looks good	97.1	0.854	103.2	0.862
<b>IMG2</b>	Overall, the website (the store) is pleasant	141.5	0.935	150.3	0.941
<b>IMG3</b>	Overall, the website (the store) is attractive	104.5	0.869	105.8	0.867
<b>Reliability indicator <math>\rho_j</math> (Jöreskog coefficient)</b>		<b><math>\rho_j = 0.916</math></b>		<b><math>\rho_j = 0.920</math></b>	
<b>Average variance extracted <math>\rho_{vc}</math></b>		<b><math>\rho_{vc} = 0.786</math></b>		<b><math>\rho_{vc} = 0.794</math></b>	

**Table I. Findings of confirmatory factor analysis of overall site and store images**

A scale was specifically designed for this study to measure channels' perceived congruence. It draws upon items spawned by studies on advertising and sponsorship (Kellaris *et al.*, 1993; Fleck and Quester, 2007). Two pretests across two different samples were required to develop it: an exploratory factor analysis (EFA) and a confirmatory factor analysis (CFA) on the final sample (Churchill, 1979). This scale addresses perceived channel congruence rather than fit, therefore it does not include any item related to the complementarity or substitutability of the channels. It has satisfactory psychometric qualities (Table II).

Channels' congruence	Items	t	$\lambda$
<b>CONG2</b>	The website and the store are the same thing	14.10	0.729
<b>CONG3</b>	The website and the store feel the same in my mind	17.08	0.732
<b>CONG4</b>	The website and the store are consistent with one another	17.07	0.794
<b>CONG5</b>	I think the website matches the store's atmosphere seamlessly	17.91	0.769
<b>CONG6</b>	The website really reflects what the store is	23.14	0.794
<b>Reliability indicator <math>\rho_j</math> (Jöreskog coefficient)</b>		<b><math>\rho_j = 0.875</math></b>	
<b>Average variance extracted <math>\rho_{vc}</math></b>		<b><math>\rho_{vc} = 0.584</math></b>	

**Table II. Findings of confirmatory factor analysis of channels' perceived congruence**

For lack of any published scale, the retailer's overall image was measured from items of the scale used by Coelho and Esteves (2007) and deriving from the ESCI model. Although initially designed to measure corporate image in various areas, this scale seems to be tailored to this study. It brings into focus items that consumers can easily understand and does not overlap with channel image. Moreover, corporate image is integral to the retailer's overall image. The item "I enjoy the advice of the retailer's salespeople" appeared to be a distinguishing factor for this retailer, and as a result, it was added in after analysing an image

study performed by the retailer. The scale has good psychometric qualities for both the website and the stores (Table III).

Retailer's overall image	Items	t	$\lambda$
RET1	X is a reliable retailer	0.725	44.086
RET3	I enjoy the advice of X's shop assistants	0.677	38.136
RET5	X is concerned about its customers	0.788	52.950
RET6	X is innovative and forward looking	0.705	41.538
Reliability indicator $\rho_j$ (Jôreskog coefficient)		$\rho_j = 0.815$	
Average variance extracted $\rho_{vc}$		$\rho_{vc} = 0.525$	

Table III. Findings of confirmatory factor analysis of the retailer's overall image

#### 4. Results

Given the research hypotheses tested as well as gaps in perceptions, attitudes and behaviours found in databases between the three respondent subsamples, a multigroup analysis was implemented.

##### 4.1 Methodological precautions

The causal relationships between the different variables of the conceptual model were verified using structural equations. The website and store image constructs have the same status, the same position in the model, and so, structurally, the same default value for each object analysed; accordingly, the tested model corresponds to the rare instance when the error terms between those constructs can be correlated. Structural modelling was performed using Sepath (Statistica) by the Maximum Likelihood Method. Given the large size of the sample<sup>3</sup>, this model fits the data accurately:  $\chi^2=1,480.2$  84df  $p<0.000$ ; GFI=0.908; AGFI=0.869; RMSEA=0.0894; SRMR=0.21; NFI=0.905; CFI=0.910. In the absence of any other theoretical justification, no covariance between the measurement errors of indicators was created solely from the statistical information generated by the normalised residuals matrix.

First, a multigroup analysis along the lines of Sauer and Dick's procedure (1993) was performed to process the discrete or dichotomous variables. This involved testing the model with no constraints in the parameters between groups, then comparing the Chi Square difference with the same model – but constrained this time (Anderson and Gerbing, 1988). The confirmation of significant differences between the constrained model and the unconstrained model across the three groups, and of significant differences between each

paired group, points to the conclusion that each group studied differs significantly from the others (Table IV).

	$\chi^2$	df	Finding
<b>Constrained model across 3 groups</b>	1867.01	324	Significant difference between the two models; Chi Square test (142.03 for 72df; p<0.001)
<b>Unconstrained model across 3 groups</b>	1724.98	252	
<b>Multigroup analysis between offline and multichannel buyers</b>	Constrained 1382.08	204	Significant difference between the two groups; Chi Square test (68.97 for 36df; p<0.001)
	Unconstrained 1313.11	168	
<b>Multigroup analysis between offline and online buyers</b>	Constrained 755.81	204	Significant difference between groups; Chi Square test (79.78 for 36df; p< 0.001)
	Unconstrained 676.03	168	
<b>Multigroup analysis between multichannel and online buyers</b>	Constrained 1534.11	204	Significant difference between groups; Chi Square test (73.29 for 36df; p< 0.001)
	Unconstrained 1460.82	168	

**Table IV. Results of multigroup analysis**

Second, it is important to verify that these differences between groups are not related to the measurement models (Steenkamp and Baumgartner, 1998). Metric invariance between the 3 groups was found when restricting the structural model to factor scores alone. In contrast, measurement gaps became significant when factor scores and error terms were constrained. This condition is less important than the previous one (Steenkamp and Baumgartner, 1998), thus suggesting, for the purposes of this study, that the measures are invariant between groups (Table V).

	$\chi^2$	df	Finding
<b>Unconstrained model for the 3 groups</b>	1724.98	252	No significant difference between this model and the unconstrained model; Chi-Square test (45.04 for 26df; p<0.01)
<b>Invariant factor scores models</b>	1770.02	278	
<b>Invariant factor scores and error terms models</b>	1830.24	318	Significant difference with the previous model; Chi-Square test (70.1 for 40df)

**Table V. Measurement invariance test**

#### 4.2 Hypothesis testing

Table VI summarises all structural relations tested. To prevent any violation of multinormality conditions, the structural coefficients provided stem from bootstrapping.

Structural coefficients (**p<0,000; *p<0,01)	Offline buyers	Multichannel buyers	Online buyers
Website image => channels' perceived congruence	0.272 **	0.331 **	0.346**
Store image=> channels' perceived congruence	0.398 **	0.353 **	0.384 **
Channels' perceived congruence => Retailer's overall image	NS	0.182 **	0.322 **
Website image => Retailer's overall image	0.235 *	0.100 *	0.511 **
Store image => Retailer's overall image	0.765 **	0.660 **	NS

Table VI. Results of structural model based on customer types

Hypotheses H1 and H2 suggested that the image of each channel positively influences the retailer's overall image. This holds true for offline buyers (website:  $t=3.091$   $p<0.002$ ; stores:  $t=15.451$   $p<0.000$ ) and multichannel buyers (website:  $t=3.003$   $p<0.003$ ; stores:  $t=30.56$   $p<0.000$ ). However, retailer image appears to be essentially shaped by the image of physical outlets for these two groups of buyers. Among possible explanations, the first one – related to buyers shopping in-store more frequently – must be ruled out because the website receives more visits during the information phase: 77% of offline buyers and 92% of multichannel buyers say they visit it more than once a month (compared to respectively 63.1% and 59.2% for the stores). There are however two more reasons to consider: the retailer's image is closely linked with its stores'. Besides, these two types of buyers still shop in the retailer's outlets, exclusively for the former and overwhelmingly for the latter.

As for online buyers, website image alone significantly influences their perception of the retailer (website:  $t=13.13$   $p<0.000$ ; stores:  $t=0.107$   $p<0.915$ ). The fact that they visit the outlets more sporadically, make their purchases online only, and are not loyalty card holders, may have worked to dissociate the retailer's image from the stores'.

While hypothesis H2 is supported across all types of customers (H2a, b, and c), hypothesis H1 is supported for offline buyers (H1a) and multichannel buyers only (H1b).

In accordance with hypothesis H3 and H4, all respondents feel that each channel positively contributes to the judgment of perceived congruence: offline buyers (website:  $t=3.501$   $p<0.000$ ; stores:  $t=5.35$   $p<0.000$ ), multichannel buyers (website:  $t=11.316$   $p<0.000$ ; stores:  $t=12.595$   $p<0.000$ ), online buyers (website:  $t=7.47$   $p<0,000$ ; stores:  $t=6,916$   $p<0,000$ ). Thus,

perceived congruence between channels builds when the online store and the outlets both have an excellent image. H3 and H4 are confirmed.

Store image shapes the congruence judgment of offline and multichannel buyers (H5a and b are confirmed), and, paradoxically, online buyers'. The combination of two factors may partly account for this disconfirmation of H5c. First, 78.1% of online buyers visit the retailer's outlets at least once a month, which enables them to feel consistently certain that the stores and the website are congruent. Second, store image is reportedly more stable than website image, and as a result may serve as an anchor.

Perceived congruence between the website and the stores enhances the retailer's overall image for multichannel buyers ( $t=6.013$   $p<0.000$ ) and online buyers ( $t=6.033$   $p<0.000$ ): H6b and c are confirmed. However, it has less influence for multichannel buyers than for those who only buy on the website (structural coefficients compare as thus: 0.182 vs. 0.322). In this case, any potential overestimation of perceived congruence – resulting from lesser familiarity with the outlets – cannot account for this phenomenon because the One-way Anova revealed no significant differences in perception between the three samples ( $F=0.833$   $p<0.435$ ). For this type of buyers, less familiar with the retailer, perceived congruence may make up for their lack of attention to the least visited channel: the stores. Additional structural modelling shows that the influence of congruence builds for customers buying on the website and still poorly familiar with this channel.

In contrast, when evaluating the retailer's image, offline buyers ( $t=0.522$   $p<0.602$ ) only focus their attention on the distinct images of the two channels. This may explain why the website's image has more influence for them than it does for multichannel buyers. H6a is disconfirmed.

Finally, unlike what the literature suggested, there is no inverted U-shaped correlation between perceived congruence and retailer image for either multichannel buyers or online buyers (Figure II). Thus, even extreme channel congruence systematically improves retailer image. Highly congruent signals between the website and the stores reinforce the retailer's image, probably because cognitive costs are minimised according to a pre-established schema. H7 is disconfirmed.

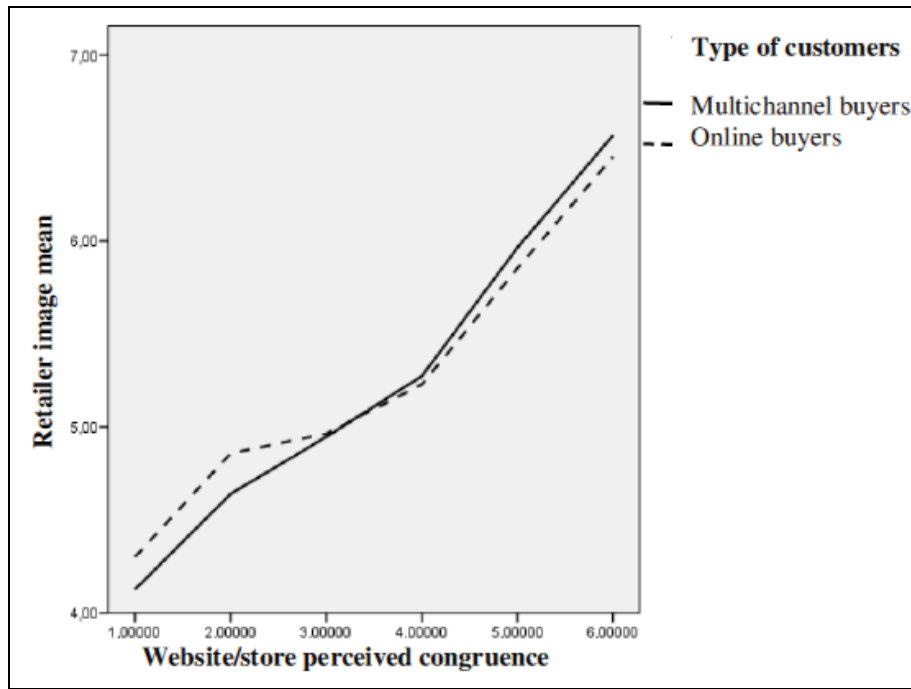


Figure II. Retailer’s overall image based on degree of channels’ congruence

In contrast to what Ortony suggests (1991), empirical verification shows that this effect lingers on even when the two channels are negatively polarised (Figures III and IV). Thus, it appears that the congruence effect, all things being equal, outweighs the valence effect of the information provided by the website and the stores in the construction of the retailer’s image.

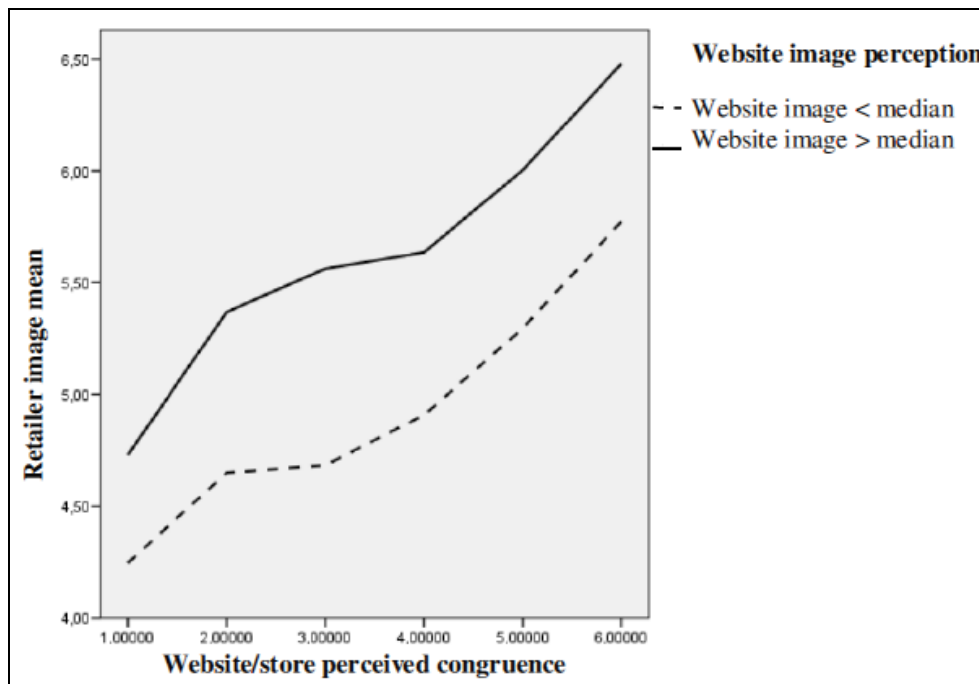


Figure III. Effect of channels’ congruence on retailer’s overall image based on perception of the website (full sample)



Figure IV. Effect of channels' congruence on retailer overall image based on the perception of stores (full sample)

## Conclusion

Extensively discussed at a theoretical level, the issue of channel congruence has been poorly addressed at an empirical level. Based on a real case and a great variety of customers with very distinct purchasing behaviours, this research is a first attempt at examining the effects of perceived congruence on the image of a multichannel retailer. It also takes into account channel image, making it easier to evaluate the actual added value of perceived congruence in relation to the distinct contributions of the website and stores.

The outcome is that, generally speaking, retailer image is improved by congruent channels of distribution. This empirically corroborates Del Franco and Chiger's conclusions (2002) as well as Weinberg *et al.*'s (2007). The positive effect is all the more significant as perceived congruence between channels is high (versus moderate). The fact that this beneficial effect never peaks at an intermediate stage of congruence, challenges the explanatory capacity of Mandler's model (1982) – at least in terms of multichannel distribution – confirmed in the field of products by Meyers-Levy and Tybout (1989) or Stayman *et al.* (1992). However, channel congruence cannot be elevated to a universal "guiding principle" as advocated by Del Franco and Chiger (2002) because it significantly affects multichannel and online buyers only, with no detrimental impact on the retailer's image. Also, it has no impact on offline buyers as they only take into consideration the images of the two channels.

### *Implications*

At a theoretical level, this research differentiates itself from most published studies by empirically using perceived congruence as a mediating variable, which only Badrinarayan *et al.* (2010) have done in retail research. It can be credited with examining the relationship between channel and retailer images, the latter being too often equated with the image of its outlets.

At a managerial level, the study provides multichannel retailers with two types of inputs. The first one relates to the contributions of channel image to retailer image, the second one to the role played by perceived congruence.

Regarding the first input, results show that even among individuals buying across the two channels, the retailer's overall image is always shaped by one channel or the other: the outlet for offline and multichannel buyers, the website for online buyers. However, the outlets' image is solely considered by individuals who buy from them whereas the online store's image is consistently considered by all individuals, including those who merely use the website as an information channel. Even though the retailer's perception by online buyers has broken free of the historic dominion of stores, a multichannel retailer intending to build its image had better improve the image of all its channels, including those visited by its single-channel buyers for information purposes only.

The second input involves the effects of perceived congruence between channels. Its influence on retailer image is the strongest for those who only buy on the website, only visit the stores sporadically and are the least familiar with the retailers (customers vs. loyalty card holders). An additional analysis performed on multichannel buyers yields the same conclusion: individuals least familiar with the website hardly go by the online store's image but always take into consideration the perceived congruence between channels.

Individuals least familiar with the website or stores do not tend to overestimate congruence. Instead, perceived congruence appears to serve as an extrinsic cue and may thus partly make up for a lack of attention to store image. This explanation is consistent with studies demonstrating that perceived congruence buttresses individuals' judgments, fuelling and driving holistic judgments, which boosts retailer image. It also fits in with the idea that congruent channels may feel reassuring during an online purchase.

In order to improve its image, it seems appropriate for a multichannel retailer to seek maximum congruence between its website and stores. This should enhance its credibility and appeal with customers least familiar with the retailer and its channels, including prospective

customers. Congruent channels lead to benefits for the retailer even when the two channels are poorly valued by consumers.

Still, any communication strategy staking on a strong retailer image alone to tie together jarring channels of distribution, however tempting, would be deceptive. That is, the opposite assumption that retailer image can alone guarantee channel congruence was tested in an alternative structural model and disconfirmed<sup>4</sup>. This indirectly corroborates studies on the dilution of the parent retailer's image in the event of overextension, or even jarring extension. If the focal channel has a much better image than the other one (compromised perceived congruence), a subtyping strategy appears legitimate, prompting consumers to make evaluations more analytical and focused on the distinctive assets of this channel (Milberg *et al.*, 1997), and in the process keeping down advertising costs (Lee, 1995). This recommendation is similar to Wang *et al.*'s (2009).

These two sets of managerial guidelines are not mutually exclusive as structural modelling shows that the more the image of the two channels improves the better the perception of channel congruence. In that light, choosing one marketing manager to handle all retailer channels, for example, appears relevant. Conversely, the vistas for improving retailer image could be more limited if extreme channel congruence turned out to entail the drawback of cannibalisation (Deleersnyder *et al.*, 2002).

### *Limitations*

The research is limited by the choice of a single environment, which makes it difficult to generalise the findings. The selected retailer has historically built its image and notoriety on a vast network of physical outlets, renowned for their advice and wide-ranging offerings, and essentially located in city centres. Operating in one of the top e-commerce markets, it is mainly targeted towards an urban and well-educated clientele open to new technologies, not to mention that it is a trailblazer of multichannel management. The same study conducted on retailers offering other types of products, differently located or having a poorer image and positioning, might have generated slightly different outcomes. Also, it would be more difficult to apply a measurement of stores' overall image to retailers having a much more disparate outlet network. Besides, this study does not address the specific issue of channels utilised by one same retailer but having different names.

However, the main limitations of this study result predominantly from the decision to administer an online questionnaire that partly slants the representativeness of offline buyers, and from surveying loyalty card holders and online buyers who are not card holders and thus

less involved with the retailer. While surveying card members is a strategic choice for the retailer studied (they make up more than half of its turnover), it would be equally informative to survey absolute non-customers.

### *Avenues of research*

Three research guidelines should be prioritised. The first one involves replicating the same study by defining a construct of retailer's overall image that incorporates cognitive and affective elements less associated with "corporate image", as well as a channel image less holistic because based on the various dimensions of the store's or website's image. This would single out the channels' image dimensions whose perceived congruence most influences the retailer's image; it would also help verify that these are effectively key dimensions ensuring the retailer's stability and the success of the extension to the new channel (Connolly and Srivastava, 1995).

The second avenue involves verifying that channel congruence, usually desirable to improve retailer image, does not entail a cannibalisation phenomenon, ultimately detrimental to the retailer's multichannel management (substitutability vs. complementarity of channels).

A third avenue aims to corroborate Burrelli and Ranfagni's qualitative survey (2011), which shows that a clearly identified retailer is better equipped to withstand incongruence of its distribution channels.

Other avenues of research include, in particular, the possibility to run experiments on various retailers to achieve more diverse degrees of perceived congruence and continuously track the effects of channel modifications on retailer image.

### **References**

- Ailawadi, K., and Keller, K. (2004), "Understanding retail branding: conceptual insights and research priorities", *Journal of Retailing*, Vol. 80, pp. 331-342.
- Alba, J., Lynch, J., Weitz, B., Janiszewski, C., Lutz, R., Sawyer, A., and Wood, S. (1997), "Interactive home shopping: consumer, retailer and manufacturer incentives to participate in electronic marketplaces", *Journal of Marketing*, Vol. 61, pp. 38-53.
- Anderson, J., and Gerbing, D. (1988), "Structural equation modeling in practice: a review and recommended two-step approach", *Psychological Bulletin*, Vol. 103, No. 3, pp. 411-423.
- Arnett, D., Laverie, D., and Meiers, A. (2003), "Developing parsimonious retailer equity indexes using partial least squares analysis: a method and applications", *Journal of Retailing*, Vol. 79, pp. 161-170.

- Badrinarayanan, V., Becerra, E., Kim, C-H., and Madhavaram, S. (2010), “Transference and congruence effects on purchase intentions in online stores of multi-channel retailers: initial evidence from the U.S and South Korea”, *Journal of the Academy of Marketing Science*, Online First™, 3 December 2010, pp.1-20.
- Baron, R., and Kenny, D. (1986), “The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations”, *Journal of Personality and Social Psychology*, Vol. 51, No. 6, pp. 1173-1182.
- Bellman, S., and Rossiter, J. (2004), “The website schema”, *Journal of Interactive Advertising*, Vol. 4, No. 2, pp. 38-48.
- Bijmolt, T., Wedel, M., Pieters, R., and DeSarbo, W. (1998), “Judgments of brand similarity”, *International Journal of Research in Marketing*, Vol. 15, pp. 249-268.
- Buresi, A. et Ranfagni S. (2011), “Congruity brand image e multicanalita distributiva nelle imprese del sistema moda”, *10<sup>ème</sup> Conference Internationale Marketing Trends*, Paris, pp. 1-35.
- Childers, T., Carr, C., Peck, J.; and Carson, S. (2001), “Hedonic and utilitarian motivations for online retail shopping behavior”, *Journal of Retailing*, Vol. 77, pp. 511-535.
- Churchill, G. (1979), “A paradigm for developing better measures of marketing constructs”, *Journal of Marketing Research*, Vol. 16, pp. 64-73.
- Coelho, F., Easingwood, C., and Coelho, A. (2003), “Exploratory evidence of channel performance in single vs. multiple channel strategies”, *International Journal of Retail & Distribution Management*, Vol. 31, No. 11, pp. 561–573.
- Coelho, P., and Esteves, S. (2007), “The choice between a five-point and a ten-point scale in the framework of customer satisfaction measurement”, *International Journal of Market Research*, Vol. 49, No. 3, pp. 313-339.
- Collins-Dodd, C., and Lindley, T. (2003), “Store brands and retail differentiation: the influence of store image and store brand attitude on store own brand perceptions”, *Journal of Retailing & Consumer Services*, Vol. 10, pp. 345-352.
- Connolly, T., and Srivastava, J. (1995), “Cues and components in multiattribute evaluation”, *Organizational Behavior and Human Decision Process*, Vol. 64, No. 2, pp. 219-228.
- Coupey, E., Irwin, J., and Payne, J. (1998), “Product category familiarity and preference construction”, *Journal of Consumer Research*, Vol. 24, pp. 459-468.
- Czellar, S. (2003), “Consumer attitude toward brand extensions: an integrative model and research propositions”, *International Journal of Research in Marketing*, Vol. 20, pp. 97-115.

- Dahlén, M., and Lange, F. (2004), “To challenge or not to challenge: Ad-brand incongruency and brand familiarity”, *Journal of Marketing Theory & Practice*, Vol. 12, No. 3, pp. 20-35.
- Davis, F., Bagozzi, R., and Warshaw, P. (1989), “User acceptance of computer technology: a comparison of two theoretical models”, *Management Science*, Vol. 35, No. 38, pp. 982-1003.
- Deleersnyder, B., Geyskens, I., Gielens, K., and Dekimpe, M. (2002), “How cannibalistic is the Internet channel? A study of the newspaper industry in the United Kingdom and The Netherlands”, *International Journal of Research in Marketing*, Vol. 19, pp. 337–348.
- Del Franco, M., and Chiger, S. (2002), “Multiple views of multichannel promos”, *Catalog Age*, Vol. 1, pp. 16-17.
- Diamantopoulos, A., Riefler, P., and Roth, K. (2008), “Advancing formative measurement models”, *Journal of Business Research*, Vol. 61, pp. 1203-1218.
- Doyle, P., and Fenwick, I. (1974), “How store image affects shopping habits in grocery chains”, *Journal of Retailing*, Vol. 50, No. 4, pp. 39-52.
- Duffy, B., Smith, K., Terhanian, G., and Bremer, J. (2005), “Comparing data from online and face-to-face surveys”, *International Journal of Market Research*, Vol. 47, No. 5, pp. 615-639.
- Enis, B. (1967), “An analytical approach to the concept of image”, *California Management Review*, Vol. 9, No. 4, pp. 51-58.
- Farquhar, P. (1990), “Managing brand equity”, *Journal of Advertising Research*, Vol. 30, No. 4, pp. 7-11.
- Fishbein, M., and Ajzen, I. (1972), “Attitudes and opinions”, *Annual Review of Psychology*, Vol. 23, pp. 487-544.
- Fiske, S., Neuberg, S., Beattie, A., and Milberg, S. (1987), “Category-based and attribute-based reactions to others: some informational conditions of stereotyping and individuating process”, *Journal of Experimental Social Psychology*, Vol. 23, pp. 399-427.
- Fleck, N., and Quester, P. (2007), “Birds of a feather flock together . . . Definition, role and measure of congruence: an application to sponsorship”, *Psychology & Marketing*, Vol. 24, No. 11, pp. 975–1000.
- Geyskens, I., Gielens, K., and Dekimpe, M. (2002), “The market valuation of Internet channel additions”, *Journal of Marketing*, Vol. 66, No. 2, pp. 102-119.
- Golden, L., Albaum, G., and Zimmer, M. (1987), “The numerical comparative scale: an economical format for retail image measurement”, *Journal of Retailing*, Vol. 63, No. 4, pp.393-407.

- Grewal, D., Krishnan, R., Baker, J., and Borin, N. (1998), "The effect of store name, brand name and price discounts on consumers' evaluations and purchase intentions", *Journal of Retailing*, Vol. 74, No. 3, pp. 331-352.
- Gulati, R., and Garino, J. (2000), "Get the right mix of bricks & clicks", *Harvard Business Review*, may-june, pp. 107-114.
- Gürhan-Canli, Z., and Maheswaran, D. (1998), "The effects of extensions on brand name dilution and enhancement", *Journal of Marketing Research*, Vol. 35, pp. 464-473.
- Hildebrandt, L. (1988), "Store image and the prediction of performance in retailing", *Journal of Business Research*, Vol. 17, pp. 91-100.
- Johnson, M. (1981), "Context effects in product perception", *Advances in Consumer Research*, Vol. 8, No. 1, pp. 112-115.
- Johnson, E., and Russo, E. (1984), "Product familiarity and learning new information", *Journal of Consumer Research*, Vol. 11, pp. 542-550.
- Katerattanakul, P., and Siau, K. (2003), "Creating a virtual store image", in *Communications of the ACM*, Vol. 46, No. 12, pp. 226-232.
- Kellaris, J., Cox, A., and Cox, D. (1993), "The effect of background music on ad processing: a contingency explanation", *Journal of Marketing*, Vol. 57, pp. 114-125.
- Keller, K. (1993), "Conceptualizing, measuring and managing customer-based brand equity", *Journal of Marketing*, Vol. 57, pp. 1-22.
- Kumar, V., and Venkatesan, R. (2005), "Who are the multichannel shoppers and how do they perform?: correlates of multichannel shopping behaviour", *Journal of Interactive Marketing*, Vol. 19, No. 2, pp. 44-62.
- Kwon, W-S., and Lennon, S. (2009a), "Reciprocal effects between multichannel retailers' offline and online brand images", *Journal of Retailing*, Vol. 85, No. 3, pp. 376-390.
- Kwon, W-S., and Lennon, S. (2009b), "What induces online loyalty? Online versus offline brand images", *Journal of Business Research*, Vol. 62, pp. 557-564.
- Lee, M. (1995), "Effects of schema congruity and involvement on product evaluations", *Advances in Consumer Research*, Vol. 22, pp. 210-216.
- Lim, H., and Dubinsky, A. (2004), "Consumers' perceptions of e-shopping characteristics: an expectancy-value approach", *Journal of Services Marketing*, Vol. 18, No.7, pp. 500-513.
- Loiacono, E., Watson, R., and Goodhue, D. (2007), "WebQual: an instrument for consumer evaluation of web sites", *International Journal of Electronic Commerce*, Vol. 11, No. 3, pp. 51-87.

- Lwin, M., Wirtz, J., and Williams, J. (2007), "Consumer online privacy concerns and responses: a power–responsibility equilibrium perspective", *Journal of the Academy of Marketing Science*, Vol. 35, pp. 572-585.
- Mandler G. (1982), "The structure of value: accounting for taste", in M.S. Clark et S.T. Fiske (cood), *Affect and Cognition: Annual Carnegie Symposium*, 17, Hillsdale, Lawrence Erlbaum Associates, pp. 3-36.
- Maoz, E., and Tybout, A. (2002), "The moderating role of involvement and differentiation in the evaluation of brand extensions", *Journal of Consumer Psychology*, Vol. 12, No. 2, pp. 119-131.
- Marschark, M., and Paivio, A. (1979), "Semantic congruity and lexical marking in symbolic comparisons: an expectancy hypothesis", *Memory & Cognition*, Vol. 7, No. 3, pp. 175-184.
- Martineau, P. (1958), "The personality of the retail store", *Harvard Business Review*, Vol. 36, No. 1, pp. 47-55.
- Mazursky, D., and Jacoby, J. (1986), "Exploring the development of store images", *Journal of Retailing*, Vol. 62, No. 2, pp. 145-165.
- Meyers-Levy, J., and Tybout, A. (1989), "Schema congruity as a basis for product evaluation", *Journal of Consumer Research*, Vol. 16, pp. 39-54.
- Milberg, S., Park, C.W., and McCarthy, M. (1997), "Managing negative feedback effects associated with brand extensions: the impact of alternative branding strategies", *Journal of Consumer Psychology*, Vol. 6, No. 2, pp. 119-140.
- Neslin, S., Grewal, D., Leghorn, R., Shankar, V., Teerling, M., Thomas, J., and Verhoef, P. (2006), "Challenges and opportunities in multichannel customer management", *Journal of Service Research*, 9, 2, 95-112.
- O’Cass, A., and Grace, D. (2008), "Understanding the role of retail store service in light of self-image–store image congruence", *Psychology & Marketing*, Vol. 25, No. 6, pp. 521–537.
- Ogilvy, D. (1983), *Ogilvy on advertising*, Crown.
- Ortony, A. (1991), "Value and emotion", in W. Kessen, A. Ortony et F. Craik (cood.) *Memories, thoughts, and emotions: Essays in honor of George Mandler*. Hillsdale, Erlbaum.
- Osman, M. (1993), "A conceptual model of retail image influences on loyalty patronage behaviour", *International Review of Retail, Distribution & Consumer Research*, Vol. 3, No. 2, pp. 133-148.
- Palmer, J. (2002), "Web site usability, design and performance metrics", *Informations Systems Research*, Vol. 13, No. 2, pp. 151-167.

- Payne, A., and Frow, P. (2004), "The role of multichannel integration in customer relationship management", *Industrial Marketing Management*, Vol. 33, pp. 527-538.
- Puccinelli, N., Goodstein, R., Grewal, D., Price, R., Raghubir, P., and Stewart, D. (2009), "Customer experience management in retailing: understanding the buying process", *Journal of Retailing*, Vol. 85, No. 1, pp. 15–30.
- Rolland, S., and Freeman, I. (2010), "A new measure of e-service quality in France", *International Journal of Retail & Distribution Management*, Vol. 38, No. 7, pp. 497-517.
- Rosenbloom, B. (2007), "Multi-channel strategy in business-to-business markets: prospects and problems", *Industrial Marketing Management*, Vol. 36, pp. 4–9.
- Sauer, P., and Dick, A. (1993), "Using moderator variables in structural equation models", *Advances in Consumer Research*, Vol. 20, pp. 637-640.
- Schiffman, L., Dash, J., and Dillon, W. (1977), "The contribution of store-image characteristics to stereotype choice", *Journal of Retailing*, Vol. 53, No. 2, pp. 3-16.
- Sirgy, J., and Samli, C. (1985), "A path analytic model of store loyalty involving self-concept, store image, geographic loyalty, and socioeconomic status", *Journal of the Academy of Marketing Science*, Vol. 13, No. 3, pp. 265-291.
- Spiller, P., and Lohse, G. (1997), "A classification of Internet retail stores", *International Journal of Electronic Commerce*, Vol. 6, No. 2, pp. 29-56.
- Stayman, D., Alden, D., and Smith, K. (1992), "Some effects of schematic processing on consumer expectations and disconfirmation judgments", *Journal of Consumer Research*, Vol. 19, pp. 240-255.
- Steenkamp, J-B., and Baumgartner, H. (1998), "Assessing measurement invariance in cross-national consumer research", *Journal of Consumer Research*, Vol. 25, No. 1, pp. 78-90.
- Szymanski, D., and Hise, R. (2000), "E-satisfaction: an initial examination", *Journal of Retailing*, Vol. 76, No. 3, pp. 309-322.
- Van Baal, S., and Dach, C. (2005), "Free riding and customer retention across retailers' channels", *Journal of Interactive Marketing*, Vol. 19, No. 2, pp. 75-85.
- Van der Heijden, H., and Verhagen, T. (2004), "Online store image: conceptual foundations and empirical measurement", *Information & Management*, Vol. 41, pp. 609-617.
- Wang, S., Beatty, S., and Mothersbaugh, D. (2009), "Congruity's role in website attitude formation", *Journal of Business Research*, Vol. 62, No. 6, pp. 609-615.
- Weinberg, B., Parise, S., and Guinan, P. (2007), "Multichannel marketing: mindset and program development", *Business Horizons*, Vol. 50, pp. 385–394.

Zimmer, M., and Golden, L. (1988), "Impressions of retail stores: a content analysis of consumer images", *Journal of Retailing*, Vol. 64, No. 3, pp. 265-293.

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<sup>1</sup> [Loyalty card holder databases of this retailer do not feature online-only shoppers]

<sup>2</sup> [Multiple Indicators and Multiple Causes]

<sup>3</sup> [Structural modelling performed from a random sample of 300 individuals shows that the inflation in  $\chi^2$  by degree of freedom and in the RMSEA springs from the size of the sample:  $3.86 \chi^2/df$  ; RMSEA=0.0818]

<sup>4</sup> [The moderator effect of retailer image on the relationship « site and store image => perceived channel congruence" yields adjustment indexes ( $X^2/df$  and RMSEA) less satisfactory than the model proposed here]

**Store managers in shopping centres – sensing customers’ perceptions and informing management decisions**

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## **Store managers in shopping centres – sensing customers’ perceptions and informing management decisions**

### **Abstract**

*Purpose:* This paper discusses the role of the store manager in understanding and consequently contributing to the shaping of shopping centre environments like shopping malls or town centres. Based on a critical discussion of how the store manager’s input is considered in the academic literature, we develop a conceptual model and investigate the link between the store manager’s perception of the attractiveness of a shopping centre environment to customers and their own satisfaction with and loyalty toward this environment.

*Methodology:* A web-based survey of 217 managers representing stores that are located in five regional and four supra-regional shopping malls was used to test the proposed effects.

*Findings:* Co-variance based Structural Equation Modelling reveals that this perceived attractiveness has a substantial direct impact on store manager’s satisfaction with the environment, and a substantial indirect impact on their loyalty to the location within this environment. Further we see a substantial effect between managers’ satisfaction and location loyalty. Thus we can show that store managers’ perceptions of customers’ views translate into their evaluation of the shopping centre environment.

*Value:* The store managers’ perception of the shopping centre is informed by their perception of customers’ evaluations of this environment. This contributes to a more complete understanding of their roles as a stakeholder in shopping centre environments.

**Keywords:** Shopping centre, decision support, satisfaction, retail environment; retail location; retailer perspective

**Classification:** Research paper

## **Store managers in shopping centres – sensing customers’ perceptions and informing management decisions**

### **Introduction**

Empirical analyses of satisfaction with and loyalty toward shopping centre environments, whether planned (e.g. shopping malls or strip centres) or unplanned (e.g. town centres or high streets), focus almost exclusively upon consumers’ evaluations and behaviours (Pan and Zinkhan, 2006; Teller and Schnedlitz, 2011). Early studies observed a relationship between consumers’ image of the shopping centre and their shopping preferences, frequency of visit, spend, desire to dwell and re-patronage intention (for an overview see e.g. Anselmsson, 2006; Teller and Reutterer, 2008; Teller and Elms, 2010b). Common to most of these studies is a rather limited view focussed on only the consumer’s point of view and over a very limited period of time. As such, these studies offer only one narrow perspective on the issue of managing shopping centre environments. It endures despite a longstanding acknowledgement that those charged with the effective management of shopping centres, such as mall managers and town centre/BID managers, must address the differing needs and wants of a diverse set of stakeholders (Howard, 1997; Prendergast, Marr, and Jarratt, 1998; Frasquet, Vallet, and Gil, 2002; Warnaby, Bennison, and Davies, 2005).

In particular, the evaluation of retailers’ assessment of overall centre performance, in terms of the accrued benefits of locating in a shopping centre environment, is considerably under-explored within the retail marketing literature (Teller and Schnedlitz, 2011). This is surprising given the increased competition for customer spending both between shopping centres and other retail forms and channels, and between shopping centres themselves. Moreover, the sources that inform retailers’ assessments of centre performance are still only partially understood (Howard, 1997).

The contribution of store managers in this regard is, to our knowledge, completely unstudied (see also DeLisle, 2005; Grewal and Levy, 2007). This is despite their important role at the interface between retail operations, shopping centre environment and related operations and customers, and the experience and knowledge that such a role can generate (Arnold, Palmatier, Grewal, and Sharma, 2009; Netemeyer, Maxham III, and Lichtenstein, 2010).

In the literature store managers' core-responsibilities are seen to be focused towards store operations and thereby fulfilling a cross-functional role within retail organisations by being an interface to retail buying, logistics, marketing etc. (Lusch and Jaworski, 1991). More recent articles focus on the influence of store managers on store performance (Arnold et al., 2009; Lichtenstein, Netemeyer, and Maxham III, 2010; Netemeyer et al., 2010). Here the perspective does not extend beyond organisational boundaries. It discusses neither the responsibilities nor abilities of store managers as key informants on the impact of the wider shopping centre environment (beyond the store) on customer satisfaction. The current debate in marketing literature, including that on retailing and shopping centres, typically portrays store managers as executors of retail strategies and store operations. It gives insufficient attention to their important role in collecting information about and interpreting perceptions, attitudes or behaviour of customers as impacted by the supra-store environment. Also, it fails to adequately consider their role in disseminating this to their retail organisation and also, potentially, to those responsible for shopping centre management.

Based on the identified research gap this paper aims to (1) to investigate the link between store manager perception of how customers perceive a shopping centre environment and their own evaluation of this environment, and based on that (2) to explore store managers potential to inform retail and centre management decisions related to a shopping centre environment. This leads us to reflect more generally upon the relevance of store managers in informing retailers' place management and retail location decision-making both in terms of

tactical/operational and more strategic facets (Clarke, Bennison, and Pal, 1997; Bennison, Warnaby, and Davies, 2005). The contribution of this paper is to provide a more complete understanding of the roles of the store manager as a stakeholder in shopping centre environments.

The remainder of this paper is structured as follows. In the next section we present research hypotheses as part of a conceptual model. We then describe our empirical study and present the results from the testing of our conceptual model. We conclude the paper with a discussion of the implications of our research for the academic study of shopping centre attractiveness and of the store manager's role, and for practitioners engaged in shopping centre management.

### **Conceptual model**

Store managers have an in-depth knowledge of, and privileged access to, information about customers' behaviour and perceptions and the immediate shopping environment (Netemeyer et al., 2010). In other words, the evaluation of the environment in which the 'their' store is located is informed by their evaluation of customer's perceptions. Following the notions of Finn and Louviere (1996) we see the attractiveness of a shopping centre environment as perceived by consumers affecting customer behaviour. In that context Teller and Reutterer (2008) measure agglomeration attractiveness with satisfaction, loyalty and retention proneness of consumers. Each of these dimensions is of considerable importance for retailers since they translate into shopping behaviours that influence sales, profit and retail image (E. W. Anderson, Fornell, and Lehmann, 1994; Arnold et al., 2009).

As store managers deal with the everyday retail business and are judged against the performance of their store, the knowledge of the perceived attractiveness from the consumer's point of view is linked to their satisfaction – in the sense of an overall evaluation

of the shopping centre environment (Teller and Schnedlitz, 2011). By transferring Netemeyer et al.'s (2010) findings to the shopping centre setting we propose a relationship between customers' perception of attractiveness and store managers' satisfaction related to a shopping centre environment. Our first hypothesis is:

*H<sub>1</sub>: The higher the attractiveness of a shopping centre environment to customers as perceived by the store manager, the higher the store manager's satisfaction with the shopping centre environment.*

Store managers' understanding of what customers think and feel about a shopping centre environment informs their judgement of the location with respect to their key objectives, e.g. enhanced customer retention (dwell) time, sales and profit (Levy and Weitz, 2011). In other words the customers' perceived attractiveness affects managers' views on the present and future suitability of the store location which is expressed in terms of loyalty toward the particular shopping centre environment (Howard, 1997). We thus propose that:

*H<sub>2</sub>: The higher the attractiveness of a shopping centre environment to customers as perceived by the store manager, the higher the store manager's loyalty towards this shopping centre environment as a store location.*

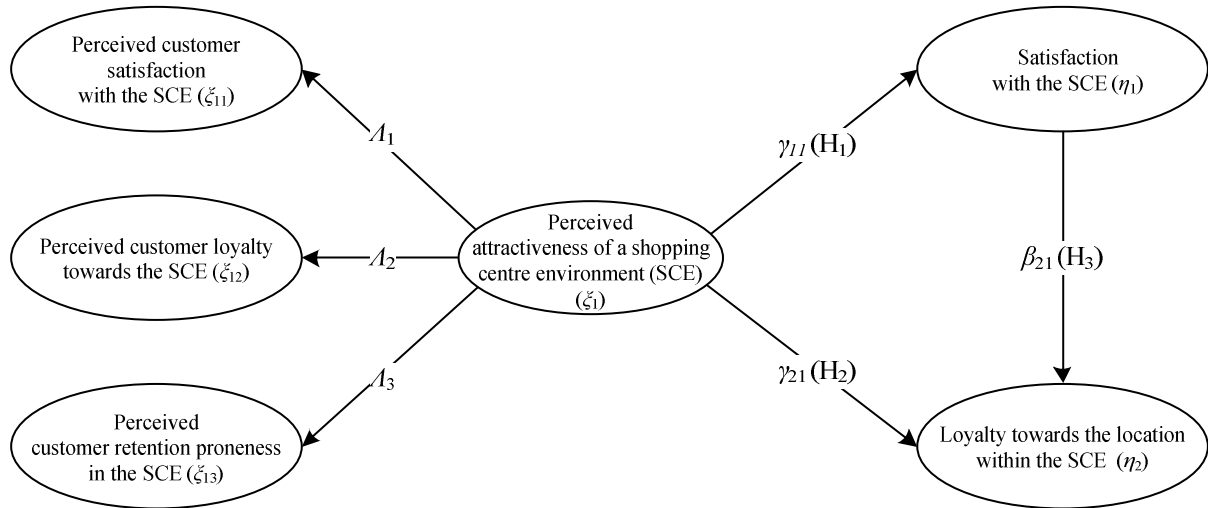
Based on these two hypotheses we conclude that the satisfaction with a store environment informs store manager loyalty towards a shopping centre environment as a store location (Prendergast et al., 1998). As such our last hypothesis is:

*H<sub>3</sub>: The higher the satisfaction with the retail environment from a store managers' point of view the higher the loyalty towards that retail environment as a retail location.*

The three hypotheses span our conceptual model that is depicted in Figure 1. As such we propose that store managers' knowledge of how consumers feel, think and behave (evaluation of place attractiveness as perceived by the consumer) is associated with the articulation of

this knowledge in an assessment of present satisfaction with, and future expected loyalty toward the relevant shopping centre location.

Figure 1: Conceptual model



### Methodology and sample characteristics

Within the remit of this paper we chose shopping malls as a ubiquitous and successful example of purpose-designed and constructed, clearly defined and controlled shopping centre environments (Dennis, Marsland, and Newman, 2005). More specifically, we focus on two of the most common mall types found in Europe in the form of five regional shopping malls consisting of between 17 and 47 stores, and four supra-regional malls comprising between 72 and 134 stores (Teller, 2008). Each of them represents a relatively newly built shopping centre, and each has been under the same ownership and management since opening.

The population of interest is 570 store managers representing all tenants within the shopping centres. After they were pre-notified by the centre managers we contacted them by mail and e-mail to notify them about the web-based survey to follow. After several rounds of reminder letters and e-mails we ended up with a sample of 217 usable questionnaires and a response

rate of 38%. Based on the notions of Grant, Teller, and Teller (2005) we controlled the response processes by including interactive elements to prevent item non-response. We further checked the quality of responses based on the observation of the total answering time and each individual response process. Since we could not detect any obvious unreliable answering behaviour we could be assured about the quality of our data.

To evaluate the non-response issue we compared the characteristics of our sample units with the population. A chi-square test reveals no significant differences in terms of store size and sector ( $\chi^2_{(1)} < 3.841$ ). One out of three stores has more than EUR 600,000 sales per annum. Half of the stores represented by our respondents is larger than 120 m<sup>2</sup> and has a footfall of 66 customers per day or more.

### **Analysis**

The latent reflective constructs were taken from literature. We derived the satisfaction constructs from Mägi (2003) and the loyalty (or repatronage) construct from Mittal, Ross, and Baldasare (1998). The retention proneness constructs originates in the work of Wakefield and Baker (1998). All constructs were operationalised by three indicators (manifest variables). Following the approach of Teller and Reutterer (2008) we subsumed satisfaction, loyalty and retention proneness under the second order construct 'attractiveness'. The wording of all items was adapted to reflect the different perspectives our respondents had to undertake, i.e. the consumer's and their view as a store manager (see Appendix).

The relationships between the dependent and independent constructs were investigated using variance-based Structural Equation Modelling (Kaplan, 2008). Following Churchill (1979) and Bagozzi and Yi (1988) we first conducted a Confirmatory Factor Analysis (CFA) and tested the local fit of our measurement model. We found that all our constructs show a good internal consistency with Cronbach's Alpha ( $\alpha$ ) above 0.90 (Fornell and Larcker, 1981).

Indices showing constructs' composite reliability ( $\rho > 0.60$ ;  $AVE > 0.50$ ) and the discriminant validity ( $FLR < 1$ ) also meet the recommended cut-off criteria (Fornell and Larcker, 1981; Bagozzi and Yi, 1988).

By testing the global fit we see that the indices measuring the absolute (RMSEA  $< .08$ ), incremental (TLI and CFI  $> .9$ ) and parsimonious fits (Normed  $\chi^2$  (CMIN/df)  $< 3$ ) meet the recommended thresholds; therefore the empirical data fit the proposed model to a satisfactory degree (see Appendix; J. C. Anderson and Gerbing, 1988; Hu and Bentler, 1998, 1999).

The estimation of the second-order factor model showed highly significant factor loadings ( $A_{111}$ , .848;  $A_{112}$ , .984;  $A_{113}$ , .866; all  $p < .001$ ) from the three first-order factors on attractiveness. Further the global fit measures were in an acceptable range. We see that the correlations between the first-order constructs are substantial and significant which finally indicates that the three scales sufficiently converge under the second-order construct attractiveness.

Since we gathered data based on self-reports we considered the issue of a common-method bias by following the notions of Podsakoff, MacKenzie, Jeong-Yeon Lee, and Podsakoff (2003). We did not reveal the specific purpose of our project and assured confidentiality to our respondents. Further we conducted a CFA subsuming all indicators under one latent factor, i.e. a common method variance factor. The resultant model showed a suboptimal global fit with the empirical data (RMSEA  $< .217$ ; TLI, .70; CFI  $> .751$ ; CMIN/df, 11,213) which indicates that our results are not being affected by a common-method bias.

## Results

Interpretation of the standardised regression coefficients and the effect size were based on the notions of Cohen (1988). We see that perceived attractiveness of a shopping centre environment to consumers ( $\xi_1$ ) (as evaluated by the store managers) has a significant and

substantial impact on their own satisfaction ( $\eta_1$ ) with the shopping centre environment ( $\gamma_{11}$ , .704;  $p < .001$ ). Thus we can clearly confirm  $H_1$ .

Further we see this perceived attractiveness ( $\xi_1$ ) only marginally affecting store managers' loyalty ( $\eta_2$ ) towards the location ( $\gamma_{21}$ , .148;  $p$ , .024). Since this impact is still slightly significant we accept  $H_2$ .

Finally we tested the effect between the two endogenous constructs ( $\eta_1$  and  $\eta_2$ ). There we see that satisfaction clearly results in loyalty towards the mall from a store manager's point of view. The effect is substantial and highly significant ( $\beta_{21}$ , .748;  $p < .001$ ).  $H_3$  is consequently confirmed too.

From the above it becomes clear that the effect between attractiveness and loyalty is mediated by satisfaction. The indirect effect (calculated by:  $\gamma_{11} * \beta_{21}$ ) is 0.522 and thus the total effect shows (calculated by:  $\gamma_{21} + \gamma_{11} * \beta_{21}$ ) is also substantial showing a value of 0.671.

## **Discussion**

The conceptual model underpinning the empirical study and the findings can be contextualised in Lichtenstein et al.'s (2010) concept of the 'chain of influence' within a retail organisation towards a wider shopping centre environment. We can see a link between the retail store manager and his/her retail organisation, customers, and the management of the shopping centre within which the store is located.

We see that store managers' overall evaluation of the shopping centre environment in terms of satisfaction is strongly affected by their perception of how satisfied the customers are, how willing to stay they are (dwell time) and how loyal they are towards the shopping centre environment. Most interestingly the effect of the perceived attractiveness on loyalty towards the shopping centre environment, in our case shopping malls, is marginal and strongly mediated by the level of store managers' satisfaction.

Given store managers' expert knowledge of the customer base (Lichtenstein et al., 2010) and consequently the clientele of a shopping centre environment (Teller and Schnedlitz, 2011) we can conclude that their satisfaction level accurately reflects perceived attractiveness from a customer's point of view. This is knowledge that feeds into the evaluation of the centre from an operational perspective and that is particularly relevant to shopping centre managers responsible for increasing the attractiveness of a centre to customers (Howard, 1997). As such store managers become agents for the customer, being able to sense and articulate any dissonance and gaps between customers' perceptions and needs and the shopping centre management's perceptions and decision-making.

Another major finding indicates that the satisfaction level impacts store managers' views as to the current and future appropriateness of the store location within the particular shopping centre environment. As such, location decisions related to store portfolio management can be informed by the store managers' views on the shopping centre environment. Such views take into consideration in-depth knowledge based on daily observations and contacts with customers and other local place-based stakeholders (Lichtenstein et al., 2010).

### **Further implications and conclusion**

Our findings have relevance in relation to the potential of store managers to become "boundary spanning individuals" (Tushman and Scanlan, 1981, p. 289); linking the 'internal' area of the retail organisation with the 'external' areas of the shopping centre environment and its customers (see Figure 2).

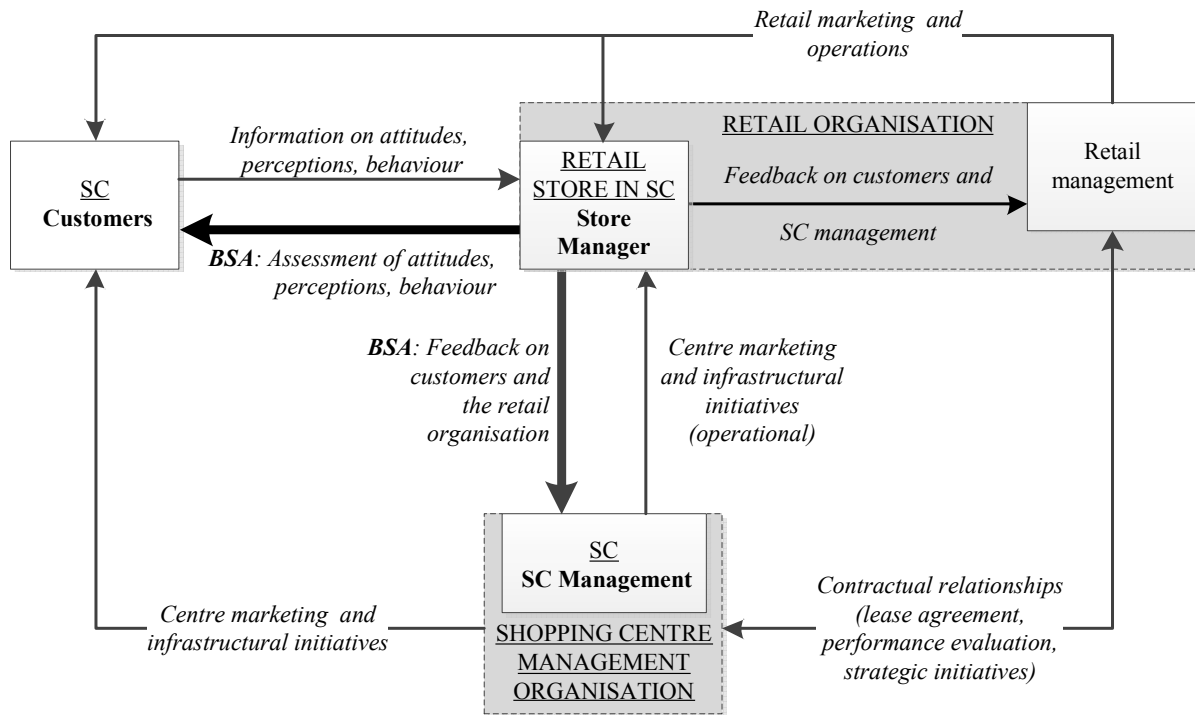
Since store managers represent an important interface between the customer, the retail organisation and the shopping centre, they are most likely to understand the customers specialized language and be able to translate perceptions and behaviour to the retail and shopping centre organisation. In other words, store managers are able to interpret, reflect and

feedback on, for example, collaborative marketing concepts between retail tenants and shopping centres or infrastructural changes to the mall environment undertaken by shopping centre management. In doing so, the boundary spanning of store managers can contribute to the customer value creation process of both retail and shopping centre organisations (Hult, 2011) and can have a representational and an informational dimension (Tushman and Scanlan, 1981). More specifically and in line with the notions of Bettencourt and Brown (2003) customer-oriented boundary spanning behaviour of store managers may include (1) external representation of the retail organisation towards customers and the shopping centre management, (2) internal influence by feeding back on shopping centre management activities (towards the shopping centre management and retail management) and consequently contribute to the improvement of the shopping environment and possibly (3) manage (retail) service delivery that positively influence customers' attitude, perception and behaviour related to the store and the shopping centre.

In managing and marketing shopping centre environments the store managers' potential role as boundary spanning individuals has been underestimated in the literature to date. Our results and discussion show that store managers can be seen as, and potentially should be used as boundary spanners in shopping centre environments.

Store managers can both assist in, and provide an evaluation of, the activities and decisions of shopping centre operators and managers. This is increasingly important as, for example, shopping centre operators face pressure to improve their asset management activities (Harris, 2010, Teller and Elms, 2010a), and more scrutiny over their service charges (Royal Institution of Chartered Surveyors, 2011).

Figure 2: Boundary spanning potential of store managers



Caption:  
SC, shopping centre; BSA, boundary spanning activities

They also have the potential to inform locational decision-making in their own organisation beyond the important but tactical decisions such as remerchandising, to more strategic agendas, including possible exit. This is most evident in the case of some independent businesses where the manager is also the proprietor, but it could also be the case in larger, multiple businesses in which capabilities are developed to integrate store managers' potentially rich knowledge of their local market (Stalk, Evans, and Shulman, 1992). As such store managers might have a wider boundary-spanning role beyond the customer-oriented perspective typically developed in the literature (Bettencourt and Brown, 2003; Bettencourt, Brown, and Mackenzie, 2005).

Based on these conclusions we recommend including the store manager's point of view more strongly in developing evaluations of shopping centres and their management. The empirical evidence underpinning this study was derived from a sample of shopping centre (mall)

tenants. Future research should also consider town centres as a research setting. Here the complexity of the environment, including the multiplicity of stakeholders, adds a further component to the debate (Evans, 1997). Further analysis could take moderating variables such as footfall of stores, sector affiliation and retailer size and organisational type (e.g. independent versus multiple; franchise versus owned chain) into consideration.

## Appendix

(latent) Construct Indicator	$\mu$ ( $\sigma$ )	$\lambda$	$\alpha/\rho$ AVE/FLR
<b>Satisfaction with mall from a consumer's perspective (<math>\xi_1</math>)</b>			
$x_{11}$ : How satisfied are customers with this mall? (very dis-/satisfied) <sup>a</sup>	1.5 (1.4)	.942	.925/.930
$x_{12}$ :How well does this mall meet customers' expectations? (not at all/totally) <sup>a</sup>	1.4 (1.4)	.953	.818/.861
$x_{13}$ :Think of an ideal shopping mall from a customer's point of view. To what extent does this mall comes close to that from a customer perspective? (not close/very close) <sup>a</sup>	1.2 (1.5)	.812	
<b>Loyalty towards the mall from a customer's perspective (<math>\xi_2</math>)</b>			
$x_{21}$ : Would customers recommend this mall to other persons? (definitely not/definitely yes) <sup>b</sup>	6.4 (2.2)	.935	.941/.918 .788/.893
$x_{22}$ : How likely are customers to visit this mall again? (very unlikely/very likely) <sup>b</sup>	6.8 (1.9)	.881	
$x_{23}$ :How likely are customers to visit this mall again and buy something then? (very unlikely/very likely) <sup>b</sup>	6.7 (1.9)	.935	
<b>Retention proneness from a customer's perspective (<math>\xi_3</math>)</b>			
$x_{31}$ : Are customers willing to stay in this mall as long as possible for them? <sup>b</sup>	5.4 (2.2)	.827	.904/.907 .766/.922
$x_{32}$ :Do you think customers enjoy spending their time in this mall? <sup>b</sup>	5.8 (2.1)	.949	
$x_{33}$ :Are customers usually involved in many activities here in this mall? <sup>b</sup>	5.8 (2.2)	.844	
<b>Satisfaction with the mall from a store manager's perspective (<math>\eta_1</math>)</b>			
$y_{11}$ : How satisfied are you with this mall? (very dis-/satisfied) <sup>a</sup>	1.3 (1.6)	.847	.928/.932
$y_{12}$ : How well does this mall meet your expectations? (not at all/totally) <sup>a</sup>	1.1 (1.6)	.976	.821/.859
$y_{13}$ :Think of an ideal shopping mall from your point of view. To what extent does this mall comes close to that from your perspective? (not close/very close) <sup>a</sup>	1.1 (1.5)	.892	
<b>Loyalty towards the mall from a store manager's perspective (<math>\eta_2</math>)</b>			
$y_{21}$ : Imagine you would be an independent expert in your industry. Would you recommend other businesses to locate their stores in this mall? (definitely not/definitely yes) <sup>a</sup>	1.1 (1.8)	.951	.930/.909 .769/.917
$y_{22}$ : If it were possible to move the store to a nearby location outside this mall. Would you prefer this store to remain inside this mall? (definitely not/definitely yes) <sup>a</sup>	1.7 (1.7)	.862	
$y_{23}$ : How likely is it that this store will remain located within this mall? (very unlikely/very likely) <sup>a</sup>	2.0 (1.4)	.814	

**Caption:**  $\mu$ , mean value;  $\sigma$ , standard deviation;  $\alpha$ , Cronbach's Alpha;  $\rho$ , composite reliability; AVE, average variance extracted; FLR, Fornell-Larcker-ratio;  $\lambda$ , standardised factor loadings; a, seven point rating scale (anchors -3 to+3; middle category 0)); b, ten point rating scale (anchors 0 and 9);

**Notions:** Global fit measures of the CFA model (recommended cut-off values in brackets {}): Absolute fit measure: RMSEA {<.08}=.079; Incremental fit measures: CFI/TLI {>.9/>.9}=.971/.960; Parsimony fit measures: Normed  $\chi^2$  (CMIN/df) {<3}=2.362; df=78; all factor loadings are significant on a 1% level (p<.001);

## References

- Anderson, E. W., Fornell, C., & Lehmann, D. R. (1994). Customer satisfaction, market share, and profitability: Findings from Sweden. *Journal of Marketing*, 58(3), 53.
- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103(3), 411-423.
- Anselmsson, J. (2006). Sources of customer satisfaction with shopping malls: A comparative study of different customer segments. *International Review of Retail, Distribution & Consumer Research*, 16(1), 115-138.
- Arnold, T. J., Palmatier, R. W., Grewal, D., & Sharma, A. (2009). Understanding retail managers' role in the sales of products and services. *Journal of Retailing*, 85(2), 129-144.
- Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, 16(1), 74-94.
- Bennison, D. J., Warnaby, G., & Davies, B. J. (2005). Retailing and the marketing of urban places: A UK perspective. *The International Review of Retail Distribution and Consumer Research*, 15(2), 191-215.
- Bettencourt, L. A., & Brown, S. W. (2003). Role stressors and customer-oriented boundary-spanning behaviors in service organizations. *Journal of the Academy of Marketing Science*, 31(4), 394-408.
- Bettencourt, L. A., Brown, S. W., & Mackenzie, S. B. (2005). Customer-oriented boundary-spanning behaviors: Test of a social exchange model of antecedents. *Journal of Retailing*, 81(2), 141-157.

Churchill, G. A. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research*, 16(1), 64-73.

Clarke, I., Bennison, D., & Pal, J. (1997). Towards a contemporary perspective of retail location. *International Journal of Retail & Distribution Management*, 25(2), 59-69.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale/NJ: Lawrence Erlbaum Associates.

DeLisle, J. R. (2005). The evolution of shopping center research: A 12-year retrospective. *Journal of Shopping Center Research*, 12(2), 1-82.

Dennis, C., Marsland, D., & Newman, A. (2005). *Objects of desire: Consumer behaviour in shopping centre choices*. Hampshire/New York: Palgrave MacMillan.

Evans, R. (1997). *Regenerating town centres*. Manchester: Manchester University Press.

Finn, A., & Louviere, J. J. (1996). Shopping center image, consideration, and choice: Anchor store contribution. *Journal of Business Research*, 35(3), 241-251.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-40.

Frasquet, M., Vallet, T., & Gil, I. (2002). Key factors in shopping centre management: Evidence from Spain. *International Review of Retail, Distribution & Consumer Research*, 12(4), 337-354.

Grant, D. B., Teller, C., & Teller, W. (2005). 'Hidden' opportunities and benefits in using web-based business-to-business surveys. *International Journal of Market Research*, 47(6), 641-666.

Grewal, D., & Levy, M. (2007). Retailing research: Past, present, and future. *Journal of Retailing*, 83(4), 447-464.

Harris, D. (2010). A time for action. *Estates Gazette*, , 22-24.

Howard, E. (1997). The management of shopping centres: Conflict or collaboration? *International Review of Retail, Distribution & Consumer Research*, 7(3), 263-285.

Hu, L., & Bentler, P. M. (1998). Fit indices in covariance structure modelling: Sensitivity to underparameterized model misspecification. *Psychological Methods*, 3(4), 424-453.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1-55.

Hult, G. (2011). Toward a theory of the boundary-spanning marketing organization and insights from 31 organization theories. *Journal of the Academy of Marketing Science*, 39(4), 509-536.

Kaplan, D. (2008). *Structural equation modeling. foundation and extensions*. Thousand Oaks, London, New Delhi: Sage Publications.

Levy, M., & Weitz, B. A. (2011). *Retailing management* (8th ed.). New York: Irwin.

- Lichtenstein, D. R., Netemeyer, R. G., & Maxham III, J. G. (2010). The relationships among manager-, employee-, and customer-company identification: Implications for retail store financial performance. *Journal of Retailing*, 86(1), 85-93.
- Lusch, R. F., & Jaworski, B. J. (1991). Management controls, role stress, and retail store manager performance. *Journal of Retailing*, 67(4), 397.
- Mägi, A. W. (2003). Share of wallet in retailing: The effects of customer satisfaction, loyalty cards and shopper characteristics. *Journal of Retailing*, 79(2), 97-106.
- Mittal, V., Ross, W. T., & Baldasare, P. M. (1998). The asymmetric impact of negative and positive attribute-level performance on overall satisfaction and repurchase intentions. *Journal of Marketing*, 62(1), 33-47.
- Netemeyer, R. G., Maxham III, J. G., & Lichtenstein, D. R. (2010). Store manager performance and satisfaction: Effects on store employee performance and satisfaction, store customer satisfaction, and store customer spending growth. *Journal of Applied Psychology*, 95(3), 530-545.
- Pan, Y., & Zinkhan, G. M. (2006). Determinants of retail patronage: A meta-analytical perspective. *Journal of Retailing*, 82(3), 229-243.
- Podsakoff, P. M., MacKenzie, S. B., Jeong-Yeon Lee, & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879-903.
- Prendergast, G., Marr, N., & Jarratt, B. (1998). Retailers' views of shopping centres: A comparison of tenants and non-tenants. *International Journal of Retail & Distribution Management*, 26(4), 162.

Royal Institution of Chartered Surveyors. (2011). *Service charges in commercial property* (2nd ed.). Coventry:

Stalk, G., Evans, P., & Shulman, L. E. (1992). Competing on capabilities: The new rules of corporate strategy. *Harvard Business Review*, 70(2), 57-69.

Teller, C. (2008). Shopping streets versus shopping malls - determinants of agglomeration format attractiveness from the consumers' point of view. *International Review of Retail, Distribution & Consumer Research*, 18(4), 381-403.

Teller, C., & Elms, J. R. (2010a). Managing the attractiveness of evolved and created retail agglomeration formats. *Marketing Intelligence & Planning*, 28(1), 25-45.

Teller, C., & Elms, J. R. (2010b). Urban place marketing and retail agglomeration customers. *Journal of Marketing Management*, DOI:10.1080/0267257X.2010.517710.

Teller, C., & Reutterer, T. (2008). The evolving concept of retail attractiveness: What makes retail agglomerations attractive when customers shop at them? *Journal of Retailing and Consumer Services*, 15(3), 127-143.

Teller, C., & Schnedlitz, P. (2011). Drivers of agglomeration effects in retailing: The shopping mall tenant's perspective. *Journal of Marketing Management*, , DOI:10.1080/0267257X.2011.617708.

Tushman, M. L., & Scanlan, T. J. (1981). Boundary spanning individuals: Their role in information transfer and their antecedents. *Academy of Management Journal*, 24(2), 289-305.

Wakefield, K. L., & Baker, J. (1998). Excitement at the mall: Determinants and effects on shopping response. *Journal of Retailing*, 74(4), 515-539.

Warnaby, G., Bennison, D., & Davies, B. (2005). Retailing and the marketing of urban places: A UK perspective. *International Review of Retail, Distribution & Consumer Research*, 15(2), 191-215.

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**Retail strategy**

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**The role of the institutional environment in the strategic choices of international retailers in an emerging market: evidence from China**

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## ABSTRACT

- **Purpose** – to analyze the international retailers’ strategic responses to the institutional environment in emerging markets.
- **Design/methodology/approach** - based on in-depth interviews with top managers from a grounded-theory perspective, our research provides a comprehensive analysis of the implications of the institutional environment for the strategic choices of international retailers in an emerging market, especially in China.
- **Findings** – the international retailer’s strategic choices are often identified as pragmatism, dynamism, public policy-orientation, seeking lead position in the market and decentralization if the institutional distance between the home country and host country is high. Moreover, when international retailers can commit to cultivating local markets and creating shared added value, they are better able to respond proactively to an institutional environment that is geared to a collective social network and still in a phase of transition.
- **Research limitations/implications** – this paper focuses on only one country, China.
- **Originality/value** – The major value of this paper is to highlight the specificities of international retailers’ strategic responses to the institutional environment of an emerging market. Attention to these specificities would enable researchers to analyze more actually the reality of retail internationalization process in emerging market.

**Keywords:** institutional environment, retail, internationalization, China

**Paper type:** Research paper

# The role of the institutional environment in the strategic choices of international retailers in an emerging market: evidence from China

## 1. INTRODUCTION

Previous researches in the international retail domain have shown that international retailers are more embedded in the local context than production-based international firms (Wrigley et al., 2005). In other words, the local institutional environment influences the strategic choices of international retailers more than those of manufacturers (Bianchi and Ostale, 2006). For example, international retailers have direct contact with consumers in the host country, which makes retailing highly culture specific (Vida et al., 2000). Even with regard to sourcing, food retailers in particular still source the vast majority of their products from within the national territory they are serving (Coe and Hess, 2005), which makes retailers' competitive advantages more vulnerable to local business practices and existing relationships. Further, international retailers need to sink capital into physical assets such as the store network and the infrastructure of distribution and logistics, which connects them intricately to the real-estate and land-use planning system of the host country (Wrigley and Currah, 2006).

Although some researchers (Arnold et al., 2001; Bianchi and Arnold, 2004; Huang and Sternquist, 2007) have recognized the importance of studying the impact of the institutional environment on the internationalization of retailers, it is still not clear how international retailers make their strategic choices about how to respond to the institutional environment, particularly in emerging markets, as the effects of the institutional environment on firms' strategic choices have mostly been examined in developed markets (J. W. Lu, 2002; Palmer et al., 1993). Assumptions based on developed markets are inadequate in the context of an emerging market because of its instability (Gao et al., 2007). This article aims to develop a comprehensive framework based on institutional theory, which can enable researchers and managers to systematically assess the implications of the institutional environment for the strategic choices of international retailers in an emerging market.

We select China as our empirical setting for three major reasons. First, China is one of the most lucrative and rapidly growing retail markets in the world (S. Lu, 2010). Second, the Chinese retail market is characterized by continuous change (Wang, 2009), great complexity (Cui and Liu, 2000) and intensified competition. In such a turbulent market, environmental factors play an important role in international retailers' strategies. Third, China's institutional environment, given the nation's socialist tradition and strong culture, differs considerably from that of the west (Peng and Heath, 1996). Thus, for researchers, China provides a compelling context for examining and refining our understanding of how the institutional environment may affect international retailers' strategic choices.

## 2. LITERATURE REVIEW

### 2.1 Definition of institutional environment

In neo-institutional terms, the environment is conceptualized as an organizational field, which is defined as a collection of similar and dissimilar interdependent organizations operating in a functionally specific arena with their exchange partners, funding sources, and regulators (DiMaggio and Powell, 1983). Thus, the institutional environment perspective focuses on the organization-set, which allows researchers to define more precisely the salient context for a given organization, rather than assessing abstract environmental dimensions such as “complexity” and “uncertainty” from the traditional task environment perspective (Scott, 2008).

## 2.2 The institutional environment and firms’ strategic responses

The large and diverse literature about firms’ strategic responses to the institutional environment can be synthesized into two dominant theoretical perspectives. One perspective emphasizes external control (Romanelli and Tushman, 1986) and the importance of environmental constraints in limiting strategic responses. In contrast, the strategic choice perspective emphasizes the ability of organizations to interpret and select their environments, responding to relatively fixed constraints and actively modifying other environmental elements (Hitt and Tyler, 1991). Over time, there has been a growing recognition that both perspectives are critical to understanding organizational adaptation and strategic decisions (Goodstein, 1994). In the retail sector, Coe and Wrigley (2007), from the perspective of economic geography, also highlighted the interaction between the international retailer and its host environment. The international retailer not only adapts to external pressures from the environment but also tend to shape the host market, in particular on five main aspects: the institutional and regulatory framework, the consumers and society, the suppliers, the local retailers and the other retail multinational suppliers.

According to DiMaggio and Powell (1983) and Scott (2008), the environment is composed of a set of social, legal and political institutions that can be classified into regulatory, normative and cognitive categories, each one giving rise to a distinctive basis for evaluating legitimacy (Scott, 2008). In response to these different types of institutional pressure, firms can choose from four alternative strategies (Oliver, 1991; Zimmerman and Zeitz, 2002): conformance, selection, manipulation and creation. The impact of the institutional environment on firms’ strategic choices is further developed in Figure 1, which sets out the conceptual foundations for our work. The four alternatives listed above do not, however, show how the specificities of international retailers’ strategic choices differ from those of production-based firms, especially in an unstable institutional environment.

Our research therefore aims to answer the following question:

How does the institutional environment affect decision making by international retailers in an emerging economy?

## 3. RESEARCH METHOD

We adopted the grounded theory (GT) method for this study. GT is the appropriate methodology in this study for four reasons.

First, GT is oriented towards actions and processes (Strauss and Corbin, 1998). This is precisely the object of this study: a firm’s strategic responses to the institutional environment can be

considered as the process of its social construction, as influenced by the different types of institutions in the environment where it survives or thrives (Scott, 2008).

Second, since our study tries to explain a complex and multifaceted problem – different strategic choices influenced by different types of environmental institutions under different mechanisms – GT allows us to consider and manage many variables at the same time, without letting any existing preconceptions limit the number and type of variables involved.

Third, previous studies in this area normally focus on developed markets or address production-based firms. GT allows a theory to emerge without imposing a particular scenario. Researchers can use this method to discover the specificities of international retailers' strategic responses to the institutional environment in emerging markets.

Last, GT allows us to understand the special context and the setting (China) within which the issues of this study are addressed, so we can appreciate more fully the circumstances behind the stories told by the top managers of international retailers in China, who are involved in strategic choices.

When choosing between Straussian and Glaserian approaches in GT, we decided to follow Strauss and Corbin's approach because it offered us more procedural guidance and flexibility. This approach allows us to adopt the existing conceptual framework (Figure 1), but at the same time to avoid forcing or imposing concepts that reflect our own predispositions during our empirical study.

### 3.1 Sample and data collection

Our research involved studying international retail companies present in China at the time we were collecting data. To ensure diversity of sampling, nine selection criteria were identified from the literature: sector activity, format, the degree of control exerted by the group on the subsidiary, mode of entry, order of entry, phase of entry, group size, capital structure of the group, and the psychic distance between the home country and host country. Employing these criteria, an initial sample list that included 121 international retailers' subsidiaries was identified from the 152 such subsidiaries registered in China (Database of Ministry of Commerce, P. R. China).

From this list, we extracted 34 companies to interview. We obtained responses from 21 managers who belong to 18 international retailers operating in China, from 11 different countries or regions.

We used the theoretical sampling technique to select depth interview informants. The purpose of this technique is to obtain a deeper understanding of the issues, and develop explanations and theory rather than provide generalizations (Strauss and Corbin 1998).

As Appendix A indicates, our respondents were top managers of international retailers in China, who were involved in both strategic decisions and strategic implementation. CEOs, COOs, general managers, and directors in different functions were included in our research.

We recruited our interview informants through the China Chain Store and Franchise Association, the Shanghai Chain Enterprises Association, and the alumni network of Tsinghua University, by telephone, fax, or e-mail.

The in-depth interviews were conducted during three periods: March-September 2005, April-June 2006, and August-September 2007. Most of the interviews were conducted at the informant's office, and lasted between 60 and 90 minutes. The interviews began in an exploratory manner, allowing informants to guide the flow and content of discussion. Although we had a structured set of questions in the form of an interview protocol, the informants were encouraged to offer examples, clarifications and other details as they spoke.

### 3.2 Data analysis

We used Atlas.ti software to manage, extract, compare, and explore the meaningful data. During the analysis, we followed the procedures proposed by Strauss and Corbin (1998). Each interview, recorded by digital equipment, was entirely transcribed immediately, and analyzed before conducting the following interview. To code the data, we used the open coding and axial coding schemes proposed by Strauss and Corbin (1998). In open coding, using in-vivo codes (i.e. concepts based on the actual language used by the informants), we identified important concepts linked to the firm's strategic activities and then grouped these codes into higher-level concepts called first-order categories, based on underlying similarities between them. Next, we used axial coding, where we searched for relationships between and among the first-order categories, and theorized and assembled them into second-order themes. These second-order themes helped us understand the emergent framework. In Figure 2-5, we present the in-vivo codes, the first-order categories, the second-order themes, and the four dimensions of strategic responses to the institutional environment, emerging from our data. For each dimension, we analyzed the correspondences between the respondents' quotes and the institutional theory components.

## 4. FINDINGS

The main result of our empirical study (Figure 2-5) is that international retailers in China deploy all four different strategies (conformance, selection, manipulation and creation) to respond to three types of institutional pressure: regulatory, normative and cognitive; the only exception is the creation strategy in response to regulatory institutions. The following sections present these 11 dimensions and the categories and the sub-categories related to them, and explain the main ideas that emerged from the interviews.

### 4.1 Conformance as a strategy

Conformance is an especially appropriate strategy (Zimmerman and Zeitz, 2002), by which international retailers follow the regulatory, normative and cognitive rules and norms for creating favorable pre-conditions for market entry and for developing business relationships.

Concerning regulatory rules, two major themes emerged from our interviews to characterize the strategic activities undertaken by international retailers: corporate governance and pragmatism.

*Corporate governance.* Extant literature has highlighted the importance of governance through organizational control (Teece, 2007) to avoid any potential abuse of power, which often causes international retailers to violate commercial law in the host country.

*We know some other companies who follow a decentralized strategy and give important powers to the store managers...But they also take the risk that their store management is out of control. For example, the media recently exposed the scandal of one famous international retailer xxx about its price gouging during promotion...(Jack, Director of store in Shanghai: Metro)*

Our data suggest that regularly auditing shop management and applying strict systems for the selection and control of suppliers can help international retailers reduce this kind of risk and better respect the relevant laws in the host country.

*Pragmatism.* In a fast-changing and increasingly complex world, managers may need to favor pragmatism over rigid adherence to ideology. From 1992 to 2004, the regulatory environment for international retailers in China underwent five significant changes (Wang, 2009) to allow for development from single-store operations to retail chains, and from joint venture to whole foreign ownership. Our data suggest that international retailers, aiming to exploit different opportunities in a rapidly changing market, should be flexible about entry strategies, and should also be able to look for indirect solutions to bypass policy restrictions.

As regards normative conformance, international retailers should try to satisfy local consumer preferences and follow local retail practices (Huang and Sternquist, 2007). On how to achieve this objective, two themes emerged from our interviews: adaptation strategy and decentralization.

*Adaptation strategy.* A robust and distinctive business model constitutes the key strength of an international retailer in its home country; a foreign subsidiary will wish to transfer and duplicate this model in the host country. However, a business model is embedded in its original context and, to maintain its competitive advantage, should adapt to a greater or lesser degree in line with specific local consumer preferences and retail practices (Goldman, 2001; Kacker, 1988). Such changes may concern the different components of the business model, namely the retail offer (products suiting local tastes, locally preferred brands, specially required local services, affordable prices adapted to local purchasing power, locally acceptable display techniques); the choices of target clients and shop locations; and also the logistic solutions and suppliers' conditions of trading.

Extant literature indicates that these changes per se are not enough for full integration with the local context, and that international retailers need to become embedded – in societal, networking and territorial terms – if they wish to really become part of local social and economic activity (Coe and Wrigley, 2007; Wrigley and Currah, 2006). Our data suggest that working with local suppliers and trying to get their support can help international retailers build up their business and political ties in the host country; diluting the foreign identity of an enterprise is perhaps a good way to reduce the psychic distance between the company and local consumers.

*Decentralization.* Previous studies showed that the adaptation strategy could combine with decentralization in the organization to avoid eroding flexibility and responsibility (Teece, 2007). Our data suggest it is necessary, especially where strong cultural difference between the home country and host country exists, to split a company's organizational structure in China into four or five subunits, and also to decentralize some decision rights (concerning merchandising, shop staff management, and purchasing for several categories of products) to these subunits, which are often regarded as quasi-independent profit centers.

*Taking into account the big differences in climate, culture, lifestyle and consumption habits in China, in May of this year we reconfigured our structure from three levels to four levels and added four zones (East, Middle West, South and North). Compared to their role in the old structure, the director of each big zone is more independent and autonomous, being able to take 80% of the decisions. (Bo, Administrative Director: Carrefour).*

Since local staff members know the local market better than expatriates do, most respondents agree that promoting local staff to managerial posts helps the company to adapt to the local context.

As regards cognitive conformance, *imitation* emerged as the main response that characterizes international retailer strategy in China. This is consistent with the literature on organizational learning: firms can learn not only from their own experience but also from the experience of others and from what is happening in their surrounding (Sengupta, 2001). Developing the business in an emerging market means the company has decided to take on a risky, complex, costly process. This high level of uncertainty encourages imitation (DiMaggio and Powell, 1983). Our data show that, to reduce uncertainty, international retailers tend to follow the decisions and actions of other international or local competitors that they perceive to be more legitimate or successful.

*Our core concept is EDLP (everyday low price), which is based on low cost control, especially on low purchasing cost. In the United States, we push our supplier to offer the lowest price while we are negotiating the contract, and we impose no extra charges on them after their products have entered our stores. However, this system doesn't work well in China. The suppliers here prefer to accept the system of our major competitor, which requires them to pay extra charges under various names, such as fees for a grand opening ceremony, shop entry and rebate, but allows them to sell at a slightly higher price. We decided to follow our competitor's system from 2003. (Henry, Communication Director: Walmart)*

#### 4.2 Selection as a strategy

Selection involves locating in a favorable environment (Suchman, 1995) to achieve an advantage. It can be regarded as an effective strategy (Zimmerman and Zeitz, 2002).

Concerning regulatory selection, *public policy-oriented strategy* emerged as a major issue for international retailers in China. Existing studies show that inducement can represent another type of regulatory force, alongside rule-making. In other words, the host country may provide strong inducements to attract foreign investors (Huang and Sternquist, 2007). Our data suggest that the

strategic choices of store location and network expansion taken by most of the international retailers were strongly influenced and oriented by the preferential policies made by the central and provincial government in China.

*The policies should be considered. In addition to the provincial capital and the eastern coastal regions, we are going to develop the northwest market. Because we know what the government wants to do, and we also think opportunities exist there, we will go. If we wait until the conditions there become more mature, good store locations or good policies perhaps will no longer be available. (Kim, COO of Northern Region Subsidiary: Parkson)*

When we look at normative selection, *strategic fit* is the major theme emerging from our interviews. Our data suggest that, to gain a competitive advantage within the social-cultural retail context of the host country, it's important for international retailers to choose the right business model (not too advanced or too out of date) and the right mode for entry in the right place at the right time (not too early or too late). This is consistent with the findings of Alexander and Myers (1999), who showed that transferring a comparatively advanced operation into a less developed market will encounter difficulties because of poor physical infrastructure and non-acceptance by consumers.

As regards cognitive selection, *benchmarking* emerged as the major theme from our interviews. Extant literature on organizational learning suggests that companies frequently collect information about what other companies, especially competitors, are doing; why and how they do it; and with what results (success or failure). This is often the case in the retailing sector, where the opportunities for collecting such information are straightforward (Palmer and Quinn, 2005). Our data also suggest that analyzing competitors' performance will help a specific company management to select the right strategic alternative: to follow the competitors in some cases but take a different course on other occasions.

#### 4.3 Manipulation as a strategy

Manipulation involves making changes in the environment to achieve consistency between the organization and its environment. This type of strategy involves more changes to the environment than do selection and conformance (Zimmerman and Zeitz, 2002).

*Lobbying* emerged as the main strategy adopted by international retailers to manipulate their regulatory environment. The reduction of political risk is a long-term, incremental process, in which lobbying is used to achieve goals such as strengthening good governance and transparency, lessening regulations and influencing economic decision-making. Our data suggest that three main forms of lobbying are adopted by international retailers in China: promotion of the local economy, political pay-off and close contact with government.

To have the power to influence policy makers, international retailers should first contribute to local economic development through cooperation with local industry, tax payment and job creation.

Commitment to public interest activities is another way for international retailers to establish a reputation and then influence the government. In addition to investing in philanthropy and

creating foundations, some international retailers even finance training programs especially designed for government officials.

Our data also suggest that maintaining a close relationship with the government through activities such as organizing symposiums with the government, and participating in major economic and political activities in the host country, is another effective form of lobbying.

Concerning normative manipulation, we find three major themes that characterize the activities of international retailers: first-mover strategy, cultivation of market, and cooperative strategy.

*First-mover strategy.* According to Suchman (1995), manipulation involves preemptive intervention to develop bases of support specifically tailored to the distinctive needs of the organization. Rapid economic development and rising living standards created a gap between Chinese consumers' needs and traditional retailers' ability to fill them. This gap was filled by modern foreign retailers (Goldman, 2001). In fact, the international retailers tend to have a great impact on consumer habits and attitudes especially if the host market does not have a high level of "consumption literacy" (Dawson, 2007). Our data suggest that the introduction of new retail formats, new services and new quality control systems by international retailers helps them influence or control consumer preferences and retail practices in the host country.

*Cultivation of market.* One of the advantages of being a first-mover retailer is that customers in emerging markets tend to be strongly loyal to first-mover brands, even after viable alternatives appear. But international retailers should be aware that an uneducated population may neither want nor be able to afford the main concepts of advanced retailing. Nor may it provide the skilled labor and managers to operate the new businesses. The alternative – to hire expatriates for key positions – can be costly and disruptive. Our data suggest that the success of first-mover retailers largely depends on whether they can commit enough resources to invest in the cultivation of the host market by organizing local training programs aimed at customers, suppliers and retail talents.

*The greatest difficulty in this sector in China is the lack of qualified people. Compared to other sectors, cosmetics retailing is still in its infancy. There are not many professional staff available. The people who worked in L'Oréal and P&G are not entirely appropriate. The ideal solution would be to find people who know both sectors: cosmetic and retail. At this point, there is no better solution. I think we have to be patient and train people ourselves. (Thierry, Managing Director: Sephora)*

*Cooperative strategy.* A company can manipulate its environment by collaborating with other well-established organizations, because a single company generally lacks the money or the power to significantly change its environment (DiMaggio and Powell, 1983). In other words, firms may seek cooperation with external parties within a given environment to realize their goals (Child and Tsai, 2005). Our data suggest that as pioneers, international retailers often cooperate with professional associations, government, suppliers, or other social actors to attempt to change the normative institutional environment.

To manipulate the cognitive environment, international retailers tend to *create shared value*. The shared value involves creating economic value in a way that also creates value for society by

addressing its needs and challenges (Porter and Kramer, 2011). Our data also suggest that one way to create shared value is by working on the value chain with the objective of improving its efficiency for all the participants. Examples include changing payment terms with suppliers, affording more services to consumers, and reducing the distribution stages by cooperating directly with producers.

#### 4.4 Creation as a strategy

Creation involves developing something that did not already exist in the environment. Compared to the other three types of strategy, creation involves the most relevant changes to the environment surrounding the company (Zimmerman and Zeitz, 2002).

As regards normative creation, *experimentation* emerged as the main strategy for international retailer. Because of the rapid changes in consumer preferences and retail structure in an emerging market, retailers must constantly improve their value propositions, working more collaboratively with other members of the supply chain to identify and adopt new retail concepts (Tuominen, 2004).

*It's simple: the leaders are the international retailers who indicate the direction, and the local retailers copy them and, I have to say, some of them do so well enough and rapidly enough. This forces us always to go for a big advance, to push everyone to advance. It's a permanent war over new concepts, new stores, new markets, which are exploited at a terrible speed. (Jean, Managing Director of subsidiary: Carrefour)*

Our respondents mentioned that new ideas, driven by the local consumer demand or the special conditions of local suppliers, are often tried out and tested in one or several stores, and then generalized to the remaining store network. This is consistent with findings in the literature: innovation in the retail sector is often driven by bottom-up learning (Wrigley et al., 2005).

Concerning cognitive creation, the main topic our interviewees brought up is *market leadership strategy*: taking the lead in the market to gain scale advantages (Williams, 1992). Our data suggest that just a few market leaders, with enough purchasing power, can gain strong influence over the entire industry and are then able to set up operational practices, models and ideas.

*You know that in China 'guanxi' [relationship] is very important for business, but guanxi can't be established in one or two days. If you try to break the current distribution model, the management should be changed accordingly, which is quite difficult. Of course, if the number of your shops reaches a certain level, negotiation will perhaps become relatively simple. (Jack, Director of store in Shanghai: Metro)*

Our data also suggest that large-scale procurement and collaboration with many local suppliers help international retailers reinforce their influence over the entire industry in the host country. For example, in 2004 the Carrefour group purchased a total of USD 3.2 billions of products from more than 1,000 Chinese factories, an increase of 50% over the previous year. Operating at this scale, Carrefour set up some new practices and models in China and its suppliers had to follow them. Acquisition of existing companies is another way to obtain scale advantage (Arnold and Fernie, 2000); this motivation can explain the acquisition of Trust-mart by Walmart in China. To

adopt this strategy, international retailers should be ready to invest huge financial resources and they should also be patient in dealing with regulatory barriers, such as antitrust investigation by the government of the host country.

## 5. DISCUSSION AND CONCLUSION

Theoretical contribution:

The major theoretical contribution of this study is to highlight the specificities of strategic choices taken by international retailers in an emerging market.

First, in an emerging market, laws and policies often change rapidly, the international retailers should be flexible and ready to use different tactics to penetrate the market. By sticking to their preferred entry mode, they may lose opportunities. Moreover, they should be dynamic, able to adjust their strategies to closely follow the pace of change in the institutional environment.

Second, the institutional environment in an emerging market is often complex, with multiple overlapping layers of jurisdiction and industrial structures (Child and Tsai, 2005), so international retailers can't consider the emerging country a homogeneous market. The tension between the central and provincial government, and the inducement policies in different provinces or different industries, require international retailers to select the right business model and entry mode and to enter the right place at the right time.

Third, international firms can't find the same level of business support services, such as accounting, financing, distribution services and management education systems, in an emerging market as in their domestic markets. Our findings show that companies should be aware of the importance of cultivating the host market and committing to investment in managerial, professional and technical training for their local employees, consumers, suppliers and other service providers.

Fourth, the international retailers tend to choose decentralization strategy while the psychic distance between the home country and host country is high given the big difference of institutional environment between the developed market and emerging market. A decentralized organizational structure may facilitate greater learning about foreign markets because there is greater communication and interaction with a wider range of management across headquarters and foreign subsidiaries in the decision-making process. This level of involvement will give senior management a deeper understanding and awareness of the similarities and differences between the home and foreign markets (Evans et al., 2008).

The last main point concerns the importance of building an economic network in an emerging market where legal and regulatory institutions are less developed and market-support systems less advanced than in the home market (Peng, 2003). Our study finds that, as a new entrant, an international retailer should be able to create added shared value in an existing network by developing new services and new products for local consumers, bringing new technologies to local industries, and making local suppliers responsible for quality. This added shared value created by international firms helps them break the old social network and create a new one in which they often become the pilot. We find also that whether an international retailer is capable

of breaking the old social network largely depends on its bargaining power in a given industry. The purchasing volume realized by international firms in the host country for their national and global market, and their market share in the host country, is then very important for them. Therefore, their strategic choices can be seen as pursuit of market leadership through gaining scale advantages.

### Managerial implications

Even though significant changes of Chinese retail landscape have occurred since our data collection our findings still have some important implications for international retailers who are operating or intending to operate in China. The main aspects that we find still relevant are:

First, international retailers have to employ multiple strategies to respond to institutional pressure. For example, to comply with regulations in China, international retailers should establish cooperation with local stakeholders and choose flexible entry modes. If international retailers want to change the existing retail norms, they should act as first mover, invest in local training programs to cultivate the market, and collaborate with other national social actors.

Second, our findings establish clear links between firms' strategic activities and their strategic responses to different institutional pressures. This enables us to offer advice to international retail managers on how they can survive and thrive in China's institutional environment. For example, concerning participation in institutional development through lobbying, international retailers should promote the local economy by cooperating with local partners; help to finance local administrations and create jobs; invest in philanthropy; finance training programs for government officials or maintain close relations with the government by organizing symposiums with it; and participate in major economic and political activities in the host country.

Third, our findings highlight the specificities of strategic choices in China. International retailers should pay special attention to these specificities when taking strategic decisions. For example, due to the intensive competition and uncertainty in the Chinese market, international retailers may need to improve inter-organizational learning more than intra-organizational learning to help them evaluate and legitimate alternative strategic choices (Gielens and Dekimpe, 2007). In addition, although China is transitioning steadily towards a market economy, it still possesses some unique characteristics that challenge the ways foreign retailers conduct business. Therefore, international retailers must also actively monitor and learn from their local competitors to survive and succeed (Gao et al., 2007).

In line with the analogy theory exposed by Alexander and Doherty (2009 p; 119), our results can also be extended to developing countries other than China when three main conditions are present:

First, the country does not represent a unique, homogeneous market, but a group of strong regional submarkets with different characteristics in terms of demography, economic development and consumer attitudes and habits. This is certainly the case for India and Brazil, to cite two other big transition economies currently at the center of attention for retail companies.

Second, the legislation evolves rapidly, following the orientation of policy makers towards the development of a modern economic system and an advanced retail sector.

Consumer attitudes and behavior evolve quickly following cultural and economic changes in the country

Moreover the social, political and economic conditions of China at the moment of our study can be found in other developing countries in the future, and so the strategy adopted by international retailers in China can inspire their behavior when they encounter this time gap (Alexander and Doherty, 2009, p. 121) in terms of market development, consumption culture, and institutional pressure in another developing country.

#### Limitations and future research directions

This study has limitations that further research should address. First, we examine the effect of the institutional environment on the choices of international firms in the largest emerging market, China. Although emerging markets share some common features in their institutional environments, they vary remarkably in the stages of their economic, institutional development (Peng, 2003) and position of global supply chain. For example, as China is often considered as one important sourcing country for most of international retailers, we think it might be only the Chinese case that the international retailers could change the old business practices and create new ones, relying on their big volume of purchase in China. Research in other emerging markets is thus needed to test how far our findings can be generalized. Second, our research studied 18 international retailers having operations in China; we can suppose that company responses to institutional pressure are different amongst different sector according to their experience in the Chinese context. We cannot, however, verify this hypothesis because our sample is too limited to allow us to analyze sectoral variation and strategic modifications linked with the learning curve of the companies. This represent a path for future research, that can study in detail a large sample of companies belonging to two or more different sectors to try to find differences in the response to institutional environment. It would be interesting also, in future research, to read the response to institutional environment through a longitudinal study taking into account the learning curve of international retailers in China. Third, although Scott (2008) has claimed that institutional theory has reached its adulthood, very limited rigorous research has been conducted in the area of international retailing. This study opens up the path for other quantitative studies on a larger scale, for example to understand how institutional pressure and process evoke business strategic actions, which in turn, affect firm performance.

## References

- Alexander, N. and Doherty, A. M. (2009), *International Retailing*, Oxford University Press, UK.
- Alexander, N. and Myers, H. (1999), “European retail expansion in South East Asia”, *European Business Review*, Vol. 99 No. 2, pp. 91–104.
- Arnold, S. J. and Fernie, J. (2000), “Wal-Mart in Europe: prospects for the UK”, *International Marketing Review*, Vol. 17 No. 4/5, pp. 416–432.
- Arnold, S. J., Kozinets, R. V. and Handelman, J. M. (2001), “Hometown ideology and retailer legitimation: the institutional semiotics of Wal-Mart flyers”, *Journal of Retailing*, Vol. 77 No. 2, pp. 243–271.
- Bianchi, C. C. and Arnold, S. J. (2004), “An institutional perspective on retail internationalization success: Home depot in Chile”, *International Review of Retail, Distribution and Consumer Research*, Vol. 14 No. 2, pp. 149–169.
- Bianchi, C. C. and Ostale, E. (2006), “Lessons learned from unsuccessful internationalization attempts: Examples of multinational retailers in Chile”, *Journal of Business Research*, Vol. 59, pp. 140–147.
- Child, J. and Tsai, T. (2005), “The dynamic between firms' environmental strategies and institutional constraints in emerging economies: Evidence from China and Taiwan”, *Journal of Management Studies*, Vol. 42 No. 1, pp. 95–125.
- Coe, N. M. and Hess, M. (2005), “The internationalization of retailing: implications for supply network restructuring in East Asia and Eastern Europe”, *Journal of Economic Geography*, Vol. 5 No. 4, pp. 449–473.
- Coe, N. M. and Wrigley, N. (2007), “Host economy impacts of transnational retail: the research agenda”, *Journal of Economic Geography*, Vol. 7, pp. 341–371.
- Cui, G. and Liu, Q. (2000), “Regional market segments of China: opportunities and barriers in a big emerging market”, *The Journal of Consumer Marketing*, Vol. 17 No. 1, pp. 55–70.
- Dawson, J. A. (2007), “Scoping and conceptualising retailer internationalization”, *Journal of Economic Geography*, Vol. 7, pp. 373–397
- DiMaggio, P. J. and Powell, W. W. (1983), “The iron cage revisited: institutional isomorphism and collective rationality in organizational behavior”, *American Sociological Review*, Vol. 48, pp. 147–160.
- Evans, J., Mavondo, F. T. and Bridson, K. (2008), “Psychic Distance: Antecedents, Retail Strategy Implications, and Performance Outcomes”, *Journal of International Marketing*, Vol. 16 No. 2, pp. 32–63.

- Gao, G. Y., Zhou, K. Z. and Yim, C. K. B. (2007), “On what should firms focus in transitional economies? A study of the contingent value of strategic orientations in China”, *International Journal of Research in Marketing*, Vol. 24, pp. 3–15.
- Gielens, K. and Dekimpe, M. G. (2007), “The entry strategy of retail firms into transition economies”, *Journal of Marketing*, Vol. 71, pp. 196–212.
- Goldman, A. (2001), “The transfer of retail formats into developing economies: The example of China”, *Journal of Retailing*, Vol. 77 No. 2, pp. 221–242.
- Goodstein, J. D. (1994), “Institutional pressures and strategic responsiveness: Employer involvement in work-family issues”, *Academy of Management Journal*, Vol. 37 No. 2, pp. 350–382.
- Hitt, M. A. and Tyler, B. B. (1991), “Strategic decision models: Integrating different perspectives”, *Strategic Management Journal*, Vol. 12, pp. 327–351.
- Huang, Y. and Sternquist, B. (2007), “Retailers' foreign market entry decisions: An institutional perspective”, *International Business Review*, Vol. 16, pp. 613–629.
- Kacker, M. (1988), “International flow of retailing know-how: Bridging the technology gap in distribution”, *Journal of Retailing*, Vol. 64 No. 1, pp. 41–67.
- Lu, J. W. (2002), “Intra- and inter-organizational imitative behavior: Institutional influences on Japanese firms' entry mode choice”, *Journal of International Business Studies*, Vol. 33 No. 1, pp. 19–38.
- Lu, S. (2010), “Understanding China's Retail Market”, available at: <https://www.chinabusinessreview.com/public/1005/lu.html>.
- Oliver, C. (1991), “Strategic responses to institutional processes”, *Academy of Management Review*, Vol. 16, No. 1, pp. 145–179.
- Palmer, D. A., Jennings, P. D. and Zhou, X. (1993), “Late adoption of the multi-divisional form by large US corporations: Institutional, political and economic accounts”, *Administrative Science Quarterly*, Vol. 38, pp. 100–131.
- Palmer, M. and Quinn, B. (2005), “An exploratory framework for analysing international retail learning”, *International Review of Retail, Distribution & Consumer Research*, Vol. 15, No. 1, pp. 27–52.
- Peng, M. W. (2003), “Institutional transitions and strategic choices”, *Academy of Management Review*, Vol. 28 No. 2, pp. 275–296.

- Peng, M. W. and Heath, P. S. (1996), “The growth of the firm in planned economies in transition: Institutions, organizations, and strategic choice”, *Academy of Management Review*, Vol. 21, pp. 492–528.
- Porter, M. E. and Kramer, M. R. (2011), The big idea: Creating shared value, *Harvard Business Review*, No. January–February, pp. 62–77.
- Romanelli, E. and Tushman, M. L. (1986), Inertia, environments, and strategic choice: A quasi-experimental design for comparative-longitudinal research, *Management Science*, Vol. 32, pp. 608–621.
- Scott, W. R. (2008), *Institutions and Organizations: Ideas and Interests*, Sage Publications, London/Thousand Oaks, CA.
- Sengupta, N. (2001), *A new institutional theory of production*, Sage Publications, Thousand Oaks, CA.
- Strauss, A. L. and Corbin, J. M. (1998), *Basics of qualitative research: Techniques and procedures for developing grounded theory*, Sage Publications, Thousand Oaks, CA.
- Suchman, M. C. (1995). “Managing legitimacy: Strategic and institutional approaches”, *Academy of Management Journal*, Vol. 20, pp. 571–610.
- Teece, D. J. (2007), “Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance”, *Strategic Management Journal*, Vol. 28, pp. 1319–1350.
- Tuominen, M. (2004), “Channel collaboration and firm value proposition”, *International Journal of Retail & Distribution Management*, Vol. 32 No. 4, pp. 178–189.
- Vida, I., Reardon, J., & Fairhurst, A. (2000), “Determinants of international retail involvement: The case of large U.S. retail chains”, *Journal of International Marketing*, Vol. 8 No. 4, pp. 37–60.
- Wang, S. (2009), “Foreign retailers in post-WTO China: Stories of success and setbacks”, *Asia Pacific Business Review*, Vol. 15 No. 1, pp. 59–77.
- Williams, D. E. (1992), “Retailer internationalization: An empirical inquiry”, *European Journal of Marketing*, Vol. 26 No. 8/9, pp. 8–24.
- Wrigley, N., Coe, N. M. and Currah, A. (2005), “Globalizing retail: conceptualizing the distribution-based transnational corporation (TNC)”, *Progress in Human Geography*, Vol. 29 No. 4, pp. 437–457.

Wrigley, N. and Currah, A. (2006), "Globalizing retail and the 'new e-economy': The organizational challenge of e-commerce for the retail TNCs", *Geoforum*, Vol. 37, pp. 340–351.

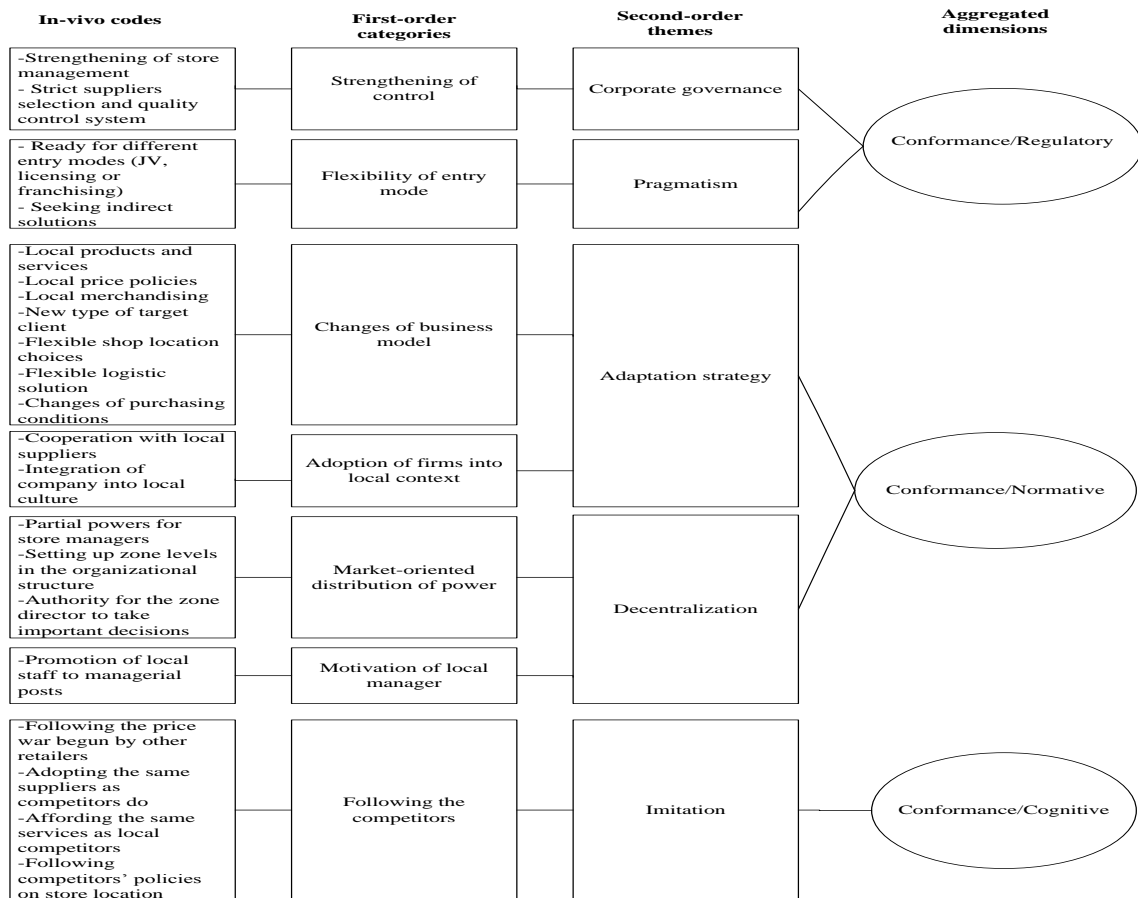
Zimmerman, M. A. and Zeitz, G. J. (2002), "Beyond survival: Achieving new venture growth by building legitimacy", *Academy of Management Journal*, Vol. 27 No. 3, pp. 414–431.

**Figure 1 Strategic responses to different types of institutional pressures**

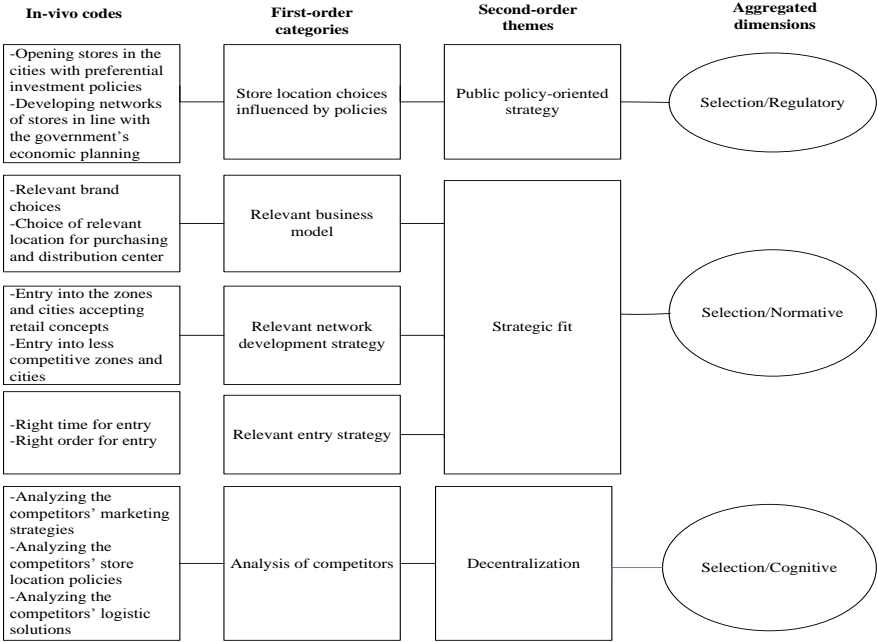
	<b>Regulatory</b>	<b>Normative</b>	<b>Cognitive</b>
<b>Conformance</b>	Adhering to government rules and regulations	Following societal norms; adhering to values; and adopting professional norms	Complying with ideas, models and practices assumed to be correct
<b>Selection</b>	Selecting a geographic location based on favorable regulations for firms	Selecting domains in which the norms and values are more accepting of the firms' products/service/vision	Selecting domains in which the ideas, models and practices are more accepting of the firms' products/services/vision
<b>Manipulation</b>	Lobbying for changes in existing regulations to which the firms are subject	Changing existing norms and values	Altering existing ideas, models and practices
<b>Creation</b>	Creating rules and regulations that benefit the firms	Developing norms and values	Creating new operating practices, models and ideas

Source: adapted from Oliver (1991) and Zimmerman & Zeitz (2002)

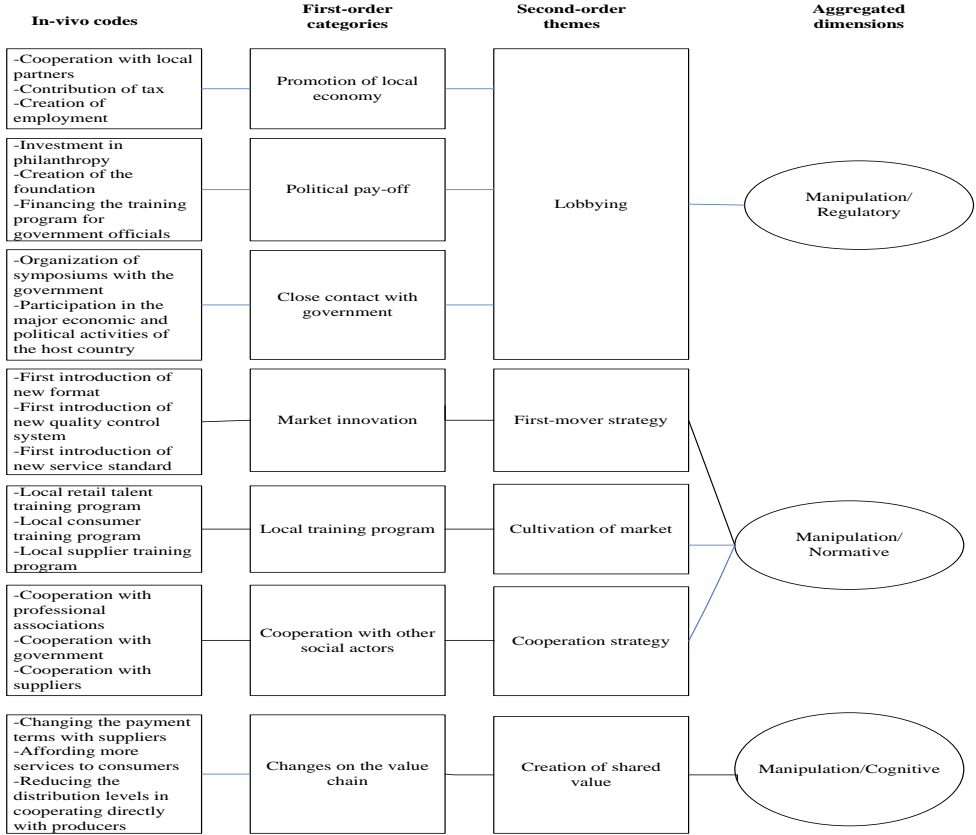
**Figure 2 Examples of in-vivo codes, first-order categories and second-order themes for conformance strategy**



**Figure 3 Examples of in-vivo codes, first-order categories and second-order themes for selection strategy**

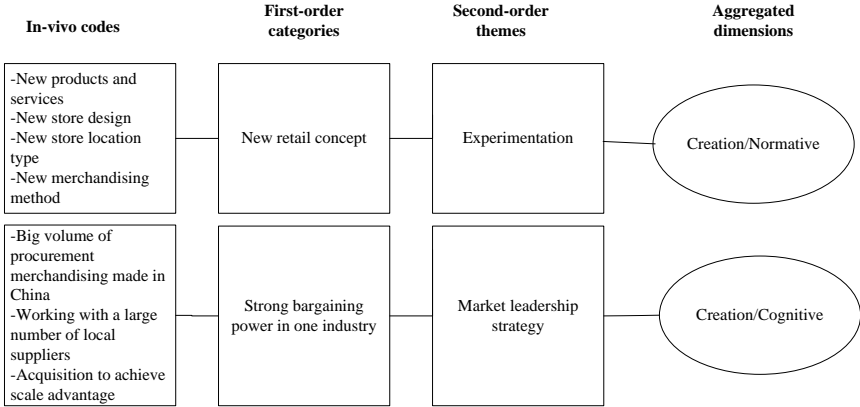


**Figure 4 Examples of in-vivo codes, first-order categories and second-order themes for manipulation strategy**



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**Figure 5 Examples of in-vivo codes, first-order categories and second-order themes for creation strategy**



## Appendix A. Study samples

Respondents and ages (Pseudonyms)	Retail Group	Sector of activity	Format	Mode of entry	Year of entry	Entry phase	Country of origin
Kim, COO of the northern region subsidiary, 57	PARKSON	Non-food (general goods)	Department Store	Joint subsidiary	1994	Growth	Malaysia
Bo, Administrative Director, 48	CARREFOUR	Mixed (food + non-food)	Hypermarket	Joint subsidiary	1995	Repositioning	France
Jean, Managing Director of the subsidiary, 60	CARREFOUR	Mixed (food + non-food)	Hypermarket	Joint subsidiary	1995	Repositioning	France
Jack, General Director of store in Shanghai, 35	METRO	Mixed (food + non-food)	Cash & Carry	Joint subsidiary	1995	Growth	Germany
Lu, Deputy MD of the subsidiary, 58	METRO	Mixed (food + non-food)	Cash & Carry	Joint subsidiary	1995	Growth	Germany
Willis, Deputy MD of the subsidiary, 67	LOTUS	Mixed (food + non-food)	Hypermarket	Joint subsidiary	1997	Repositioning	Thailand
Riddi, Managing Director of group, 52	LANE CRAWFORD	Non-food (general goods)	Department Store	Direct investment and licence	2000	Growth	Hong Kong
Xavier, Development Director, Asia, 38	MONTAGUT	Non-food (textile specialist)	Specialist	Master franchise	1971	Repositioning	France
David, Managing Director of the subsidiary, 36	B&Q	Non-food (decoration and do-it-yourself specialist)	Specialist	Joint subsidiary + Direct investment	1999	Growth	UK
Deng, Development Director for subsidiary, 42	DICOS	Fast food	Restaurant chain	Master franchise	1996	Repositioning	Taiwan
Henry, Communication Director for the subsidiary, 45	WALMART	Mixed (food + non-food)	Centre Commercial	Joint subsidiary	1996	Growth	United States
Li, Deputy MD of the subsidiary, 46	7-ELEVEN	Food	Convenience store	Joint subsidiary + Master franchise	1992	Growth	Japan
Meng, Development Director, 46	WATSONS	Non-food (Beauty product specialist)	Specialist	Joint subsidiary	1989	Repositioning	Hong Kong
Zheng, Communication Director, 55	AUCHAN	Mixed (food + non-food)	Hypermarket	Joint subsidiary	1999	Growth	France
Thierry, Managing Director, 45	SEPHORA	Non-food (Beauty product specialist)	Specialist	Joint subsidiary	2005	Growth	France
Heguo, , Marketing Director, 47	SEPHORA	Non-food (Beauty product specialist)	Specialist	Joint subsidiary	2005	Growth	France
Linda, Administrative Director, 41	IKEA	Non-food (home furnishing)	Specialist	Joint subsidiary	1998	Repositioning	Sweden
Shen, , Managing Director 52	ESPRIT	Non-food (textiles and accessories)	Specialist	Joint subsidiary + franchise	1992	Repositioning	Germany
Paul, , Managing Director, 55	ETAM	Non-food (textiles and accessories)	Specialist	Subsidiary	1995	Growth	France
X, Director, 40	DECATHLON	Non-food (sports products)	Specialist	Joint subsidiary	2003	Growth	France
Jesus, Director	ZARA	Non-food (textiles and accessories)	Specialist	Subsidiary	2006	Growth	Spain

# Pass-through of producer price changes in different retail formats<sup>\*</sup>

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# Pass-through of producer price changes in different retail formats

## Abstract

**Purpose** – Given an identical producer price shock, different retailers might not change their prices equally. Thus, customers are affected differently by these price shocks depending on their retailer of choice. The degree to which a change in the producer price is reflected in a corresponding change in the final consumer price is defined as the pass-through rate. In this paper, we estimate the pass-through rate of producer price changes to final consumer prices. In particular, we are interested in different reactions across retailer formats concerning the size and the speed of price adjustments. Therefore, we distinguish two retail formats: discounter and supermarket.

**Design / Methodology / Approach** – This paper uses a detailed retail scanner data set for the German ground coffee market for the years 2000 and 2001. A descriptive part of the data is followed by a multiple regression analysis.

**Findings** – We show that supermarkets have a broader product assortment, a higher price level and change their prices more often compared with discounters. We find that discount retailers pass-through 37% of a producer price change, significantly more than the 23% for supermarkets. However, this does not result in differences in the speed of price adjustments across retail formats.

**Research Limitations / Implications** – The lack of appropriate producer price data restricts this analysis to one product group only (ground coffee).

**Originality / Value** – This paper analyzes producer price pass-through at a very detailed level – a single product at a single store in one week - and explicitly distinguishes the pass-through rate across the retail formats discounter and supermarket.

**Key Words** – Pass-through, retail formats, UPC data, Germany

**Paper** – Research Paper

# 1. Introduction

In this paper we use product-level data for Germany to estimate the pass-through rate of producer price changes to final consumer prices. The degree to which a change in the producer price is reflected in a corresponding change in the consumer price is defined as the pass-through rate. In particular, we are interested in different reactions across retail formats concerning the size and the speed of price adjustments. Therefore, we distinguish between two retail formats, discounters and supermarkets, and analyze the German ground coffee market in the years 2000 to 2001.

The literature provides substantial evidence for incomplete pass-through of cost shocks, such as import or producer price changes, into consumer prices across countries and sectors (Campa and Goldberg, 2005, 2010). While the estimated coefficients differ in size across countries, for Germany, Campa and Goldberg (2010) estimate it to be around 21%. In other words, a 10% decrease in producer prices leads to a 2.1% decrease in consumer prices. This leaves a considerable part of the price change that is not passed-through and needs to be explained. Using detailed product data some sources for incomplete pass-through rates have been determined. The most important ones are the frequency of price adjustment (Gopinath and Itskhoki, 2010), mark-up adjustments by firms (Hellerstein, 2008), local distribution costs (Nakamura and Zerom, 2010) and the type of pricing contract between the manufacturer and the retailer (Bonnet et al. 2011). Especially local cost components can explain up to 50% of the incomplete pass-through of cost shocks to final consumer prices (Nakamura and Zerom, 2010, or Hellerstein, 2008).

The current paper considers retailers that obtain their products from producers. Then, they add their own local costs and set their retail price for consumers.<sup>1</sup> We emphasize one crucial part of local cost components that retailers have to cover. That is, we consider retailers differing in the amount of additional services they supply. In the food retailing sector, possible services can be additional shop assistants, a broader product assortment, more cash points in order to reduce the waiting time for customers, or a sales area that is more ample. Indeed, service quality of retailers is frequently stated as influencing consumers' choices of their shopping stores (see, for instance, Tang et al., 2001, Gijsbrecht et al., 2008, or Cleeren et al., 2010).<sup>2</sup> All these factors add to the producer price and are locally supplied. Thus, they drive a wedge between the final consumer price of a retailer and the producer price. As a consequence, a 10% change of the producer price will imply a change of less than 10% of the consumer price which is generally named incomplete pass-through. In Germany the two dominant retail formats in the grocery market are supermarkets and discounters. These two retail formats pursue different strategies to attract customers. In contrast to supermarkets the concept of discounters can be summarized as providing low prices, reducing the interior of the shopping outlets to a minimum and serving a clearly defined small number of products (GfK, 2008, or Cleeren et al., 2010). In this paper, we think of these factors as services. If such services are attached to an otherwise identical product the final consumer price is higher. An identical change in the producer price is thus

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<sup>1</sup> In this paper, the retail price is the price the consumer has to pay. So the terms “retail price“ and “consumer price“ have identical meanings.

<sup>2</sup> Tang et al. (2001) consider service quality as “fixed benefit of shopping”, Gijsbrecht et al. (2008) name it “fixed in-store benefits”, and Cleeren et al. (2010) see it as one possibility for supermarkets to differentiate themselves from discounters.

passed-through differently to consumer prices depending on the degree of services provided by supermarkets and discounters. The discounter phenomenon originated in Germany and, here, discounters increased their market share from about 32% in 2001 up to 43% in 2007 (GfK, 2008). Discounters have become an important part of the grocery sector in other countries as well. In the last years the number of discount stores in Europe has increased by approximately 30% to reach a number of 45,000 in 2010. Discounters now have market shares in the grocery sector ranging from 10% in Belgium, 19% in Austria to about 35% in Norway (see Planet Retail (2006) as cited in Cleeren et al. (2010)). These examples illustrate the importance of analyzing the effect of discounters on prices and price changes, and Germany provides the adequate environment for such a study.

We employ a data set of the Madakom GmbH, a former market research institute in Germany, at the Universal Product Code (UPC)-level for a sample of German retailers covering the years 2000 and 2001. We consider the category of ground coffee so we can use raw coffee bean prices as approximation of producer prices. Ground coffee is an appropriate category as it provides a relatively homogeneous product and the main ingredient, raw coffee beans, is internationally traded, not produced in Germany and thus needs to be imported by all producers. We first show that prices and the frequency of price changes differ across retailers. We assume that services, such as additional shop assistants or a broader product assortment, induce these price differences. For example, in the first week in the year 2000 a 500gr package of “Jacobs Krönung Mild” was sold for DM 7.49 at a discounter belonging to the key account Edeka and for DM 7.99 at a supermarket of Rewe’s retail network, another large German key account. Thus, this difference of DM 0.50 is attributed to the costs of additional services occurring in the supermarket. Then, we estimate to which degree changes in the producer price are passed-through to consumer prices in different retail formats. In addition, we apply an error correction model to check whether the speed of price adjustments is identical for discounters and supermarkets.

Supermarket retailers have a broader product assortment, a higher price level and changes prices more often compared to discounter. We then show that the pass-through of producer price changes to final consumer prices is incomplete and differs across retail formats. Stores belonging to the discount retail format have a significantly larger pass-through rate of 37% compared to 23% for supermarkets. In addition, we provide evidence that the speed with which producer price changes are transmitted into consumer prices does not differ significantly across retail formats. Differences in pass-through rates across retail formats are important in the ongoing debate on inequality and the prices paid by low-income households (see, e.g. Broda et al., 2009 or Leibtag and Kaufmann, 2003). A recent study by the German market research institute GfK (2008) shows that in Germany low-income households, such as students, unemployed people or young families from the working class, have much higher expenditure shares at discounters. If the prices of these discount retailers include a lower amount of local cost components such as services, the pass-through rates of producer price changes are higher. As a consequence, low-income households are affected relatively more by price changes. This setting intensifies existing price differences and needs to be taken into account when measuring price differences and inequality. Broda et al. (2009) present a similar finding for the US. Finally, we provide evidence that the frequency of price adjustments differs across retail formats. This is essential for the discussion on nominal price rigidities which is an important topic in macroeconomics (see, for instance, Eichenbaum et al., 2011). Due to their retail concept discount retailers change prices less often compared to supermarkets. So the presence of discount retailers affects the price rigidity at the consumer level.

Closely related papers to ours are Bonnet et al. (2011) and Leibtag et al. (2007). Bonnet et al. (2011) employ the same data set as this paper but differ in two major aspects. First, they aggregate the data and do not use the UPC-level. More precisely, they define a product as one brand (e.g. Melitta)

sold at one key account (e.g. Rewe). By contrast, we make use of the UPC-level and define products by UPC-codes and consider the specific store that sells this product. Second, they use a structural model. In a reduced form Bonnet et al. (2011) estimate a pass-through rate of about 18%, comparable to the 25% we obtain if we do not distinguish retail formats. In their structural model, however, the pass-through rates increase to about 50 to 60%. The structural model allows considering the effects of non-linear pricing strategies and two-part tariffs between wholesalers and retailers on pass-through. They conclude that pass-through rates increase, for instance, with resale price maintenance by 10% by reducing the double-marginalization problem. While their structural model provides valuable insights it is not feasible with the number of products we obtain at the UPC-level. Therefore, we apply the reduced form approach and also highlight the role of different retail formats. In addition, we also analyze whether retailers differ in the speed of price adjustment. Leibtag et al. (2007) focus on the ground coffee sector in the US at the commodity, wholesale and retail price level. Using quarterly data from 2000 to 2004 they estimate pass-through to be 22% after 6 quarters for wholesale and retail prices. We carry out a similar analysis for Germany but consider a much more disaggregated level - we use weekly data. This is of particular importance when analyzing retail data, as promotional sales frequently occur on a weekly basis (von Cramon-Taubadel et al., 2006). Furthermore, our panel variable is more disaggregated: a single good sold in a specific store in one week. In contrast to Leibtag et al. (2007), we do not have wholesale prices at our disposal. Instead, we chose ground coffee as the product category for which approximations of the producer price can be made using the price of raw coffee beans.

Our contribution to the literature is twofold: First, studies on cost pass-through such as Bonnet et al. (2011), Leibtag et al. (2007), Nakamura (2008), Kim and Cotterill (2008), and Berck et al. (2009) perform their analysis without considering discount retail formats.<sup>3</sup> We differ from these papers in that we carry out the analysis at a more disaggregated level, as we are able to distinguish a single product at a single store. We show the substantial price and pass-through rate differences for discounters compared to supermarkets.<sup>4</sup> Second, we add to the growing literature on the interaction of discounters and supermarkets (for example, Cleeren et al., 2010, Gijsbrechts et al., 2008, or González-Benito et al., 2005).<sup>5</sup> These studies generally consider the intensity of competition between dis-

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<sup>3</sup> Nakamura (2008) employs a wide US sample of products on the UPC-level. She finds that 65% of price variation is common within one key account and concludes that the pass-through of manufacturer costs changes to retail prices is not the most important explanation for price variability. Kim and Cotterill (2008) find that cost pass-through rates for processed cheese are lower under collusion compared to Nash-Bertrand price competition. Berck et al. (2009) analyze the pass-through of corn, wheat and gasoline prices to retail prices of chicken and cereals in the US for 2003-2005. They find significant differences in the pass-through rates depending on sales. The estimated pass-through rates are 17% for corn price changes and 30% for feed price changes to the net price of chicken. These estimates are about 50% larger compared to the ones using gross shelf prices. This again indicates the importance of accounting for sales.

<sup>4</sup> There also exist studies on a more aggregated level, such as Bettendorf and Verboven (2000), who use price indices for their analysis. The authors study the Dutch market and find incomplete pass-through of the price of green beans to consumer prices. They conclude that costs other than coffee beans, such as labor costs and packaging costs are the dominant reasons for incomplete pass-through. Since additional service costs include, for instance, wages their finding supports our line of argumentation that these service costs induce incomplete pass-through rates.

<sup>5</sup> Cleeren et al. (2010) classify competition within a format as intraformat competition and competition between supermarkets and discounters as interformat competition. They find it to be intense in both dimensions but fiercer among supermarkets. The appearance of discounters only affects a supermarket's profitability from two discount stores onwards. Gijsbrechts et al. (2008) provide an alternative explanation for multiple stop grocery shopping. Consumers not only take into account price differences but also other shopping benefits, including "in-store benefits" such as a store's service level. González-Benito et al. (2005) find higher intra- compared to interformat competition, too. They derive a two-step consumer shopping decision. First it is based on the retail format and in a second step on the specific store, e.g. a consumer decides to shop at a discounter and then chooses to go to Penny.

counters and supermarkets. Our paper, however, considers one of the consequences of this competition, i.e. price adjustment. Fiercer competition among supermarkets would suggest that they adjust prices faster and to a higher degree. We show the contrary. Discounters are the ones that react more given a change in the producer price. We attribute that to additional services provided in supermarkets that reduce the price decreasing effect of lower producer prices. However, the speed of price adjustment does not differ significantly across retail formats.

The remaining paper is structured as follows: In the next section, we present our data in greater detail and deduce some stylized facts on retail chains and their average prices. Section 3 first presents the results on the magnitude of pass-through rates and then on the speed of price adjustment. The results as well as their potential limitations are addressed in section 4. Finally, section 5 concludes.

## 2. Data and Stylized Facts

In this section, we start with a short description of the ground coffee market in Germany. Then, based upon a thorough introduction of the data at hand, we will show basic characteristics of the prices observed across retail formats, particularly to what extent prices were altered during the period under observation and how long prices remained unchanged.

### 2.1 German ground coffee market

When a consumer buys a package of coffee at a retailer it generally has passed through the two production steps growing and roasting (Richardson and Stähler, 2007). First, coffee beans are grown in the southern hemisphere and the four major producers of coffee in 2000 to 2001 are Brazil, Vietnam, Colombia and Indonesia.<sup>6</sup> These coffee beans are internationally traded and the two largest importing countries in 2000 are the US and Germany, with about 24 million and 14 million imported 60kg bags, respectively. This implies a market share of 16% for Germany.<sup>7</sup> The second production step is roasting the coffee beans. The German roasting market is dominated by a few firms with Jacobs and Tchibo/Eduscho<sup>8</sup> having the highest market shares in 1999 of 27% and 24%, respectively (Lienning, 2000, as cited in Koerner, 2002). Finally, the roasted coffee is sold to retailers and then to consumers.<sup>9</sup> In Germany, average coffee consumption was about 6.79kg per capita in 2010.<sup>10</sup> While there are a couple of other factors determining the price of ground coffee, such as wages or transportation costs, Draganska and Klapper (2007) pointed out, that green beans are the major force for driving marginal costs. We follow their argumentation and thus assume that green bean prices approximate producer prices and we abstract from any other potential factors that might influence producer prices.

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<sup>6</sup> Source: ICO (a), online database.

<sup>7</sup> Source: ICO (b), online database.

<sup>8</sup> The producers Tchibo and Eduscho merged in 1997 but still their products are sold with the two distinct brand names. We, thus, follow other studies of the German ground coffee market (Draganska and Klapper, 2007, or Bonnet et al., 2011) and consider these brands as being different.

<sup>9</sup> Note, that some firms, for instance Tchibo, use own stores to sell their coffee (see, for example, Feuerstein, 2002), which reduces the dependency of roasting firms to retailers. However, the data does not cover sales for these stores, so we are not able to analyze potential price differences at own stores and other retailers.

<sup>10</sup> Source: ICO (c), online database.

## 2.2 Data set and data processing

In order to show how producer price changes are passed through to consumer prices, we need to adjust green bean prices carefully. More precisely, we use the composite daily price in cents per pound of raw green beans obtained from the International Coffee Organization (ICO) via Datastream. We then follow Draganska and Klapper (2007) and adjust this price with the Dollar-Deutsche Mark exchange rate, deduct a 15% loss in volume due to roasting of the raw beans and add the German coffee tax of 2.16 DM per pound.<sup>11</sup> As can be seen from Figure 1, despite the large fraction of taxes, we observe a substantial decrease in the adjusted price of raw green beans from over DM 4 in the first weeks of 2000 to roughly DM 3.20 in late 2001. So, within two years the approximated producer price is reduced by roughly 20% and the question is to what extent and how rapidly these cost savings were passed-through to final consumer prices.

Figure 1. Adjusted price (in DM/pound) of raw green beans



Consumer prices at the UPC-level were collected by the Madakom GmbH on a weekly basis from 2000 to 2001 in 200 retailers located throughout Germany, the world's second largest coffee market (Koerner, 2002). Within this sample, we concentrate on the five biggest key accounts in our sample: Edeka, Markant, Metro, Rewe, and Tengelmann.<sup>12</sup> These key accounts capture about 93% of the sales in our data. Besides Rewe, all these key accounts maintain supermarket and discount stores. Edeka, for instance, has stores named Edeka that represent the supermarket segment. Netto, on the other hand, is the name of Edeka's discounter stores.<sup>13</sup> On the brand side, we focus on Tchibo,

<sup>11</sup> Throughout the analysis we keep the notation of Deutsche Mark (DM). Recall, however, that in 2000 and 2001 the exchange rate between DM and Euro was fixed at 1.9558 DM/Euro.

<sup>12</sup> Unfortunately, ALDI and Lidl, with 4200 and 2900 stores, respectively, in 2007 the largest discounters in Germany (GfK, 2008), are not included in our data set. We share this shortcoming with all other studies (e.g. Bonnet et al., 2011 and Draganska et al., 2010). However, this is not a major concern. As ALDI and Lidl generally do not sell branded products but rather own or no-name brands, we would not be able to compare identical products across different key accounts.

<sup>13</sup> This restriction is important. Price differences across retailers might stem from other factors as well. Models with heterogeneous retailers imply price differences which are based on productivity differences (Raff and Schmitt, 2011). Retailers that distribute products more efficiently will have lower costs. Compared to single

Eduscho, Melitta, Jacobs, Onko, Dallmayr, and Idee. Altogether, these brands account for about 88% of all sales in each key account. As shown by Bonnet et al. (2011), the interaction of producers or wholesalers and retailers influences the pricing strategies, but this is not the focus of the current paper. Therefore, the producer price for all these brands is identical and is approximated by the adjusted green beans price. Nevertheless, we include brand dummies in our empirical analysis to take into account brand-specific effects on the pass-through rate and the speed of price adjustment.

In the following, we restrict our data set to packages of 500gr. With a share of 80.76% of the sales this packaging type is by far the most common one on the German market. It also enables us to focus on ground coffee only, and we have thus not included other products, such as instant coffee or espresso which are sold in smaller packages and differ substantially in terms of prices.

Promotional activities, such as price discounts, are frequently used at the retail level. By the often applied definition of Hosken and Reiffen (2004) promotional prices are “temporary reductions in retail prices that are unrelated to cost changes” (p.145). In other words, we need to define a real or regular price and its deviations in order to exclude promotional prices from the analysis.<sup>14</sup> We define regular prices as prices not having been altered for four consecutive weeks. Promotional prices are price reductions exceeding 5%. Promotional prices can only last for four weeks, otherwise we define them as long-term price reductions. We obtain our adjusted price series by replacing promotional prices by the regular prices that were valid the week before the item was on sale. Figure 2 provides an example for the product “Onko Naturmild, 500gr” across retailers and formats. Each of the nine graphs represents the price series at a specific store of a key account. For instance, “(1) Edeka DC” in the top left corner stands for one discount store belonging to the key account Edeka. The brighter dashed line shows the original price series including all discounts. The black solid line represents the adjusted “regular” price at a store. We see that promotional activities are seldom used in discount stores in contrast to supermarkets. Furthermore, the adjusted prices are relatively stable and do change less frequently. For instance, as we see in the bottom right corner of Figure 2, “(9) Markant SM” a supermarket store of the key account “Markant” changes prices twelve times in the original price series.<sup>15</sup> If we calculate the regular price this reduces to two adjustments of the regular price. In addition, we observe that promotional price reductions do not need to be uniform across stores of the same retail format of one key account. For instance, “(4) Edeka SM” and “(5) Edeka SM” are both supermarket stores of the key account Edeka. The original price moves almost one to one with the adjusted price in the store represented by “(4) Edeka SM”. By contrast, the original price series shown in the store “(5) Edeka SM” exhibits several price promotions that are filtered out for the adjusted price series. One possible explanation for differences in promotional price reductions and price levels for retail stores of the same format within the same key account might be the geographical region of a retailer. Our data set includes a variable that defines a relatively heterogeneous geographical region.<sup>16</sup> However, it covers only a small number of retailers within the same region. For instance, about 63% of all observations belong to stores that share a region with two or less other retail stores. Therefore, we do not fo-

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retailers these efficiency gains are more pronounced for larger retail chains as they invest more in technology (Basker, 2007, Foster et al., 2006, or Doms et al., 2004). However, in this study we only consider supermarkets and discounters which are actually part of a larger key accounts such as Rewe or Tengelmann and do not include single shop retailers. Thus, the effect of single store retailers does not influence our results.

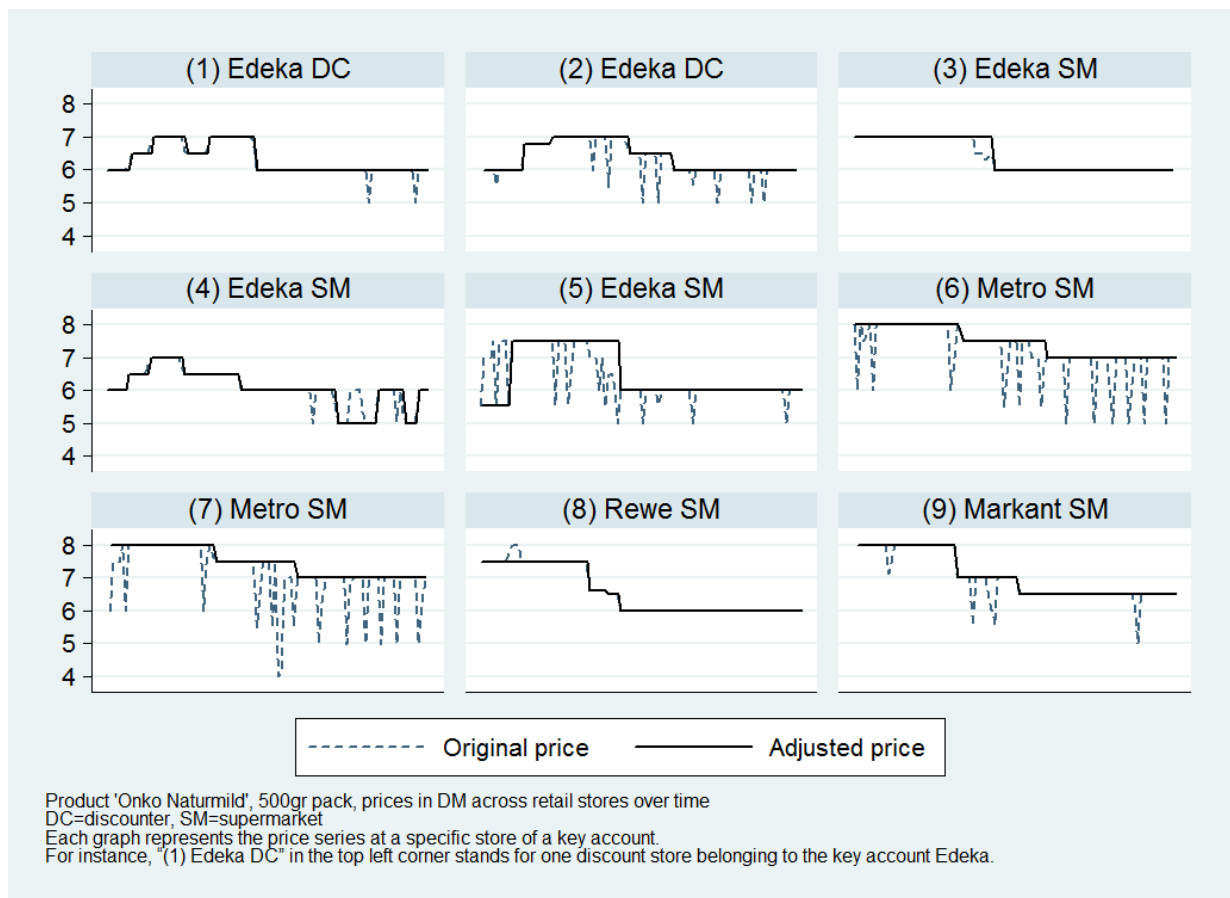
<sup>14</sup> Retailers might use price discounts strategically in response to a producer price change. We further discuss this aspect in section 4.

<sup>15</sup> Note, that a promotional price reduction is counted twice as a price change. First, when the price is reduced to its promotional level, and second, when the price switches back to its old price level. Counting promotional price reductions as one price change still results in six price changes in this example.

<sup>16</sup> That is cities (e.g. Freiburg) as well as districts (e.g. Unterfranken) and federal states (e.g. Thüringen) are included in one variable.

cus on price differences within one region. In the empirical analysis, however, we account for this and include regional dummies.

Figure 2. Original and adjusted retail prices for a selection of stores



### 2.3 Stylized facts of price formation across retail formats

First, we turn to the description of prices observed in the dataset. In order to describe retail prices over time, we distinguish between two major characteristics: current price levels and price movements. Table 1 shows that the average price, the sales area and the number of products sold by discounters are smaller compared to supermarkets. For instance, the discounters operated by Edeka have an average price of DM 7.15 per 500gr package of coffee, sell 25 different UPCs, the average store is equipped with two cash points, and its sales area is 437 m<sup>2</sup> large. Edeka's supermarkets, on the other hand, charge higher prices, DM 7.80 on average, and with 56 UPCs they offer a broader set of products. In addition, if we calculate the average price for goods excluding sales with promotional prices the gap between prices across retail formats increases. Comparing the average prices with and without promotional prices (columns 3 and 4), we see that discounter prices only slightly increase by DM 0.05 in the case of Edeka in contrast to its supermarkets' prices that are raised by DM 0.21. Overall, supermarkets price their coffee products DM 1.08 higher than discounters and the price gap increases if the promotional prices are excluded.

**Table 1. Average prices, sales area, number of cash points, UPCs, stores and observations**

chain	format	all prices	Average of				Number of	
			prices no PA*	sales area	cash points	UPCs	stores	obs.
Edeka	Discounter	7.15	7.20	437	2.0	25	5	8,851
	Supermarket	7.80	8.01	793	2.8	56	24	73,112
Markant	Discounter	6.15	6.18	250	4.0	9	1	581
	Supermarket	8.09	8.31	807	3.4	51	8	21,967
Metro	Discounter	6.94	7.05	500	2.0	15	1	1,117
	Supermarket	7.76	7.96	1,092	4.2	50	9	28,662
Rewe	Supermarket	7.77	7.83	863	3.3	43	12	30,368
Tengelmann	Discounter	6.59	6.67	587	2.9	21	16	20,403
	Supermarket	8.01	8.20	831	3.3	52	24	58,370
Others	Discounter	7.08	7.10	583	3.0	31	5	7,491
	Supermarket	7.98	8.11	947	3.6	55	14	37,779
All	Discounter	6.82	6.89	544	2.8	23	28	38,443
	Supermarket	7.90	8.07	867	3.3	52	91	250,258
Average	All retailers	7.75	7.91	791	3.2	45		

\*PA = promotional activity

Table 2 shows the evolution of the average prices and their differences. The producer price of coffee dropped by 17.6%, from DM 3.97 in the first quarter of 2000 to DM 3.27 in the last quarter of 2001. In the same period, final consumer prices were reduced by less - on average by 3.8 %. The reduction differs substantially across retailers. Discounters generally lowered prices by more. For Tengelmann, for instance, prices in the discounter section dropped on average from DM 6.85 to DM 6.50, implying a decrease by 5.1% relative to 0.7% in its supermarket section, and for Edeka it is 4.7% relative to 3.8%. The last two columns of Table 2 indicate that in all key accounts the relative difference between prices paid at supermarkets compared to discounters increased. In the first quarter in 2000 prices at discounters were on average 13.7% lower. In the last quarter of 2001 this gap increased to 15.3%. Besides the producer price, final consumer prices include markups, transportation costs, and additional local cost components such as services. Given a price decrease of the producer price, the share of other components in the consumer price rises, pronouncing existing price differences. The observed increasing gap between prices paid at discounters relative to supermarkets thus supports the argument that consumer prices at supermarkets include other cost components to a higher degree compared to discounters.

**Table 2. Average prices and relative price differences over time**

Consumer Prices						
chain	format	Average price			Relative price difference discounters vs. supermarkets	
		1. quarter 2000	4. quarter 2001	$\Delta$	1. quarter 2000	4. quarter 2001
Edeka	Discounter	7.42	7.07	-4.7%	-9.1%	-9.9%
	Supermarket	8.15	7.85	-3.8%		
Markant	Discounter	6.22	5.98	-3.9%	-25.4%	-26.9%
	Supermarket	8.33	8.17	-1.9%		
Metro	Discounter	7.71	6.66	-13.7%	-4.2%	-15.4%
	Supermarket	8.04	7.86	-2.2%		
Rewe	Supermarket	7.95	7.60	-4.4%		
Tengelmann	Discounter	6.85	6.50	-5.1%	-17.0%	-20.7%
	Supermarket	8.26	8.20	-0.7%		
Others	Discounter	7.16	6.95	-3.0%	-12.2%	-11.0%
	Supermarket	8.16	7.81	-4.4%		
All	Discounter	7.04	6.72	-4.5%	-13.7%	-15.3%
	Supermarkets	8.16	7.93	-2.8%		
Average	All retailers	7.87	7.58	-3.8%		
Producer Price						
Adj. price of coffee beans <sup>†</sup>		3.97	3.27	-17.6%		

<sup>†</sup> including tax and adjusted for exchange rates and losses due to roasting

Besides the actual price level, the frequency of price adjustments is another important channel for price transmissions (Gopinath and Itskhoki, 2010). Table 3 shows that discounters change prices less often than supermarkets. Here, we calculated the average number of price changes and the duration of a price spell in each store with and without promotional activities. On average Edeka's discounter section has 8.2 price changes per product within the time period of our sample. Its supermarkets exhibit 12.4 price changes. Not surprisingly, if we exclude changes due to promotional activities, the numbers decrease substantially to 2.1 and 2.4, respectively, for Edeka. In other words, if a product was sold in a store in each week within the two years covered by our data, its price has been changed only 2.1 times, slightly more than once a year.<sup>17</sup> Stores belonging to the discounter section of the key

<sup>17</sup> These values generally fit into other studies' findings. Nakamura and Steinsson (2008) report that excluding promotional activities the duration of consumer prices in the US is in between 8 to 11 months. For France, Baudrey et al. (2004) find average price durations for food of 5 months and prices being less often changed in discounters. The same pattern holds for Italy, with an average price duration of 5 month for unprocessed food goods and larger retailers changing prices more often (Veronese et al., 2005). For Germany, Hoffmann and Kurz-Kim (2006) find a much longer duration and large heterogeneity for processed food ranging from 6 to up to 48 months. The discrepancy to our results might be explained in that we focus on one product group only, cof-

account Tengelmann change prices 2.7 times and thus more often than supermarket stores of the same key account that have a frequency of 1.4. This also holds for Markant but the pattern is reversed for Edeka and Metro. On average across retail formats, discounters change prices less often than supermarkets if we include promotional price changes. Given that supermarkets generally pursue a more distinct HILO strategy, excluding promotional prices results in an almost equal number of price changes across the two retail formats.

**Table 3. Average number of price changes and duration of price spells per store**

		Average number of price changes		Average duration of a price spell		Obs. indicating PA*	
		including PA*	excluding PA*	including PA*	excluding PA*	total	ratio
Edeka	Discounter	8.2	2.1	7.7	18.9	300	0.16
	Supermarket	12.4	2.4	4.0	11.5	874	0.29
Markant	Discounter	6.1	2.2	9.1	18.3	49	0.08
	Supermarket	12.0	2.1	4.2	12.9	714	0.25
Metro	Discounter	1.2	0.9	33.8	26.8	340	0.30
	Supermarket	16.3	2.8	3.7	12.5	789	0.24
Rewe	Supermarket	10.0	2.9	5.4	11.9	537	0.20
Tengelmann	Discounter	9.3	2.7	6.0	12.8	313	0.25
	Supermarket	6.9	1.4	5.9	15.6	537	0.22
Others	Discounter	4.5	1.8	9.0	15.8	191	0.13
	Supermarket	10.6	2.2	4.2	11.6	666	0.25
All	Discounter	7.7	2.3	7.0	14.8	280	0.21
	Supermarket	10.7	2.2	4.5	12.6	686	0.25
Average	All retailers	10.4	2.2	4.7	12.9	591	0.24

\*PA = promotional activity

However, the duration of unchanged prices is generally larger for discounter stores, even if price promotions are accounted for. In the case of Edeka it is 18.9 consecutive observations for discounters compared to 11.5 for supermarkets if we exclude price changes due to promotional activities. The last column of Table 3 shows the ratio of all observations indicating any promotional activity per store. We see that promotional activities are intensively used by supermarkets but rather seldom occur for discounters in the key accounts Edeka and Markant. An average store of Edeka's discounter format has 16% of its observations indicating some promotional activity in contrast to 29% for the average supermarket.<sup>18</sup>

fee, while the other studies consider a wider range of goods. The large heterogeneity across goods found by Hoffmann and Kurz-Kim (2006) supports this view.

<sup>18</sup> One outlier in Table 3 is Metro's discounter section. Not only is the duration of prices higher than in any other format, it also decreases when we exclude promotional activities. In the data several of its prices are indicated as

Based on the stylized facts presented above, there are two competing hypotheses as to why pass-through rates of producer price changes might be higher or lower in discounters and supermarkets. Table 1 shows that discounters carry fewer products, have smaller sales areas, and fewer cash points. Table 2 and Table 3 indicate that discounters offer lower prices and prices hold for a longer time period. Given a producer price change, two effects emerge. First, supermarket's higher final consumer prices contain a local cost component such as costs for a larger product assortment range that should reduce the pass-through rate. On the other hand, supermarkets seem to change prices more often, even though we adjusted for promotional price changes, compared to discounters, which try to maintain the same price for a longer time. For the US, Gopinath and Itskhoki (2010) report that the frequency of price adjustment is positively correlated to the pass-through rate. So, this second effect should increase the pass-through rate for supermarkets. Depending on which effect dominates, pass-through rates of producer price changes can be larger or smaller for discounters which we will analyze empirically in the next section.

### 3. Empirical analysis

Retail pass-through can be characterized with respect to two dimensions: the size of the pass-through rate and the speed of the price adjustment following a producer price change. In a first step, we estimate pass-through rates with a reduced form approach. Then, we analyze the speed of price adjustments with an error correction model (ECM). Both dimensions of pass-through will be evaluated with regard to the effects of retail format. While other studies on pass-through generally apply either the reduced form approach or an ECM, we think that performing both approaches is valuable. A reduced form approach estimates how much the consumer price changes given a decrease in the producer price. The ECM, by contrast, determines empirically how fast the producer price change is passed-through to the consumer price. Furthermore, in the ECM a long-term adjustment rate can only be assessed if a cointegration relationship exists. Whether or not two variables are cointegrated also depends on the time horizon. So one possible reason as to why some retail price series do not show a cointegrated relationship with the producer price can be attributed to the restricted time period of two years in our data set. Therefore, we adopt both approaches in our analysis.

#### 3.1. Pass-through estimation

As described in the previous section, we use consumer price data for the German ground coffee sector and approximate producer prices using the adjusted price of raw green beans. We use an estimation equation motivated by several other pass-through studies (e.g. Campa and Goldberg, 2005, or Gopinath and Itskhoki, 2010). More precisely, we estimate

$$(1) \quad \Delta p_{jt}^r = \sum_{i=0}^5 \alpha_i \Delta p_{t-i}^w + \sum_{i=0}^5 \beta_i (\Delta p_{t-i}^w * \text{discounter}) + \gamma_{\text{discounter}} \text{discounter} + \boldsymbol{\gamma}' \mathbf{D} + \varepsilon_{jt}^r.$$

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being sold in combination with a promotional activity although the price remains unchanged. Of these promotional activities, a high percentage is “display” and not price reductions. “Display” is unrelated to price reductions. So this marketing instrument simply shows products at an exposed place to increase sales. Furthermore, although the observations are marked as belonging to the discounter format we are not aware of any discounter in the Metro network. Therefore, we exclude these observations from our empirical analysis.

Here,  $\Delta p_{jt}^r$  is the first difference of the logarithm of the price of product  $j$  at retailer  $r$  at time  $t$ ,  $\Delta p_t^w$  denotes the first difference of the logarithm of the producer price, which is identical across retailers. The dummy variable *discounter* equals 1 if retailer  $r$  is classified as a discounter. We add five lags in order to account for a possibly slow adjustment of final consumer prices.<sup>19</sup> We performed unit root tests for all variables.<sup>20</sup> The producer price is a non-stationary time series. We therefore write our estimation equation in first differences. The total pass-through of producer price changes for a supermarket is, thus, given by  $\sum_{i=0}^5 \alpha_i$  and for a discounter it amounts to  $\sum_{i=0}^5 (\alpha_i + \beta_i)$ . If  $\sum \beta_i > 0$ , then the pass-through rate is larger for discounters. Additional control variables are, for instance, regional dummies, retailer and brand fixed effects and a dummy variable for the location of a store in cities exceeding 100,000 inhabitants. These variables are included in the vector  $\mathbf{D}$ , and  $\varepsilon_{jt}^r$  represents the error term. Store, key account and brand fixed effects control for time invariant characteristics such as the location of a store or different pricing strategies for a key account or brand. Brand-key account fixed effects take into account specific arrangements or differences in market power in price negotiations between a brand producer and a specific key account. As illustrated in the example in Figure 2 above, the weekly scanner data for the time period under observation does not show any obvious sign of a seasonal pattern. However, there might be an impact of some weeks due to holidays or other time specific influences, but these should most reasonably be considered as uniform across products. So we decided to include weekly dummies in our regression and do not seasonally adjust each price series

Table 4 summarizes our results. In the first two columns we exclude the interaction term in order to calculate an average pass-through rate across all retailers. The remaining specifications differ with respect to whether we include additional fixed effects (3 and 4), cluster the error terms by key account (5) or by key account and its specific format (6) or if we use different estimators (7 and 8). The rows “All” and “Supermarket” then show the cumulative effect of the  $\alpha_i$ ’s, the row “Discounter” gives the cumulative effect of the  $\alpha_i$ ’s and  $\beta_i$ ’s. The respective columns below provide the result of an F-test of the joint significance of the coefficients.<sup>21</sup>

Column 2 shows, that for all retailers together the pass-through of producer price changes to final consumer prices is incomplete and the sum of the  $\alpha_i$ ’s amounts to 0.25. In other words, a 10% decrease of the producer price leads to a corresponding decrease of the consumer price of 2.5%, implying a pass-through rate of 25%. The F-test shows that these coefficients are jointly significantly different from zero. If we distinguish retail formats, we see in column 3 that supermarkets pass-through 23% compared to 37% for discounters. The sum of the  $\beta_i$ ’s amounts to about 0.14 and captures the influence from the interaction of the producer price and the retailer being a discounter. Thus, discount retailers pass-through a significantly larger amount of producer price changes to their final consumer prices. Changing the estimator, clustering the error term, adding more fixed effects to capture brand or store specific effects does not alter the coefficients. The fixed effects for the key accounts and brands do not show any consistent differences across key accounts or brands and neither does the dummy variable for cities exceeding 100,000 inhabitants.

<sup>19</sup>We estimated the pass-through rates for 1 up to 11 lags, respectively. As the main part of the adjustment occurred up to the fifth lag we included five lagged values in our regressions.

<sup>20</sup>Results are presented in the Appendix in Table A 1 and Table A 2.

<sup>21</sup>More detailed results on the respective coefficients are presented in the Appendix in Table A 3.

**Table 4. Pass-through estimation by retail format**

Dependent variable	1	2	3	4	5	6	7	8
	$\Delta p_i^r$							
Observations	55,437	55,437	55,437	55,437	55,437	55,437	55,437	55,437
Adj. R2	0.002	0.015	0.016	0.016	0.016	0.016	0.016	0.018
F-Statistic	3.42	7.23	7.49	6.55				
Root MSE	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024
All	0.125*	0.254*						
All: Prob > F	0.000	0.000						
Supermarket ( $\sum \alpha_i$ )			0.226*	0.227*	0.227	0.227	0.225	0.226*
SM: Prob > F			0.000	0.000	0.060	0.051	0.051	0.019
Discounter ( $\sum \alpha_i + \beta_i$ )			0.374*	0.374*	0.374*	0.374*	0.374*	0.374*
DC: Prob > F			0.000	0.000	0.009	0.002	0.002	0.000
F-Test interactions (joined)			13.1	13.1	13.2	173.2	169.0	1038.2
Prob > F			0.000	0.000	0.014	0.000	0.000	0.000
Number of groups							712	712
<b>Included:</b>								
regional dummies	yes	yes	yes	yes	yes	yes	yes	yes
weekly dummies		yes	yes	yes	yes	yes	yes	yes
key account FE		yes	yes	yes	yes	yes		yes
brand FE		yes	yes	yes	yes	yes		yes
store FE		yes	yes	yes	yes	yes		yes
key account-brand FE				yes	yes	yes		
clustered					yes <sup>#</sup>	yes'	yes'	yes'
Estimator	OLS	OLS	OLS	OLS	OLS	OLS	FE	RE
<sup>#</sup> clustered by key account								
'clustered by key account and its specific format (discounter and supermarket)								
* $p < 0.05$ , SM = Supermarket, DC = Discounter								

We also performed several other robustness checks.<sup>22</sup> In particular, the magnitude of our results seems to be sensitive to the seasonal adjustment method applied. If we seasonally adjust each price series separately with weekly time dummies (column 1), we do not measure a significant pass-through rate for discounters. Nevertheless, their point estimate is still larger compared with supermarkets. On the other hand, if we do not seasonally adjust at all (column 2), the pass-through rate of the discounters is significantly larger again and amounts to about 24%. As pointed out before, though, the individual price series do not show a seasonal pattern, so we decided to include weekly dummies to capture seasonal influences. Adding a full set of monthly time dummies (column 3) increases the magnitude of pass-through rates to 33% for supermarkets and 47% for discounters but does not affect the ranking. Incorporating a lagged value of the dependent variable (column 4) leaves our results unaltered. If we exclude all price series that do not have any price change within our time period (column 5 thus excludes 47 out of the total of 712 price series), the results again remain almost unchanged: dis-

<sup>22</sup> Results are presented in the Appendix in Table A 4.

counters still pass-through a higher percentage than supermarkets. We also checked whether our adjustment of the coffee price affects the results (column 6). While the magnitude of the pass-through rate seems to be sensitive to this adjustment, the ranking is not. In our final check, we perform the regression in levels and include a lagged value of the dependent variable to correct for autocorrelation in the error terms (column 7). We obtain the same picture: Supermarket prices react less to changes in the producer price compared to discounters.

### 3.2 Speed of retail price adjustments

We investigate the speed of price adjustments in two steps: First, we estimate an error correction model (ECM) to obtain the adjustment coefficients. How fast do retailers respond to producer price changes? Second, we carry out an auxiliary regression to determine which parameters influence the speed of the retail pass-through. Here, the effect of the specific retail format on the speed of price adjustments is of particular interest.

Fitting an error correction model, in turn, involves four steps. First, we evaluate the nonstationarity of the price. If the price series are integrated of order one (= I(1)), we can proceed to the second step, which is to estimate the long-run relationship to obtain the residuals. Third, we test whether the residuals are stationary, implying that a cointegration relationship exists (Engle and Granger, 1987). Finally, we estimate the ECM. The data set contains 712 different retail price series, thus, steps one through four have to be repeated 712 times. Out of all retail price series, 47 do not contain any price changes. Consequently, these price series are not I(1). All but four of the remaining retail price series, as well as the producer price are I(1). A cointegrated relationship exists in 50% of the price series. The non-cointegrated retail price series show only minor or no price changes. Thus, they do not share a cointegrated relationship with the producer price. Finally, the coefficients are estimated using equation (2).<sup>23</sup> As in the previous analysis,  $\Delta p_{jt}^r$  denotes the first difference of the logarithm of the retail price of retailer  $r$  for product  $j$  in period  $t$ ,  $\Delta p_t^w$  is the first difference of the logarithm of the producer price. If no cointegrated relationship exists, equation (2) is estimated without the long-term adjustment ( $\lambda_j^r ec m_{t-1}$ ) (Bahmani-Oskooee and Payesteh, 1993), in order to obtain the contemporaneous price adjustments.

$$(2) \quad \Delta p_{jt}^r = \delta + \lambda_j^r ec m_{j,t-1} + \sum_{i=0}^5 \alpha_{ij}^r \Delta p_{t-i}^w + \varepsilon_{jt}^r$$

Two coefficients are of particular interest, the long-term adaption to distortions of the equilibrium ( $\lambda_j^r$ ) and the short term or contemporaneous reactions ( $\alpha_{ij}^r$ ).<sup>24</sup> The short-term reactions  $\alpha_{ij}^r$  are predominantly insignificant (94%), indicating that there is almost no significant reaction of retail price changes to changes of the producer price within the same week and 4 weeks following the change of the producer price. The long-term reaction on the other hand is significant on a 5 % significance level in 86% of the cointegrated price series. On average, the estimated  $\lambda_j^r$  from the cointegrated price series equals -0.206. In other words, in all following weeks the distortions between the producer and the retail prices are reduced by 20.6 %.

<sup>23</sup> We tested for asymmetric price transmission. Those effects were statistically insignificant.

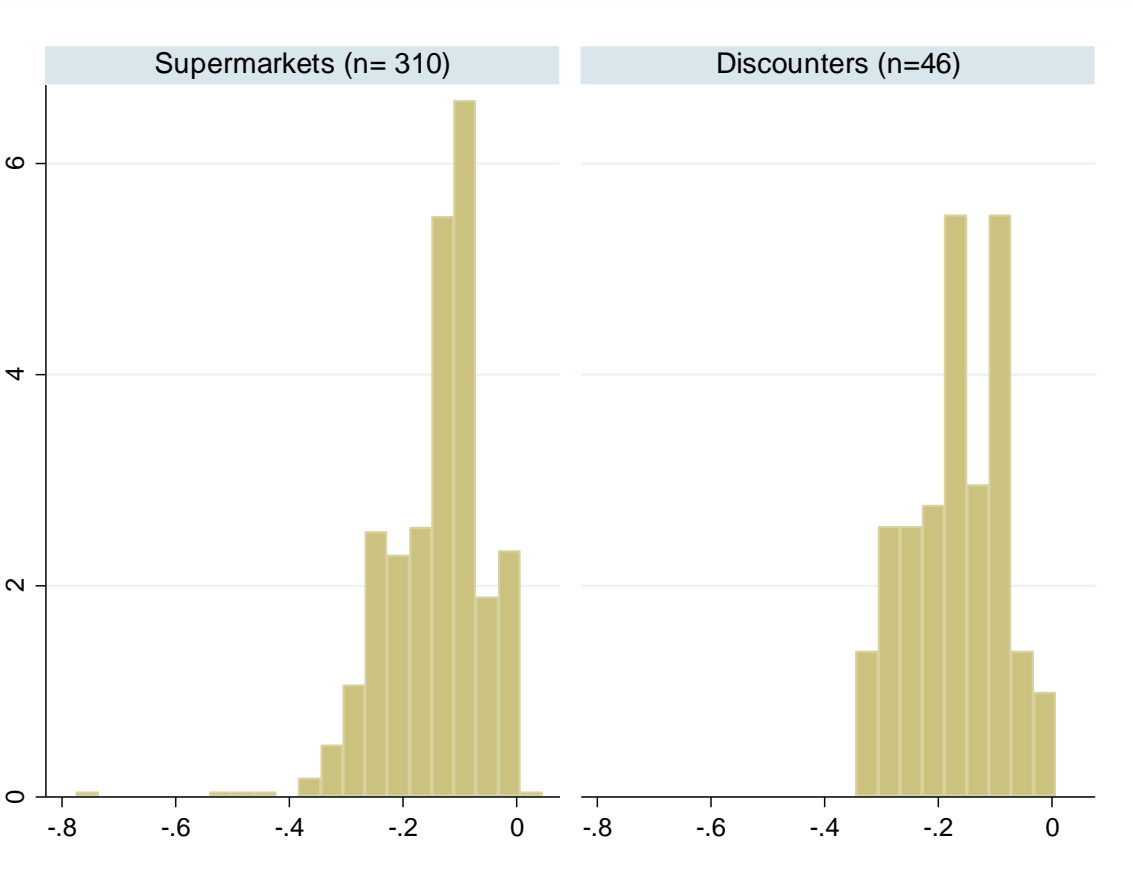
<sup>24</sup> In line with equation (1), five lags of the producer price are included in the model.

Next, we consider whether the speed of price adjustment differs with respect to retail formats. As a long term price adjustment process can only be assessed if a cointegrated relationship exists and equals zero if there is no such relationship, we first analyze whether the existence of a cointegration is influenced by the retail format. As shown in Table 5, out of 582 price series originating from a supermarket, 310 price series are cointegrated with the producer price series. The share of cointegrated price series is higher for the supermarkets than for the discounters.

**Table 5. Existence of cointegration by retail format**

	Supermarkets	Discounters	Total
Cointegration	310 (53 %)	46 (35 %)	356
No Cointegration	272 (47 %)	84 (65 %)	356
Total	582	130	712

**Figure 3. Histogram of the long-term adjustment parameters by retail format**



If a cointegrated relationship exists, we can evaluate the speed of adjustment. The lower are the estimated coefficients, the quicker is the adjustment process. Histograms of the estimated parameters by retail format are depicted in

Figure 3. The estimated coefficients are both skewed to the left and the parameters for the supermarkets are even more skewed. However, the average observed parameters are -0.21 for the discounters and -0.20 for the supermarkets, meaning that each week following a change in the producer price, retail prices are adjusted by 21% in discounters and by 20% in supermarkets. In order to determine whether the retail format significantly influences the speed of price adjustment, we carry out an

auxiliary regression given in equation (3). In only half of the price series, a cointegrated relationship can be determined; otherwise the long term adoption rate equals 0. Thus, we adopt a Tobit model with an upper bound at zero. The model can be expressed in terms of the latent, non-observable variable  $\lambda_j^*$  (see Baum 2006):

$$(3) \quad \lambda_j^* = \rho + \theta * \text{Discounter} + \sum_{c=2}^5 \delta_c * \text{key account}_i + \sum_{b=2}^7 \tau_b * \text{Brand}_i \\ + \sigma_1 * \text{big city} + \sigma_2 * \text{medium city}$$

$$\lambda_j^* = \begin{cases} 0 & \text{if } \lambda_j^* \geq 0 \\ \lambda_j^* & \text{if } \lambda_j^* < 0 \end{cases}$$

The parameter of interest is  $\theta$ , if it is statistically significant it can be concluded that the speed of price adjustments varies across retail formats. To single out this effect from other variables potentially influencing the speed of price adjustments, we include further variables. Levy et al. (1998) analyze the actual workflows of the price adjustment process in different retail chains. The authors find evidence for varying speed of price adjustments across retailers. Thus, we introduce key account dummies to the model. In addition, we add brand dummies as the different manufacturers might react with varying speeds. In our case with a predominantly decreasing producer price, for example, the retail prices of brand's produced by manufacturers holding large inventories might be adjusted slower. Furthermore, we also include dummies for retail stores located in cities exceeding 100,000 inhabitants ("big city") and in cities with at least 20,000 to 100,000 inhabitants ("medium cities"). Retailers located in areas with less than 20,000 inhabitants ("small cities") serve as reference category to avoid the dummy variable trap. Here the intuition is that the larger the city, the more retailers are located within a certain area. Thus, the pressure to adjust prices might be higher in these areas.

The results are presented in Table 6. The negative sign of the coefficient  $\theta$  suggests that discounters adjust prices faster than supermarkets. However, the effect is statistically insignificant. The speed of price adjustment is much more influenced by brands and retail chains. Although we approximate producer prices by the identical adjusted green beans prices, we observe differences across producers. For example, the positive coefficient of the variable for the brand Eduscho indicates that price series of Eduscho UPCs are generally adjusted more slowly than price series stemming from the brand Tchibo. Retail prices of coffee packages of the brand Melitta react the most rapidly to producer price changes: on average, price series observed from Melitta adjust 6.0 % quicker compared to the predicted price adjustment process of Tchibo's products. The effects of the affiliation to a key account are in general less pronounced compared to the brand effects, only the key account Tengelmann shows a significantly quicker reaction compared with Edeka. Retailers located in urban surroundings adjust their consumer prices significantly slower than other retailers.

**Table 6. Parameters influencing the speed of a price adjustment**

Tobit – Model	
Discounter	-0.016
Base: Tchibo	
Eduscho	0.003
Melitta	-0.060*
Jacobs	0.028*
Onko	0.012
Dallmyr	0.042*
Idee	-0.016
Base: Edeka	
Markant	-0.018
Metro	-0.002
Rewe	-0.013
Tengelmann	-0.030*
Base: Small city	
Big city	0.013*
Medium city	0.023*
Constant	-0.158*
Regional Dummies	Yes
N	712
* $p < 0.05$	

#### 4. Discussion

Our results are generally in line with previous studies on the pass-through of producer price changes but underline how important it is to account for retail formats. Bonnet et al. (2011) point out that the relationship between producers and retailers matters. Using the identical data set we show that a distinction between retail formats also affects the pass-through rates. Broda et al. (2009) demonstrate that about one third of the price differences between low- and high-income households are explained by the choice of the store. High-income households prefer stores with a nicer ambiance and better service that charge higher prices. In Germany, households with a relatively low income purchase relatively more at discount retailers (GfK, 2008). Our data covers a period of price decreases. Periods of increasing producer prices, however, would reduce the price differences between different income groups due to the higher pass-through rate for discounters.

In this paper, we analyze the effect of producer price changes for ground coffee. However, the implications of our study go beyond that and are important for measuring the magnitude of other imported goods' prices on domestic consumer prices, too. For instance, producer prices for coffee fell by about 32% from their peak in the second quarter in 2011 to their value of USD 1.65 per pound in the first quarter 2012. Likewise, the price of cocoa decreased in the same period by about 34%. Sugar prices, finally, first increased in the first quarter 2011 by 15% and then dropped by 23% in the first

quarter of 2012.<sup>25</sup> The retail format specific pass-through rates of these producer price changes can thus affect the price differences across income groups.

The concept of discount retailers originates from Germany, for that reason we chose this market for the empirical study. In many countries, however, discounters are only starting to expand their activities and the consequences of a larger discounter presence will become visible. For instance, in October 2005 ALDI opened its first affiliate in Switzerland. A recent study by the Swiss Institute for Retail Management (Weber and Rudolph, 2011) exhibits that within three years the percentage of managers expecting intensified price competition rose from 59% in 2008 to 89% in 2011. Based on our findings of increased price pass-through by discount stores, increased price competition can be expected if more discount stores enter the market. Furthermore, the distinction between retail formats in empirical analyses should be carefully considered in markets in which discounters intensify their activity.

The degree of competition among supermarkets and discounters is part of a lively debate among researches (Cleeren et al., 2010). While we do not directly consider competition among retailers, we do observe that the frequency of price adjustment as one implication of competition differs across retail formats. Discounters pursue a strategy of rarely using promotional activities such as price discounts compared to supermarkets. Instead, they try to maintain lower prices and hold prices constant for a longer time. Consequently, one potential limitation of our findings is that we excluded promotional prices because in the literature on price promotions, these are defined as being unrelated to cost changes (Hosken and Reiffen, 2004). However, it could be the case that supermarkets, which generally pursue a HILO pricing strategy in Germany, use price promotions strategically to react to producer price changes. Translated to our setting of falling producer prices that could imply that supermarkets might have reacted to the falling producer price by promoting ground coffee products more frequently or offering higher discounts and thus lowering their average price.

Figure 4 depicts the average number of promoted items per week and supermarket. On average, a supermarket in our sample carries 16 distinct ground coffee products and promotes averaged over both years each week 2.33 items. Figure 4 shows that the average number of items on sale varies over time. The promotional frequency increases slightly and comparing the two years shows that in 2001 on average 2.49 items were on sale and in 2000 only 2.16. Thus, the promotional frequency increased by 0.33 items per week. Or expressed differently, in 2001 each retailer offered an additional sale on one out of 16 items every three weeks compared to 2000. Figure 5 shows that also the average promotional discount increased over time and was particularly high in weeks 40 to 60, when producer prices decreased significantly. Overall, the average promotional discount in the supermarket equals 16.2%. In 2000 it is 15.2% comparing to 17.2% in 2001. It becomes evident that supermarkets also elevated the average discount by 2%. Carrying out a paired t-tests for the weekly average number of promotions and the respective average discounts shows that both are significantly higher in 2001 compared to 2000 ( $p$ -value <0.001). Taken both effects together, supermarkets decreased their overall average prices by intensified promotional activity. The question is whether the increased promotional activity can compensate for lower price adjustments of falling producer prices. Again comparing 2000 and 2001, a rough calculation shows that considering the increased promotional activity in 2001 leads to a pass-through rate of 32 % instead of 25%.<sup>26</sup> This is still considerably smaller compared to the

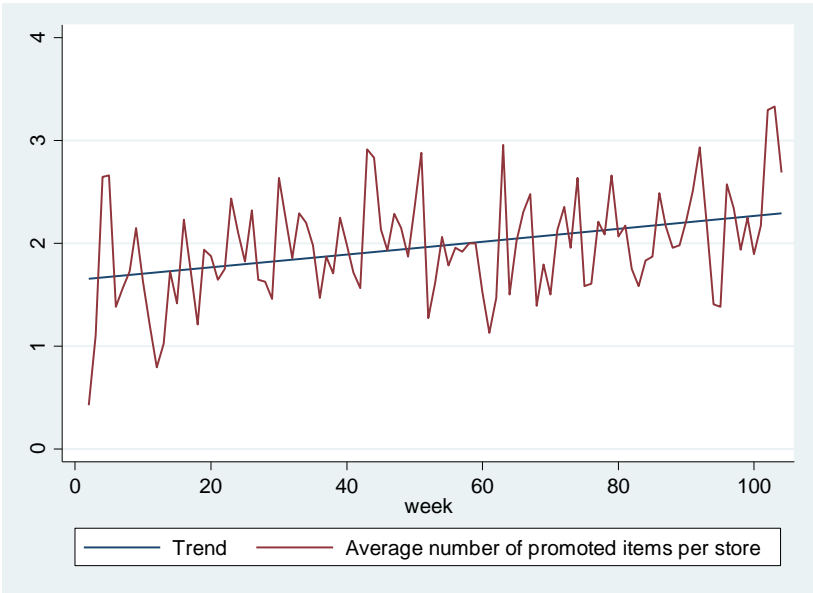
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<sup>25</sup> Sources: International Coffee Organization, International Cocoa Organization and Public Ledger via Datastream.

<sup>26</sup> The average regular price for 500gr coffee is DM 7.93 in 2000 and DM 7.67 in 2001, and thus falls by 3%. The producer price for coffee decreased by 12%, which implies a pass through-rate of approximately 25%. An additional discount of 2% in 2001 relates to an additional nominal discount of DM 0.15. This discount is on

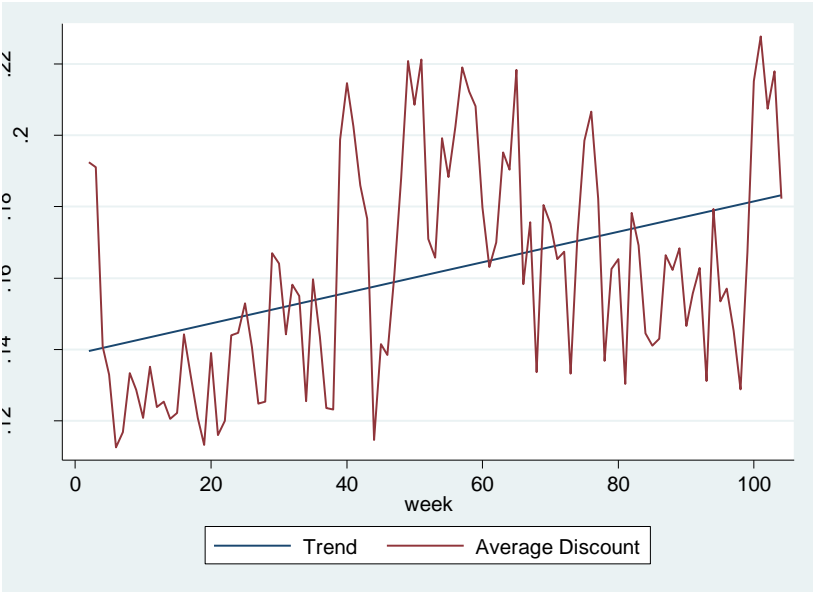
pass-through rate of the discount retailers (37%), but provides some evidence that retailers use price promotions strategically.

**Figure 4. Average number of price promotions per week and supermarket 2000-2001**



However, supermarkets and discounters offer a large variety of products and the promotional pricing strategy for one product is not independent of other products' prices. That is, price discounts on coffee products do not need to be correlated to producer price changes. Instead, they might be used as a loss leader to generally attract customers to a retail store (Hosken and Reiffen, 2004). Since our data set only covers coffee products, we are not able to observe the full promotional pricing strategy of a retailer. Therefore, we decided to follow the literature and considered the regular price of products in our main analysis.

**Figure 5. Average promotional discount per week and supermarket in 2000 and 2001**



average additionally applied to 2.49 out of 16 items, thus the average price decreased by DM 0.02. Thus, also considering the increased promotional activity, the average price was DM 7.65 in 2001. Calculating the percentage decrease from 2000 to 2001 leads to a pass-through rate of 32%.

## 5. Conclusion

The current paper studies the pass-through of producer price changes into consumer prices at the product-store level and explicitly distinguishes discount and supermarket retail formats. While the literature on retail competition starts to analyze the impact of these specific retail formats, pass-through studies generally have neglected this aspect. We demonstrate that the differences in the two retail strategies are reflected in lower average prices, a longer duration of price spells and less frequent price changes for discounters. Estimating a reduced-form pass-through model we find that discounters pass-through 37% of producer price changes, a rate significantly higher compared to supermarkets' 23%. We attribute the difference in pass-through rates to additional service costs. These are part of the final consumer prices and are much higher in the case of supermarkets. In addition, service costs provide one explanation as to why local costs components affect pass-through rates. We do not find evidence for differences in the speed of price adjustments across retail formats.

Our study provides further evidence that consumer price reactions to an identical producer price change differ across retailers. Pass-through studies using more aggregated data are not able to capture these differences across retail formats. Furthermore, as has been shown in other surveys, households differing in income do not purchase their goods with the same intensity across stores (GfK, 2008, or Broda et al., 2009). Retail discounters are much more frequently visited by lower income households. This, in turn, implies that pass-through rates are higher for households purchasing more intensively at discount retailers. That is, in times of producer price decreases they benefit relatively more but the contrary holds for periods of price increases. This intensifies existing price differences and needs to be taken into account when measuring price differences and inequality. Finally, we present evidence that the frequency of price adjustments differs across retail formats. In the food retail sector, price rigidities depend on the retail strategy. Prices at discount retailers are more rigid compared to prices at supermarket retailers.

We chose ground coffee to be able to directly compare our results to previous studies on pass-through using the same dataset that did not account for retail formats. However, Richards et al. (2010) argue that the level of pass-through of input cost changes depends upon the level of product differentiation. The higher the degree of differentiation is, the lower is the expected degree of pass-through. Thus, a natural step for future research would be to validate our results for additional product categories.

## References:

- [1] Bahmani-Oskooee, Mohsen and Sayeed Payesteh. **1993**. Budget deficits and the value of the dollar. An application of cointegration and error-correction modeling. *Journal of Macroeconomics*, 15, 661-677.
- [2] Basker, Emek. **2007**. The causes and consequences of Wal-Mart's growth. *Journal of Economic Perspectives*, 21(3), 177-198.
- [3] Baudry, Laurent, Hervé Le Bihan, Patrick Sevestre, and Sylvie Tarrieu. **2004**, Price rigidity. Evidence from the French CPI micro-data. European Central Bank, Working Paper No. 384.
- [4] Baum, Christoph. **2006**. An introduction to modern econometrics using Stata. Stata Press, Texas.
- [5] Berck, Peter, Ephraim Leibtag, Alexis Solis, and Sofia Villas-Boas. **2009**. Patterns of pass-through of commodity price shocks to retail prices. *American Journal of Agricultural Economics*, 91(5), 1456-1461.
- [6] Bettendorf, Leon and Frank Verboven. **2000**. Incomplete transmission of coffee bean prices: Evidence from The Netherlands. *European Review of Agricultural Economics*, 27(1), 1-16.
- [7] Bonnet, Celine, Pierre Dubois, and Sofia Villas-Boas. **2011**. Empirical evidence on the role of non-linear wholesale pricing and vertical restraints on cost pass-through. Institut d'Économie Industrielle, Working Paper No. 565.
- [8] Broda, Christian, Ephraim Leibtag, and David Weinstein. **2009**. The role of prices in measuring the poor's living standards. *Journal of Economic Perspectives*, 23(2), 77-97.
- [9] Campa, José and Linda Goldberg. **2005**. Exchange rate pass-through into import prices. *The Review of Economics and Statistics*, 87(4), 679-690.
- [10] Campa, José and Linda Goldberg. **2010**. The sensitivity of the CPI to exchange rates: Distribution margins, imported inputs, and trade exposure. *The Review of Economics and Statistics*, 92(2), 392-407.
- [11] Cleeren, Kathleen, Frank Verboven, Marnik Dekimpe, and Katrijn Gielens. **2010**. Intra- and interformat competition among discounters and retailers. *Marketing Science*, 29(3), 456-473.
- [12] Doms, Mark, Ron Jarmin, and Shawn Klimek. **2004**. Information technology investment and firm performance in U.S. retail trade. *Economics of Innovation and New Technology*, 13(7), 595-613.
- [13] Draganska, Michaela, and Daniel Klapper. **2007**. Retail environment and manufacturer competitive industry. *Journal of Retailing*, 83(2), 183-198.
- [14] Draganska, Michaela, Daniel Klapper, and Sofia Villas-Boas. **2010**. A larger slice or a larger pie? An empirical investigation of bargaining power in the distribution channel. *Marketing Science*, 29(1), 57-74.
- [15] Engle, Robert and Clive Granger. **1987**. Cointegration and error-correction: representation, estimation, and testing, *Econometrica*, 55(2), 251-27.
- [16] Feuerstein, Switgard. **2002**. Do coffee roasters benefit from high prices of green coffee? *International Journal of Industrial Organization*, 20, 89-118.

- [17] Foster, Lucia, John Haltiwanger, and Cornell Krizan. **2006**. Market selection, Reallocation, and restructuring in the U.S. retail trade sector in the 1990s. *The Review of Economics and Statistics*, 88(4), 748-758.
- [18] Gesellschaft für Konsumforschung (GfK). **2008**. Discounter am Scheideweg. Wie kaufen Kunden künftig ein?, Report, 2008.
- [19] Gijbbrecht, Els, Katia Campo, and Patricia Nisol. **2008**. Beyond promotion-based store switching: Antecedents and patterns of systematic multiple-store shopping. *International Journal of Research in Marketing*, 25, 5-21.
- [20] González-Benito, Óscar, Pablo Muñoz-Gallego, and Praveen Kopalle. **2005**. Asymmetric competition in retail store formats: Evaluating inter- and intra-format spatial effects. *Journal of Retailing*, 81(1), 59-73.
- [21] Gopinath, Gita and Oleg Itskhoki. **2010**. Frequency of price adjustment and pass-through. *The Quarterly Journal of Economics*, 125(2), 675-727.
- [22] Hellerstein, Rebecca. **2008**. Who bears the cost of a change in the exchange rate? Pass-through accounting for the case of beer. *Journal of International Economics*, 76, 14-32.
- [23] Hoffmann, Johannes and Jeong-Ryeol Kurz-Kim. **2006**. Consumer prices under the microscope. Germany in a period of low inflation. European Central Bank, Working Paper No. 652.
- [24] Hosken, Daniel and David Reiffen. **2004**. How retailers determine which products should go on sale: Evidence from store-level data. *Journal of Consumer Policy*, 27(2), 141-177.
- [25] International Coffee Organization (a). Total production of exporting countries. <http://www.ico.org/historical/2000+/PDF/TOTPRODUCTION.pdf>. Accessed 2/15/2012.
- [26] International Coffee Organization (b). Trade statistics data – Imports. <http://www.ico.org/historical/2000+/PDF/IMPORTSIMCALYR.pdf>. Accessed 1/15/2012.
- [27] International Coffee Organization (c). Country datasheet Germany. <http://www.ico.org/countries/germany.pdf>. Accessed 2/15/2012.
- [28] Weber, Maximilian, and Thomas Rudolph. **2011**. IRM Discountstudie 2011. Die Discounter in der Schweiz aus Konsumenten- und Managementsicht. University of St. Gallen.
- [29] Koerner, Julia. **2002**. The dark side of coffee. Price war in the German market for roasted coffee. University of Kiel, Working Paper EWP 0204.
- [30] Leibtag, Ephraim and Phil Kaufman. **2003**. Exploring food purchase behavior of low-income households. How do they economize? United States Department of Agriculture, Agricultural Information Bulletin No. 747-07.
- [31] Leibtag, Ephraim, Alice Nakamura, Emi Nakamura, and Dawit Zerom. **2007**. Cost pass-through in the U.S. coffee industry. US Department of Agriculture, Economic Research Report No. 38.
- [32] Levy, Daniel, Shantanu Dutta, Mark Bergen, and Robert Venable. **1998**. *Price Adjustment at Multiproduct Retailers*. *Managerial and Decision Economics*, 19, 81-120.
- [33] Lienning, B. **2000**. Vom Klassiker zum Lifestyle-Produkt. *Lebensmittelpraxis*. 20, 46-48.

- [34] Nakamura, Emi. **2008**. Pass-through in retail and wholesale. *American Economic Review*, 98, 430-437.
- [35] Nakamura, Emi and Jón Steinsson. **2008**. Five facts about prices. *The Quarterly Journal of Economics*, 1415-1464.
- [36] Nakamura, Emi and Dawit Zerom. **2010**. Accounting for incomplete pass-through. *The Review of Economic Studies*, 77, 1192-1230.
- [37] PlanetRetail. **2006**. The future of discount retailing in Europe. Report, <http://www.planetretail.net>, 1.54.
- [38] Raff, Horst, and Nicolas Schmitt. **2011**. Imports and the structure of retail markets. University of Kiel, Economics Working Paper 2011/5.
- [39] Richards, Timothy, William Allender and Geoffry Pofahl. **2010**. Commodity Price Pass-Through in Differentiated Retail Food Markets. Selected Paper at the AAEA, WAEA and CAES Joint Annual Meeting, Denver,2010.
- [40] Richardson, Martin, and Frank Stähler. **2007**. Fair Trade. ANUCBE School of Economics, Working Paper No. 481.
- [41] Tang, Christopher, David Bell, and Teck-Hua Ho. **2001**. Store choice and shopping behavior: How price format works. *California Management Review*, 43(2), 56-74.
- [42] Veronese, Giovanni, Silvia Fabiani, Angela Gattulli, and Roberto Sabbatini. **2005**. Consumer price behavior in Italy. Evidence from micro CPI data. European Central Bank, Working Paper No. 449.
- [43] von Cramon-Taubadel, Stephan, Jens-Peter Loy, and Jochen Meyer. **2006**. The impact of cross-sectional data aggregation on the measurement of vertical price transmission: An experiment with German food prices. *Agribusiness*, 22(4), 505-522.

## Appendix

### A. 1 Unit root test

We tested the adjusted price series for coffee for the existence of a unit root using the Dickey-Fuller test. We included three lags and a trend and Table A 1 indicates that the null hypothesis of non-stationarity cannot be rejected. The retail price series were tested with Fisher's unit root test for unbalanced panels. In this case, the null-hypothesis is non-stationarity for all series which clearly is rejected as shown in Table A 2. Due to the non-stationarity of the coffee price series we generally apply first differences of the variables in our regressions.

**Table A 1. Unit root test**

Variable	no. of lags*	test statistic	cr. values			order of integration
			1%	5%	10%	
Adj. coffee price	3	-2.20	-4.04	-3.45	-3.15	I(1)

\*according to information criteria in Stata

**Table A 2. Panel unit root test**

Variable	ADF-Test		Phillips-Perron		order of integration
	p-value	Inv. Chi-squared	p-value	Inv. Chi-squared	
Retail price*	0.00	3332	0.00	3288	I(0)

\*Number of panels: 712

## A. 2 Additional regression results

Table A 3. Detailed regression results for Table 4

Dependent variable:	1	2	3	4	5	6	7	8
	$\Delta p_t^r$							
$\Delta p_t^w$	0.060*	0.02	0.026	0.026	0.026	0.026	0.027	0.026
	(0.009)	(0.013)	(0.014)	(0.014)	(0.026)	(0.026)	(0.026)	(0.026)
$\Delta p_{t-1}^w$	0.013	0.077*	0.092*	0.093*	0.093*	0.093*	0.092*	0.092*
	(0.009)	(0.014)	(0.015)	(0.015)	(0.016)	(0.014)	(0.014)	(0.014)
$\Delta p_{t-2}^w$	0.060*	0.066*	0.043*	0.043*	0.043	0.043*	0.043*	0.043*
	(0.009)	(0.015)	(0.015)	(0.015)	(0.016)	(0.014)	(0.014)	(0.014)
$\Delta p_{t-3}^w$	0.000	0.040*	0.048*	0.048*	0.048	0.048	0.048	0.048
	(0.009)	(0.014)	(0.015)	(0.015)	(0.035)	(0.037)	(0.037)	(0.037)
$\Delta p_{t-4}^w$	0.022*	0.061*	0.050*	0.050*	0.05	0.05	0.05	0.05
	(0.009)	(0.014)	(0.014)	(0.014)	(0.036)	(0.031)	(0.031)	(0.031)
$\Delta p_{t-5}^w$	-0.030*	-0.011	-0.034*	-0.034*	-0.034	-0.034	-0.035	-0.034
	(0.009)	(0.013)	(0.014)	(0.014)	(0.067)	(0.062)	(0.062)	(0.063)
$\Delta p_t^w * \text{discounter}$			-0.031	-0.031	-0.031	-0.031	-0.031	-0.031
			(0.023)	(0.023)	(0.046)	(0.040)	(0.040)	(0.040)
$\Delta p_{t-1}^w * \text{discounter}$			-0.075*	-0.075*	-0.075*	-0.075*	-0.075*	-0.075*
			(0.022)	(0.022)	(0.022)	(0.030)	(0.030)	(0.031)
$\Delta p_{t-2}^w * \text{discounter}$			0.112*	0.111*	0.111	0.111	0.112	0.112
			(0.023)	(0.023)	(0.070)	(0.064)	(0.064)	(0.064)
$\Delta p_{t-3}^w * \text{discounter}$			-0.041	-0.041	-0.041	-0.041	-0.041	-0.041
			(0.023)	(0.023)	(0.044)	(0.048)	(0.048)	(0.048)
$\Delta p_{t-4}^w * \text{discounter}$			0.061*	0.061*	0.061	0.061	0.062	0.061
			(0.022)	(0.022)	(0.068)	(0.075)	(0.075)	(0.075)
$\Delta p_{t-5}^w * \text{discounter}$			0.121*	0.121*	0.121*	0.121*	0.122*	0.121*
			(0.023)	(0.023)	(0.031)	(0.031)	(0.031)	(0.031)
Observations	55,437	55,437	55,437	55,437	55,437	55,437	55,437	55,437
Adj. R2	0.002	0.015	0.016	0.016	0.016	0.016	0.016	0.018
F-Statistic	3.42	7.23	7.49	6.55				
Root MSE	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024
All	0.125	0.254						
All: Prob > F	0.000	0.000						
Supermarket ( $\sum \alpha_i$ )			0.226	0.227	0.227	0.227	0.225	0.226
SM: Prob > F			0.000	0.000	0.060	0.051	0.051	0.019
Discounter ( $\sum \alpha_i + \beta_i$ )			0.374	0.374	0.374	0.374	0.374	0.374
DC: Prob > F			0.000	0.000	0.009	0.002	0.002	0.000
F-Test interactions (joined)			13.10	13.08	13.24	173.20	169.00	1038.22
Prob > F			0.000	0.000	0.014	0.000	0.000	0.000
Number of groups							712	712

**Included:**

regional dummies	yes	yes	yes	yes	yes	yes	yes	yes
weekly dummies		yes	yes	yes	yes	yes	yes	yes
key account FE		yes	yes	yes	yes	yes		yes
brand FE		yes	yes	yes	yes	yes		yes
store FE		yes	yes	yes	yes	yes		yes
key account-brand FE				yes	yes	yes		
clustered					yes#	yes'	yes'	yes'
Estimator	OLS	OLS	OLS	OLS	OLS	OLS	FE	RE

---

#clustered by key account

'clustered by key account and its specific format (discounter and supermarket)

\*  $p < 0.05$  , SM = Supermarket, DC = Discounter

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**Table A 4. Pass-through estimates: robustness checks**

	1	2	3	4	5	6	7	
Variation:	Each price series seas. adj.	No seas. adj.	Add monthly time dummies	Include $\Delta p_{t-1}^r$	Drop price series w/o changes	Unadj. Coffee price	Levels & $p_{t-1}^r$	
Dependent variabel							$\Delta p_t^r$	$p_t^r$
Observations	55,437	55,437	55,437	55,437	51,625	55,437	57,685	
Adj. R2	0.002	0.002	0.020	0.016	0.017	0.016	0.968	
Root MSE	0.021	0.024	0.024	0.024	0.025	0.024	0.025	
Supermarket	0.130*	0.096	0.326*	0.227	0.244*	0.093*	0.024*	
SM: Prob > F	0.002	0.174	0.018	0.051	0.046	0.047	0.001	
Discounter	0.158	0.226*	0.474*	0.374*	0.387*	0.137*	0.033*	
DC: Prob > F	0.130	0.000	0.014	0.002	0.002	0.001	0.000	
<b>Interactions</b>								
F-Test (joined)	125.0	57.7	74.9	172.5	201.9	247.5	1031	
Prob > F	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
<b>Included:</b>								
regional dummies	yes	yes	yes	yes	yes	yes	yes	
weekly dummies			yes	yes	yes	yes	yes	
key account FE	yes	yes	yes	yes	yes	yes	yes	
brand FE	yes	yes	yes	yes	yes	yes	yes	
store FE	yes	yes	yes	yes	yes	yes	yes	
key account-brand FE	yes	yes	yes	yes	yes	yes	yes	
clustered	yes'	yes'	yes'	yes'	yes'	yes'	yes'	
Estimator	OLS	OLS	OLS	OLS	OLS	OLS	OLS	
'clustered by key account and its specific format (discounter and supermarket)								
* $p < 0.05$ , SM = Supermarket, DC = Discounter								

# **Exploring the critical success factors of the click and drive model in French grocery retailing.**

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# Exploring the critical success factors of the click and drive model in French grocery retailing.

## Abstract

### Purpose

The objective of this piece of qualitative research is to identify the key success factors (KSFs) of the grocery “click and drive” (or drive – or drive-in) model developed by French grocery retail companies and to understand the basis of their competitive advantages.

### Methodology/approach

We compared the conclusions of a review of the literature with an analysis of the various grocery drive approaches developed in France. We studied those approaches by applying a multi-method qualitative perspective comprising semi-structured interviews with managers and e-consumer focus groups.

### Findings

Our research confirms, with the exception of the quality of customer reception, which is particularly valued by managers and consumers, the main key success factors identified by the literature and finds a real consensus among the main operators on those KSFs and on the nature of the kind of core competences required in order to obtain competitive advantages.

### Implications

Our research implies that French grocery retailers should develop, along with a more differentiated logistical system, an improved approach to customer relations marketing. Moreover, it implies that ‘click and drive’ outlets enable traditional grocery retailers to sharpen their competitive edge.

### Originality/value

This article provides an original analytical approach to the identification of the critical success factors of large grocery retailers developing drive-in services. Our study and recommendations should offer them some help in the task of achieving their development objectives and in countering the stagnation of traditional retail formats, especially the hypermarket.

### Limitations

The comparison of the real profitability of ‘drive-in’ sales outlets and a more precise evaluation of the advantages of an integrated multi-channel approach would provide us with more accurate results. Moreover, we have limited this study to an analysis of the French experience.

**Key words:** E-commerce, grocery retailers, drive-in, multichannel retailing, Internet shopping

**Paper type:** Research paper

## Introduction

Increasingly intense competition has encouraged large grocery retailers using traditional formats (supermarkets, hypermarkets and convenience stores) to introduce innovative e-commerce approaches in order to boost sales (Colla and Lapoule, 2009, Picot-Coupey *et alii* 2009). However, not all “brick and mortar” experiences in online grocery shopping have been financially successful. This is particularly true of French operators, who appear still to be struggling to implement online grocery shopping and develop multichannel strategies with potential synergies. These operators attempt to combine different models of stock keeping and picking and packing online orders (in warehouses or in-store) with different models of delivering goods: home delivery, click and collect at the store, and click and drive (drive or drive-in). With drive-in, consumers order online – most often from home – and collect their groceries at the pick-up point (the drive-in) (Durand and Senkel, 2007). Many large French grocery retailers are investing heavily in click and drive formats in order to avoid having to make home deliveries and bear the substantial costs associated with the “last mile”; but they still have to deal with a new and difficult format, which presents a number of challenges from the strategic, logistic and marketing points of view.

In this context, we have attempted to identify the key success factors of grocery retailer drive-ins. Our research should help companies review their options and potential results and more successfully pursue their growth and strategic positioning objectives.

With this aim in mind, we conducted a literature review and an empirical investigation. The aim of the literature review was to find out what, according to leading scholars in the field, are the drive-in’s KSFs in the field of e-grocery. The empirical analysis was intended to investigate the main KSFs of French operators who increasingly depend on the click and drive model to differentiate themselves from their competitors. Lastly, we compared the results of the second analysis to those of the first. This comparison enabled us to validate the key success factors identified in the literature and made it possible to identify a number of managerial implications and prospective factors. We conclude with some considerations on the limits of our research.

### 1. Key success factors in click and drive: a review of the literature

Key Success Factors (KSFs) are generally defined as strategic factors a management structure can influence and in which it must excel in order to improve its competitive position (Hofer and Shendel, 1978; Johnson & Scholes, 2002). Those key requirements for success generally emerge at the conclusion of an analysis of the business environment and of the competition in terms of the industry as a whole and of strategic business units in particular. KSFs are necessarily linked to value creation from the consumer point of view, and consumers’ perceptions of value vary according to the kind of business unit in question. Analyses of what motivates consumers to buy online initially enabled researchers to identify the main expectations of e-buyers.

### Identifying and understanding e-buyer motivations and the main KSFs

The main reasons why grocery consumers buy online are convenience and time-saving (Morganowki and Cude 2002, Picot-Coupey et al, 2009). Also, some consumers regard the in-store grocery buying experience as a negative one, and would much rather spend their time playing sport or watching entertainment products (Connan Ghesquière, 2011). E-commerce

enables customers to make their purchases whenever they want, with no physical effort, a distinct advantage particularly when purchasing large, heavy items. They consider online sales a rational buying activity, useful when it comes to limiting excessive purchasing and/or impulse buying. Online sales are thus particularly popular with people who are pressed for time, such as working couples with children and consumers with physical disabilities. Amongst the main obstacles to online sales are the perception that the internet is complicated to use, the difficulty of judging the quality of products – particularly fresh produce – (Rajish, 2004), delivery costs, and the absence of any social links (Roberts *et al*, 2003). Customer satisfaction surveys underline the importance of other factors, notably late or incomplete deliveries and deliveries containing unsatisfactory replacement items. Another oft-mentioned negative factor is the perception that the online buying experience is monotonous, boring and unpleasant (Robinson *et al*, 2007). A certain number of e-buyers continue to visit physical stores to buy fresh produce and items which they want to spend more time on selecting (Robinson *et al*, 2007).

While consumers like the idea of time saving and the reduction of physical effort associated with online sales of all kinds, click and drive has a number of advantages in comparisons to home delivery: “drive-ins offer their adepts a new way of rationalising purchases and freeing themselves from the constraints of delivery times which mean that they have to be at home at a certain time of the day. The approach also avoids delivery costs and frees up time that can be used for other activities” (Heitz, Douard and Cliquet, 2011). Furthermore, click and drive services offer consumers the chance to combine their shopping trips with other daily activities such as travel to the workplace (Shenk, Löffler and Rauh, 2007).

Identifying the various motivations for and obstacles to click and drive not only helps to define the kind of items likely to meet e-buyer demands, but also to isolate its key success factors (Table 1).

**Table 1: Motivations for and obstacles to click and drive, main components of the offer involved and requirements for success.**

<b>Motivations</b>	<b>Main components of the offer involved / requirements for success</b>
Time saving (Morganowki and Cude 2002, Heitz, Douard and Cliquet 2011, Shenk, Löffler and Rauh 2007)	On-site localisation in strategic areas on routes taken by consumers between their homes and places of work; the ease of use of the website; the quality of the ordering and traceability system; the ability to conduct searches based on key words; the interactivity of the website; efficient delivery and no waiting time. (Yen, Jen-Hwa Hu and Wang 2007, Lim, Widdows and Hooker 2009, Dholakia and Zhao 2009, Yoo and Donthu 2001)
Potential to shop at any time (Picot-Coupey et al, 2009)	The continuity of the online service
Reduction of physical effort, physical difficulty to shop in a store (pregnancy, disability) (Morganowki and Cude, 2002)	Goods delivered to the car boot, enabling consumers to take away their orders without getting out of their cars
Useful, rational purchasing (Lim, Widdows and Hooker, 2009)	Providing full information, records of the most frequently purchased productions
Price moderation (Tanskanen, Yrjola and Holmstrom, 2002)	Good price/quality ratio, and promotions

Obstacles to purchasing or repeat purchases	Main elements of the offer/requirements for success
The perception that the website is complicated to use	The simplicity of the interface and ease of navigation (Yen, Jen-Hwa Hu and Wang 2007; Lim, Widdows and Hooker 2009)
The difficulty of judging the quality of products, particularly of fresh products, and the perceived risk (Rajish, 2004)	The wealth of information about products, the visual quality of the interface and the effective presentation of sensory attribute (McKinney 2004).
A limited choice	The variety – width and depth – of the assortment, storage capacity (Kotzab and Madlberger, 2001; Dholakia and Zhao, 2009)
The absence of social links (Roberts <i>et al</i> , 2003)	A high level of interactivity at the interface.
Incomplete deliveries and deliveries with inadequate replacement products (Urban, Sultan and Qualls, 2000)	The reduction in the number of stock shortages, the quality of replacement products
The perception of a monotonous, boring, unpleasant buying experience	The quality of the visual interface and the level of interactivity (Yen, Jen-Hwa Hu and Wang 2007, Lim, Widdows and Hooker 2009)

Source: different authors

The research, which we will present later in the article, emphasises the major elements of the offer of services meeting click and drive customer expectations. These are, notably, a pronounced focus on the customer, the quality of direct marketing and the level of interactivity provided by e-merchant websites, the range of items available, price moderation, the power of the brand, and the cost and efficiency of the logistics system.

### Offering a Website with a high quality of design and ergonomics

According to many authors, an effective website design is critical to the success of electronic commerce and website's functionality, usability, ease-of-navigation and interface are critical building blocks for sustainable website success (Yen, Jen-Hwa Hu and Wang 2007, Lim, Widdows and Hooker 2009). According to Lee *et al.* (2002), approximately 35% of users are concerned by issues like website accessibility and ease-of-use. Website structure can greatly affect the accessibility and performance of a website and is fundamental to effective navigation support (Yen, Jen-Hwa Hu and Wang, 2007).

According to these authors, websites may differ considerably in processing capability, transaction support complexity, information flow, security requirements, and the range of applications supported. Many features characterise websites: they may be content-related (accuracy relevance and completeness of information, media format - scope -, and updating), or more design-oriented (size, page layout, structural navigation, response time and security). In another study that investigates the effects of atmospheric variables on consumer satisfaction and behaviour, McKinney (2004) finds that a set of those atmospheric variables contributed to satisfaction for all consumers. These variables were linked to special offers/coupons, product descriptions, graphics/photos/images, price(s) of merchandise, the total cost of merchandise, the option to delete a previously selected item, help service/toll-free number for customer service, and order confirmation via e-mail.

Given that the biggest motivation of consumer online grocery shopping is convenience and time saving, grocery retailers need to develop their web configuration in order to reduce time spent in navigation and increase customers' perception of the system's innate simplicity and ease-of-use (Yoo and Donthu, 2001). In addition, they need to deliver quality signals for their products to customers by providing full information, including information on nutritional content and provenance (Lim, Widdows and Hooker, 2009).

Dholakia and Zhao (2009) demonstrate that website interactivity helps to meet customer expectations by providing a number of fundamental elements, including useful feedback, an accurate order system which takes stock levels into account, a capacity to follow orders and search the website by means of key words, the level of personalisation of the website, the number and quality of images on the website, and ease and speed of navigation.

### **Developing a diversified , efficient and service-oriented logistic**

In order to gain a better understanding of the conditions of success of the large grocery retailers, a number of authors, including Esper, Jensen and Turnipseed (2003), have focused on logistical models. Urban, Sultan and Qualls (2000) maintain that the most important element in creating consumer trust is fulfillment, which includes getting the right product to the right consumer at the right time. Logistics in e-commerce consists of two issues: the storage and preparation of orders, and delivery to consumers. There are two operational models for each issue.

The first operational model for storage and order preparation, referred to as the "store picking" model consists of picking orders directly from the supermarket's aisles. In the second model, orders are prepared in a dedicated warehouse.

E-merchants may also deliver orders directly to customers' homes or deliver them to pick-up points (warehouses or stores) (Durand and Senkel, 2007, Marouseau, 2003 and 2005).

Consequently, four types of e-commerce are possible in online sales: home delivery from the warehouse, home delivery from the store, pick up by consumers at stores, and pick up by consumers at drive-ins.

The drive-in model provides e-merchants with two alternatives: either they can attach the outlets to their existing stores; or, even when they already have a network of stores, they can create new, independent pick-up points (Durand, 2010).

But if home delivery – by stores – fulfils the two most important customer expectations (convenience and time-saving), it is still very expensive both for suppliers and clients. Durand (2010) estimates that delivery costs can account for up to 15% of the value of an order. And 30% of home deliveries fail because there is no one in to accept the delivery. Getting food deliveries to customers takes between 24 and 48 hours and requires the customer to be at home for a specific two-hour period in order to receive the order. Failed deliveries imply, in grocery e-commerce, that the retailer has to arrange for the customer to be at home for an attempted redelivery, that the carrier will waste mileage (McLeod, Cherret and Song 2006) and that customer service will be poor.

Picking up the items oneself makes it easier to organise one's time, and drive-in outlets provide e-buyers who dislike the fact that Internet prices are higher with both flexibility and convenience. Consequently, encouraging e-buyers to collect their purchases from a nearby pick-up point has a number of advantages, not least financial. Non-home delivery reduces logistics costs by up to 70% (Yrjölä 2003). In drive-ins, as in the shared reception box concept, "the goods are delivered

only ‘half the way’ and the customer has to pick them up within the pick-up time window defined by the service provider” (Punakivi, M., and Tanskanen, 2002). At the same time the consumer saves part of the time needed to make the trip to the store – generally the drive-in outlet is nearer to the consumer – and all the time he would have had to spend picking up the groceries in the store. In the drive-in the time and effort spent by the consumer is even lower, as the goods are generally delivered at a car boot.

### **Offering a diversified assortment of products and services creating value for the clients and for the firm**

A number of studies on marketing and distribution (De Kervenoael *et al*, 2006; Hackney *et al*, 2006) have underlined the importance of a wide range of complementary goods and services in terms of increasing the value of the offer and differentiating it from that of the competition. In the context of online sales in general, the components of the offer considered to be the most important, other than logistics, are, notably, the range of available items, advice, payment, interactivity and advertising (Kotzab et Madlberger, 2001). Price and price/quality ratio are important elements of choice for grocery product and many firms discovered the difficulty to make profits in creating value for consumers combining home buying and home delivery. Unfortunately, frequently the number of consumers ready to accept the exchange was not enough to sustain a profitable business (Tanskanen, Yrjola and Holmstrom, 2002).

Price level of click and drive may now be lower than that of e-commerce with home delivery, as the cost of last mile (the most expensive one) is covered by the consumer that goes to the store. Drive being a new format, we didn’t find any research on the level of price that would be acceptable to the consumers.

All these approaches (Kotzab and Madlberger, 2001; Tanskanen *et al*, 2002; Dholakia and Zhao, 2009) confirm that e-merchants can improve their results by developing a global offer of goods and services, and ensuring that there are coherencies and synergies between those goods and services and the various functions of the firm (notably between marketing, IT systems and logistics).

To the key success factor of online sales *per se* should be added the question of the multichannel approach and its impact both on the overall package of e-merchant services and on logistics.

### **Exploiting the advantages of the multichannel approach**

A number of researchers have examined the advantages of the multichannel approach both from the perspective of retail companies and from that of consumers (Hackney *et al*, 2006; Tanskanen *et al*, 2002; Vanheems 2009; Wallace *et al*, 2004). In Table 2, we summarise the most important of those advantages.

**Table 2 Synergies between online and off-line channels.**

<b>Objectives and potential advantages</b>	<b>Main functions concerned</b>	<b>Actions to be undertaken</b>
<ul style="list-style-type: none"> <li>Exploiting the capital of the brand for online sales</li> </ul>	Strategy, Marketing	<ul style="list-style-type: none"> <li>The use of the same brand for stores and online sales</li> </ul>
<ul style="list-style-type: none"> <li>Recruiting new consumers</li> </ul>	Direct marketing and customer relations	<ul style="list-style-type: none"> <li>The implementation of an IT system covering all channels</li> </ul>

<ul style="list-style-type: none"> <li>• Developing the frequency of customer purchases, particularly “mixed” customers</li> <li>• Encouraging customer loyalty</li> </ul>		<ul style="list-style-type: none"> <li>• Prospecting and communicating online using information from loyalty cards</li> </ul>
<ul style="list-style-type: none"> <li>• Increasing purchasing power</li> </ul>	Purchasing and assortment policy	<ul style="list-style-type: none"> <li>• Coordinating buying with the stores’ purchasing centre</li> <li>• Exploiting customer databases and relationships with listed suppliers</li> </ul>
<ul style="list-style-type: none"> <li>• Optimizing costs and diversifying logistical models</li> </ul>	Logistics	<ul style="list-style-type: none"> <li>• Using stores for receiving orders, as pick up points for online orders, as a logistical platform for managing stock and home deliveries</li> <li>• Developing dedicated pick up infrastructure</li> </ul>

Source: authors

On the basis of this analysis, we are now ready to begin our field survey but, before moving on to an analysis of French grocery drive-in retailers, we will present the methodology underlying our study.

## 2) Research methodology: a multi-method qualitative study

The purpose of our research is to identify the key success factors in the French click and drive grocery retail sector. We studied the online grocery market because it is the sector in which the click and drive model is developing most rapidly, thereby substantially contributing to the development of the online market. With our research we intend to gain an understanding of why and how this rapid growth is taking place. With drive-ins in an initial phase of development, and being unable to access data on corporate performance, we could not compare the critical success factors identified in the literature with company results. Instead, we adopted a qualitative research methodology to tap directly into retailers’ and consumers’ interpretations. We started our project with a review of the literature about e-buyer motivations, obstacles to purchasing, the components of the offer capable of meeting consumer demand, and key success factors for major grocery “brick and mortar” retailers developing the click and drive approach. We used the results of the literature review to guide our approach to collecting data on critical success factors of the French click and drive model.

In order to make triangulation possible, we applied a qualitative research approach combining three data collection phases with associated analytical techniques. Triangulation is, “the use of multiple methods to examine the same aspect of a research programme”, in which weaknesses in individual methods are compensated for by the counter-balancing strengths of another. Notable attempts to apply the triangulation approach are to be found in studies integrating fieldwork and survey methods (Jick 1979). Our approach consisted of:

Semi-structured interviews of managers designed to encourage respondents to talk about their experience of e-grocery retailing. We interviewed managers who had opened a drive-in and managers who had refused to do so. The managers interviewed came from different organizational structures in the French retailing sector: four from large integrated chains

(Auchan, Carrefour, Casino and Cora) and three from two groups of cooperatives of associated independents (Leclerc and Intermarché).

Focus groups consisting of between twelve and fifteen e-consumers set up in order to investigate the purchasing motivations and various perceptions of drive-in shoppers, and to stimulate comments and ideas about improving such services. The e-consumer respondents were chosen with the specific intention of observing a variety of food shopping behaviors, based on differences in gender, age, socio-economic group, housing location and internet use.

The analysis of multiple secondary sources concerning critical success factors of drive-ins: surveys conducted by consultancy firms, data provided by market research firms, the professional press and published interviews with managers of drive-in companies and experts in the field.

Phase 1. We conducted interviews with seven retail managers before using our findings to build up a representative picture of the growth and diversity of this e-commerce model. At least one manager for each of the main retail operators was also interviewed. Conducted by one or two authors who recorded and transcribed them in their entirety before analysing their thematic content, the interviews lasted fifty minutes on average. The questionnaire included a number of questions focusing on the qualitative assessment of the main KSFs identified in the literature as well as a number of open questions designed to establish whether other KSFs were considered important and if so why.

We divided our results into four sections: motivations and obstacles to purchasing on the part of drive-in customers; factors determining the choice of opening a drive-in and choosing a precise location for “attached” and “solo” drive-ins; the economic model of the format; and its key success factors.

Phase 2. We conducted interviews with two focus groups including a total of 27 consumers with a view to comparing their click and drive experiences with the results of our “Phase 1” interviews. The interviews were chaired by a moderator chaired and an observer took notes. After discussing their perceptions and experiences of click and drive shopping, the respondents were asked to consider ways in which those experiences could be improved. The interviews were recorded and a summary was written up for each of the two focus groups.

### **Analysing the data**

In order to improve our understanding of the drive-in model and generate a consensus about managerial contributions and implications, we compared the ideas deriving from the literature review with the results generated by triangulating the data with secondary data, with the content of the interviews, and with consumer opinions. The process of data triangulation increased the validity of the information gathered and we were thus able to confirm and enrich our conclusions.

### **3). The key success factors of the main French click and drive actors:**

The click and drive model is gaining increasing support and making a particular contribution to the development of the Internet channel and online ordering. After an analysis of the economic model of the drive-in, we attempted to verify whether managers and users consider the KSFs

defined in the literature relevant, and if there are other KSFs not identified in the literature but taken into consideration by managers and/or consumers.

### **The click and drive economic model**

According to the managers we interviewed, all large retail companies entered the drive-in sector in order to adapt to the desires and behaviours of their clients, develop their turnover per customer, defend their trade area, and avoid having to deal with numerous regulations such as those required for opening new physical outlets or enlarging new ones. E-commerce with home delivery presents some of these advantages but, according to the managers, logistic complexities and the high cost of home delivery (last mile problems) makes home delivery suitable to only the three or four largest French cities.

Managers believe that they have two options in terms of developing drive-in operations: either to attach the outlets to their existing network of stores, or to create new, independent pick-up points. The two models, the first “attached” to an existing store, the second a “solo” outlet, correspond to different strategic objectives: the first is defensive, the second more aggressive in terms of the competition. This is confirmed by a recent study of the sector (Nielsen, 2011). While attaching a drive-in to a store may facilitate logistical organisation, it also has the effect of increasing cannibalisation to the detriment of the store by between 30 and 50% according to Nielsen or between 10 and 30% according to the managers interviewed. It also makes it possible to boost the trade area and increases the likelihood of customers living in the locality remaining loyal to the retailer. On the other hand, setting up a new “solo” drive-in reduces cannibalisation to the detriment of the competition and makes it possible to recruit new customers and gain market share.

According to many managers, drive-ins located far from any other of their company’s outlets attract new customers and provide additional market share.

But logistical costs are higher and competition more intense in areas in which the store’s brand is less well known.

In both formats, by paying for “the last mile”, consumers contribute to the profitability of the service. For example, with twenty-four employees and 1,300m<sup>2</sup> of storage area (including fresh and frozen items), one Leclerc Drive, which receives deliveries independently from the hypermarket and which accounts for 6% of the store’s turnover, broke even in the first year and made a 3% profit in the second. As a comparison, a profitability rate of 2% represents a good year for the hypermarket. But sometimes, even the managers are unaware of whether the drive is really making additional profits; as long as they have the impression that they are gaining new customers rather than losing existing one they are happy.

According to one manager: “The turnover of the attached drive-in is included in the store’s turnover, so we can’t say how profitable it really is; but the drive-in saves us from losing clients to another retailer”. Other managers told the same story.

### **Developing wide market coverage rapidly**

All the managers questioned agreed that those who arrive early on the market are at an advantage in that they are able to select the best locations, thereby acquiring a resource that cannot be imitated. They all admitted that they were trying to beat their rivals to the best locations by deploying a strategy based both on defence and on conquering market share.

“If I hadn’t opened the drive-in, a competitor would have done so sooner or later, and I would have lost customers”, a manager said, reflecting a widely held view.

According to the managers, the urgency of the situation implies defining “an agenda, a retro plan, and a series of standardised internal management rules.” Everything should be designed to respond to a norm so that the model can be easily replicated and adapted to the clientele, both in terms of marketing – for example, the quota of own brands – and logistics – i.e., the number of lanes for cars.

The retailers currently considered to be ahead of the curve in terms of the development of the “pure” drive-in model are the Leclerc Group, which has opened 169 drive-ins (most of them “solos”) and the Auchan Group, which has opened 44 Auchandrive and 41 Chronodrive (all of them “solos”). Casino (113), Intermarché (44), Cora (24) and Carrefour (49) come next. Total turnover is approximately 1 billion euros. The Leclerc Group, which deploys a domination-through-cost strategy, has opted for two drive-in models: one attached to the hypermarket and, where possible, another, on the other side of town, designed as a “combat drive-in” or “offensive drive-in”, implanted in a high flow area often close to rival retailers. The Auchan Group defends its market share by attaching drive-ins with dedicated warehouses to its hypermarkets and counts on its solo “Chronodrives” to conquer new market share. More prudently, Carrefour and Cora have opened attached drive-ins and are currently testing the potential of solo models.

### **Identifying and understanding e-buyer motivations**

Click and drive shoppers interviewed in the focus groups confirmed the main purchasing motivations identified in literature.

Time saving is frequently mentioned, sometimes combined to the potential to shop at any time: “It means that I don’t have to hand around at the check out in the store”; “I save a lot of time: it takes me only 10 minutes to order on the Internet, and 5 minutes to collect the goods”; “I save time ordering at 12 o’clock; I don’t have the kids to deal with”.

Reduction of physical effort, especially in-store shopping implies physical effort, was occasionally mentioned: “After work, I don’t want to spend my time rushing around a store”; “Thanks to the drive-in, I don’t have to push a trolley up and down the aisles anymore”; “I began to click and drive when I was pregnant and, after giving birth, I continued with it so I didn’t have to trudge around the store carrying the baby”.

Shoppers were also impressed by the fact that they did not have to park up, walk to the store, doing their shopping and walk back to the car, and had, instead, just wait for an employee to load up their purchases. Some of the retailers interviewed made the same point: “The fact that customers don’t need to get out of their cars is part of the drive-in concept”.

Useful, rational purchasing is often quoted as a positive aspect of the drive-in experience: “When you’re using a computer, you can change your mind; but that’s more difficult at the check out. You save more, you just buy what you need”; “[With the drive-in] you aren’t tempted to buy stuff you didn’t plan on buying”; “[“With the drive-in] I don’t do impulse buying”; “At home I make a dispassionate choice”; “Buying on the Internet, I’m less tempted to make impulse purchases than I am when I’m in a store, so I can control my spending more easily”.

The fact that the prices in the drive-in are identical to those in the store is also frequently considered a motivation to buy.

## Exploiting the attractiveness of a store or a geographical area

Knowing what consumers are looking for is a condition for the managers to choose the best locations for the drives. A large number of managers have carried out studies on customer flows in their drive-ins. According to these studies, 50% of customers visit the drive-in on their way to or from work. This is true of both kinds of drive-in and it is consumers living the furthest away who use the drive-ins most compared to their associated hypermarkets. According to these same studies, users of drive-ins are essentially economically active (most of them are women), aged under forty-two, and have a high level of academic qualifications. Couples with a child are a predominant part of the clientele of drive-ins. These results are confirmed by a sectorial survey undertaken by a market research firm, according to which the geographical area of attraction of a drive-in is closer to a supermarket than to a hypermarket: 80% of a drive-in's customers are no more than a fifteen minute drive away and the penetration rate is twice as much within a ten minute range (Hamelin, 2011).

In order to select appropriate sites, drive-in developers use geomarketing techniques and take into account road traffic, population typologies, the buying power of people living in the area, rates of computer access, the level of local economic development, and broadband Internet coverage in order to predict potential turnover. Managers prefer to set up outlets in urbanised areas with at least 15,000 inhabitants able, *a priori*, of guaranteeing a break-even point of approximately 250 orders a day. In terms of supermarkets, drive-ins are generally attached to stores located in dynamic shopping centres, which attract a large number of motorists.

## Websites with a good quality of design and ergonomics

Many consumers said they would like easier-to-use, more intuitive navigation features (the idea of a virtual shop was mooted), search engines enabling them to submit a list for which the search engine automatically seeks out the corresponding items, rapid access to information on out-of-stock products, assortments for specific events (Christmas, barbecues, parties), more organic products, lists of customer's preferred items, and recipes.

Managers are convinced that the simplicity of the website and its ease-of-use are factors of central importance in terms of customer satisfaction and the wealth and quality of available information. But they think that no website yet has either all the functionalities ideally required for e-market transactions or has succeeded in optimising the functionalities that it does have, and that the e-customers do not always have an easy time of things. For example, according to the managers interviewed, Intermarché.com is straightforward and easy to operate, but users can encounter navigation problems. Others sites are easier to navigate but have a number of weaknesses, notably the difficulty inherent in setting up accounts and ordering items, both of which are relatively complicated tasks. These assessments are confirmed by our focus group results: consumers emphasise the quality of the design of specific websites but do not (with one exception) judge the websites of the various companies mentioned in this study in a positive light. These unsatisfactory results are confirmed in a survey (*Observatoire e-performance des cybermarchands*) conducted in 2011 by an ergonomics agency (Yusoe in partnership with LSA). Only Leclerc's website seems to meet with the approval of customers, a majority of whom express a desire to return to the site after using it for the first time. The websites of other operators encountered less success, with only a third of customers expressing the intention of using them again to make their purchases.

## Choosing and managing an efficient logistic model

After defining their development strategy (“solo” or “attached”), operators test the most appropriate logistical model in order to reduce costs and minimise risks. While solo drive-ins need a dedicated warehouse, two different models can be applied to attached drive-ins: either a dedicated attached warehouse, or a pick-and-go store.

The strategy designed to defend market share associated with pick-and-go in a store attached to a drive-in is more popular because, according to managers, it involves less risk in terms of finance. According to a number of managers, setting up a solo drive-in with a dedicated warehouse requires a minimal investment of €4 million, while a standard attached pick-and-go drive-in requires an investment of between €130,000 and €300,000. Meanwhile, a group of independents suggested the possibility of an attached drive-in model with no order or payment stations for an initial investment of around €50,000.

The managers we interviewed were divided in terms of their views on the efficiency of in-store picking above a certain number of daily orders, estimated at around a hundred per day, and of a sales area threshold, with supermarkets better adapted to picking than hypermarkets. Additionally, the model requires geo-localisation software that makes it possible to reduce the time needed to prepare orders (from an hour-and-a-half in 2009 to thirty-five minutes in 2011 for an order of between fifty and sixty items).

A substantial number of managers expressed a preference for the dedicated warehouse model. IT systems associated with this model make it easier to deal with peaks in activity, and, likewise, to manage both stock issues and journeys made by pickers in real time. The automation of warehouses reduces staff outlay and cuts order preparation time to around twenty minutes. For attached drive-ins, some distributors develop two logistical models, while others opt for only one. Leclerc Group and Auchandrive have gone for the dedicated warehouse model. Carrefour, Casino and Intermarché have opened drive-ins attached to pick-and-go stores. Cora has developed attached pick-and-go drive-ins in “reserve” areas and a specific management system for in store grocery pick-ups.

Managers base their choice between the two models largely on the estimated volume of activity, which defines costs, feasibility and return-on-investment.

## Offer a variety of assortment, adapted to the consumers needs

Generally speaking, the storage capacity of dedicated warehouses and the potential for pick-and-go in hypermarkets and local supermarkets limit drive-ins to a number of items – between 6,000 and 13,000 (Nielsen, 2011) – 90% of them food items. These figures, which are inferior to those of hypermarkets but similar to those of large supermarkets, can have the effect of compromising the strategy designed to foster the loyalty of customers, who must return to the store to complete their purchases. But customers declare that, while they no longer have the advantage of saving time, they nevertheless believe that it is easier to make reasonable purchases and avoid impulse buying. In terms of the typology of products purchased, all operators verified that the needs of drive-in users differed substantially from those of customers using stores, with the first buying larger, more day-to-day products. By adapting their offer in consequences, operators generate a purchase basket, which is, on average, twice as valuable as that of a physical store. Furthermore,

customers declare that they would buy more fresh produce if they were convinced of its quality. Managers recognise that a deeper and wider product range would make it possible to generate larger purchase baskets and increase the frequency of purchases, but admit to still experiencing logistical difficulties with these categories of products.

### **Defining the same price as in stores**

All the consumers in the focus groups consider price as a factor of central importance in the choice of this format. Those who are willing to use drive-ins are only willing to do so on condition that prices are not higher than those in stores. Managers are convinced of the existence of this constraint and of the fact that not delivering products to customers' homes and not charging for preparation costs reduces costs and makes it possible to price items at the same level as in stores. According to the results of a study conducted by the Nielsen Company, price positioning is, in effect, substantially the same in drive-ins and stores. Thanks to this positioning, the drive-in is a response to the main obstacle to online purchasing: higher prices. This price positioning is particularly marked at Leclerc, a brand that, to this end, has chosen to over-represent, compared to its physical stores, its own brand items in its drive-ins.

Consumers want to find the same promotions online that they find in stores. Managers are aware of this, and most brands run promotions for drive-in customers. However, not all of them manage to unify their offers. For example, Leclercdrive.fr offers immediate discounts as well as Leclerc coupons, which can be added to the points total accumulated on the loyalty card. Auchandrive offers the same promotions in its stores and its drive-ins, while Intermarché is still attempting to resolve the technically complex problems with a view to achieving the same result.

### **Guaranteeing a high quality of service and reception**

For most of the consumers interviewed in our survey, the quality of the welcome accorded to customers by members of staff is extremely important in terms of overall satisfaction. This quality is closely linked to teamwork and the friendliness of deliverymen and can vary from one drive-in to another since staff can quickly tire of "doing the shopping" for their clients all day long. To compensate for the staff turnover generated by this repetitive aspect of the job and by the fact that such work is essentially uninteresting, and to maintain an acceptably high level of service and reception, drive-in managers try to diversify the tasks for which members of staff are responsible. As well as preparing orders, employees must take reception of products, clean the premises, negotiate with members of the public making various claims regarding purchases, deal with last minute stock shortages, and deliver items.

Insofar as other elements of service are concerned (waiting time, replacement products), in most cases, customers can come to the store two hours after having placed their order on the drive-in platform and wait approximately five minutes for their shopping to be delivered to the boot of their car. The "picker" who prepares the order is trained to offer two or three replacement products in the case that certain items are out of stock. At Auchan, these articles are products of an equal or higher quality to those ordered and any difference in price is borne by the retailer. The optimisation of upstream logistics also depends on an electronic reader used by the picker to check stock levels and enter out-of-stock information on the website.

## Exploiting the advantages of the multichannel approach

Consumers state that they would like to obtain the same advantages online as they do in the store (loyalty points providing gifts and reductions). In order to attain this result, managers attempt to implement IT systems covering all channels and online prospection and communication systems using information gleaned from loyalty cards. Managers are aware of the importance of this approach, but also know that it is difficult to implement rapidly. It seems that only Auchan has succeeded in merging loyalty card databases for the different formats and that other retailers are still struggling to exploit synergies between channels. For associated retailers, the road will be longer, since customers can only spend the credit on their cards in the store which issued those cards.

On the contrary, all groups coordinate e-commerce buying with the stores' purchasing centre. Since price is a key success factor in the click and drive model, what is important is not so much the degree of coordination with the purchasing centre but the centre's buying power.

Managers also explore a number of potential new synergies not considered in literature. One frequently tested measure includes a greater emphasis on drive-ins than stores for voluminous products (e.g., washing up liquids, washing up powders) and frequently purchased products (groceries, etc.). Consumers seem to like to have such items directly delivered to the boots of their cars, since they buy more of them in drive-ins than in stores. This process frees up more space for demonstrations and wine and food tasting in stores, thus improving merchandising and making it possible to present the offer in a more "theatrical" way. Thus, according to managers, drive-ins and stores complement one another.

## 4. Discussion and managerial implications

In light of our comparative analysis of the literature and the comments generated in our interviews of French groceries retailers and consumers' focus groups, we are able to propose (Table 8) a classification of key success factors in the click and drive sector. The results of our field research confirm the main key success factors identified in the literature. Furthermore, we encountered a genuine consensus among the main operators concerning the nature of the core competences required to obtain competitive advantages.

But we also found a number of differences and some new elements not previously identified in the literature. Insofar as consumers are concerned, price is a factor of central importance. According to our results, consumers consider that, in order for a drive-in to be attractive, the prices of comparable brands must be as low as possible, and certainly no higher than the price of the same brands in physical stores.

Insofar as managers are concerned, the ability to develop a wide market coverage rapidly and to exploit the attractiveness of a given store or geographical area is considered to be of vital importance in terms of gaining market share and increasing profits from this innovative format.

We also found that client reception is also particularly regarded by consumers as very important, and that a number of synergies in terms of assortment are particularly useful in view of attracting new customers and increasing turnover.

### Table 8: Click and drive key success factors.

Main functions/ Competences involved	Key success factors
Strategy, Marketing	<ul style="list-style-type: none"> <li>• A powerful brand shared between stores and online sales</li> <li>• A strong emphasis on customers</li> <li>• Reactivity: being amongst the first to set up in a particular geographical area</li> <li>• The capacity to exploit the attractiveness of a store and/or a geographical area</li> </ul>
Relationship Marketing	<ul style="list-style-type: none"> <li>• Guaranteeing high quality reception</li> <li>• A multichannel C.R.M. system (a transversal information and communication system, merging loyalty card databases)</li> </ul>
Purchasing	<ul style="list-style-type: none"> <li>• Sharing storage needs by means of a centralised distribution hub</li> </ul>
E-marketing (Ergonomics, assortment and price policy)	<ul style="list-style-type: none"> <li>• A functional website with a rapid, easy-to-use navigation system, which provides an automatic search facility based on a list of purchases, immediate information on out-of-stock items and promotions, themed baskets, recipes, a list of favourite purchases, etc.</li> <li>• Product ranges adapted to drive-ins, smaller than those of hypermarkets, but larger than those of supermarkets</li> <li>• Prices which are not higher than those to be found in stores</li> <li>• Promotional offers comparable to those to be found in stores</li> </ul>
Logistics strategy and services	<ul style="list-style-type: none"> <li>• The capacity to deploy solo and attached drive-ins with a high level of efficiency and efficacy by limiting out-of-stocks and waiting time</li> </ul>

Source: authors

Investing in selected drive-in locations is a cheaper way for retailers to expand their area of coverage than investing in new outlets. Moreover, in a given trading area, the first retailer to develop a drive-in service is able to generate a higher turnover and to obtain e-buyer loyalty more effectively than its followers. According to our results, in order to develop real synergies between physical outlets and Internet channels, grocery retailers should continue to improve the reputation of their brand, make their positioning more coherent and deploying an integrated strategy of marketing relationships. A customer relations policy based on the inter-channel integration of databases and loyalty cards linked to a real segmentation tool would provide more detailed information on customers and enable companies to adapt their assortment and communication approaches to each channel. Merging databases eventually requires management to persuade marketing and Internet teams to work together successfully.

In order to satisfy e-buyer demand and gain a competitive edge, drive-in operators should provide customers with an ergonomic website rich in visual and technical information. The website should feature numerous functions, including natural, intuitive navigation features (a virtual shop, for example), automatic search engines enabling customers pressed for time to submit a list for which the search engine automatically seeks out the corresponding items, immediate access to information on out-of-stock products, baskets for specific events (Christmas, barbecues, parties), organic products, lists of customer's preferred items, and recipes. These improvements should be concerted and gradual; customers very quickly become attached to the ergonomics and contents of a particular site. Finally, e-merchants should advertise the click and drive service and explain

how it provides customers – through all its associated services – with a number of advantages, while at the same time downplaying any factors which may inhibit its adoption.

With this study, which has confirmed and also enlarged the results of the literature review, and these recommendations, we hope to be able to offer some help to grocery retailers in order to achieve their click and drive development objectives and counter the stagnation of traditional retail formats, especially the hypermarket (Picot-Coupey et al, 2009).

Our research has a number of limits. The first is the small number of managers and of consumers interviewed, that makes our research not necessarily generalizable. In order to do that, we should use a quantitative method with a much larger number of respondents. Another limit is that demand for this new type of e-business, the click and drive, is uncertain at the moment and we were unable to find – and did not have the time to complete – a prospective analysis. Another limit is that we have been unable to find any accurate data on profitability or return on investment concerning this business model. The comparison of the real profitability (real data are difficult to come by) of the click and drive sales and a more precise evaluation of the advantages of an integrated multi-channel approach would enable us to present more accurate results. Lastly, we have limited ourselves to an analysis of the French click and drive model.

## Bibliography

Colla, E. and Lapoule, P. (2009), “Les facteurs clés du succès des supermarchés en ligne : analyse comparée des cas Intermarché.com et Tesco.com”, in *25<sup>ème</sup> Congrès de l'Association Française du Marketing. Proceedings*, London, May.

Colla, E. and Lapoule, P. (2011), “Les facteurs clés du succès des cybermarchés, les enseignements du cas Tesco”, *Décisions Marketing*, Vol 61, pp. 35-45.

Connan Ghesquière C. (2011), “Vers une nouvelle conception de l'assortiment dans la grande distribution”, *Gestion 2000*, January-February, pp. 31-44

De Kervenoael, R., Elms, J., Soopramanien, D. and Hallsworth, A. (2006), “Exploring value through integrated service solutions”, *Managing Service Quality*, Vol 16, No 2, pp. 185-202.

Durand, B. and Senkel, M.P. (2007), “La logistique de l'épicerie en ligne : vers une différenciation des solutions”, *Décisions Marketing*, Vol 45, pp. 75-89.

Dholakia, R.R. et Zhao M. (2009), “Retail web site interactivity”, *International Journal of Retail and Distribution Management*, Vol 37, No 10, pp. 821-838

Durand, B. (2010), “L'épicerie électronique française sous l'angle de la logistique”, paper presented at the Logistiqua Conference, 2010, 20-21 May, Agadir (Morocco).

Durand B. and Senkel M.P. (2007), La logistique de l'épicerie en ligne : vers une différenciation des solutions, *Décisions Marketing*, 45, 75-89.

Esper, T.L., Jensen T.D., Turnipseed, F.L., and Burton, S. (2003). “The last mile: An examination of effects of online retail delivery strategies on consumers”, *Journal of Business Logistics*, 24, 177-203.

Hackney, R., Grant, K. and Birtwistle, G. (2006), “The U.K. grocery business: toward a sustainable model for virtual markets”, *International Journal of Retail and Distribution Management*, Vol 34, No 4/5, pp. 354-368.

Hafsa, S., Hovelaque, V. and Soler, L.G. (2002), “Comparaison de différentes stratégies d’approvisionnement pour le e-commerce”, in *4<sup>èmes</sup> Rencontres Internationales de la Recherche en Logistique proceedings*, 2002, pp. 331-341.

Hamelin, D. (2011), *Le shopper drive au delà des évidence*, Parabellum.

Heitz M, Douard J.P. and Cliquet G. (2011), Grande distribution alimentaire et “drive”: une solution à la mobilité des consommateurs? in: *Proceedings of the International Etienne Thil Conference on Retailing*, Roubaix, September.

Hofer, C. & Shendel, D. (1978), *Strategy formulation: analytical concepts*, West Publishing company.

Jick, T. D. (1979), Mixing Qualitative and Quantitative Methods: Triangulation in Action, *Administrative Science Quarterly*, Vol. 24, No. 4, *Qualitative Methodology*, pp. 602-611.

Johnson J. Scholes, K. (2002), *Exploring Corporate Strategy*, Pearson.

Kotzab, H. and Madlberger, M. (2001), “European retailing in e-transition? An empirical examination of web-based retailing indications from Austria”, *International Journal of Physical Distribution & Logistic Management*, Vol 31, No 6, pp. 440-462.

Lim, H., Widdows, R., Hooker, N.H. (2009), “Web content analysis of e-grocery retailers : a longitudinal study”, *International Journal of Retail and Distribution Management*, Vol 37, No 10, pp. 839-851.

Marouseau, G. (2003), “A la recherche d’un modèle logistique pour les cybermarchés”, in *6<sup>ème</sup> Colloque Etienne Thil proceedings*, 2003.

Marouseau, G. (2005), “Le système logistique, facteur clé du succès des cybermarchés”, *Logistique et Management*, Vol 13, No 2, pp. 9-19.

McKinney L.N., (2004), “Creating a satisfying internet shopping experience via atmospheric variables”, *International Journal of Consumer Studies*, 28, 3, pp 268–283

McLeod, F., Cherret, T. and Song, L. (2006), “Transport impacts of local collection delivery points”, *International Journal of Logistics Research and Applications*, 9(3), 307-317.

Morganowki, M. and Cude, B. (2000), “Consumer response to on-line grocery shopping”, *International Journal of Retail and Distribution Management* 28, no.1, 17-26.

Nielsen (2011), *Croissance : le e-commerce ?*, Rencontre Nielsen Mars 2011 Paris.

Picot-Coupey, K.Huré, E. Cliquet, G. and Petr, C.(2009), “Grocery shopping and Internet: exploring French consumers’ perceptions of ‘the hypermarket’ and ‘cybermarket’ formats”, *International Review of Retail, Distribution and Consumer Research* Vol. 19, No. 4, 437-455.

Punakivi, M., and Tanskanen, K. (2002). "Increasing the cost efficiency of e-fulfilment using shared reception boxes". *International Journal of Retail and Distribution Management*, 30, 498-507.

Rajish, C. (2004), "The influence of redundant comparison prices and other price presentation formats on consumers' evaluations and purchase intentions", *Journal of Retailing*, Vol/ 80 No. 1, pp 53-66.

Roberts, M., Xu, X.M. and Mettos, N. (2003), "Internet shopping: the Supermarket Model and Customer Perceptions", *Journal of Electronic Commerce in Organisations*, Vol 1, No 2, pp. 32-43.

Robinson, H., Dall'olmo Riley, F., Rettie, R. and Rolls-Willson, G. (2007), "The role of situational variables in online grocery shopping in the UK", *The Marketing Review*, Vol 7, No 1 pp. 89-106.

Seth A. and Randall G (2005), *Supermarket wars: Global strategies for food retailers*, Palgrave Macmillan editions

Schenk T.A., Löffler G. and Rauh J. (2007), Agent-based simulation of consumer behaviour in grocery shopping on a regional level, *Journal of Business Research*, 60, n° 8: 894-903

Tanskanen, K., Yrjölä, H. and Holmstrom, J. (2002), "The Way to Profitable Internet Grocery Retailing – 6 Lessons Learned", *International Journal of Retail and Distribution Management*, Vol 30, No 4, pp. 169-178.

Tashakkori A. and Teddlie C. (2003), *Mixed Methodology: Combining quantitative and qualitative approaches*, Thousand Oaks, CA: Sage

Urban, G.L. Sultan, F. & Quall, W.J. (2000), "Placing Thrust at the Center of Your Internet Strategy », *Sloan Management Review*, Vol. 42, No.1, pp. 39-48

Vanheems, R. (2009), "Distribution multicanal : pourquoi les clients mixtes doivent faire l'objet d'une attention particulière ? ", *Décisions Marketing*, Vol 55, pp. 41-52.

Wallace, David W., Giese Joan, L. and Johnson Jean, L. (2004), "Customer Retailer Loyalty in the Context of Multiple Channel Strategies", *Journal of Retailing*, Vol 80, pp. 249-63.

Yen, B. Jen-Hwa Hu, P. Wang, M. (2007), "Toward an analytical approach for effective Web site design: A framework for modelling, evaluation and enhancement" *Electronic Commerce Research and Applications*, 6, pp. 159–170

Yrjölä, H. (2003), "*Supply chain considerations for electronic grocery shopping*", Dissertation for the degree of Doctor of Science in Technology, University of Technology, Helsinki, January.

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**Retail operations**

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## Avoidable Food Waste in Retail Stores

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## **Avoidable Food Waste in Retail Stores**

### **Abstract**

*Purpose:* This paper aims to (1) provide an overview on how literature has dealt with the phenomenon of food waste occurring in retail stores, (2) identify research gaps and consequently (3) set up a research agenda that guides further investigations into the topic area of avoidable and reusable food waste in retail store.

*Approach:* A structured literature review of operations/supply chain management, marketing, logistics and retail related journals was conducted to identify different research streams dealing with the topic food waste on a retail stage.

*Findings:* With reference to food waste occurring in the retail sector, there is very little (academic) literature and relevant information to be found. This might be attributed to the fact that, despite the relevance of the topic, the availability of data is very limited as it relates to the operations level in the retail business. Consequently this paper proposes a research agenda that focuses on (1) decision criteria for food being considered as waste in retail stores, (2) the decision process of a retailer in defining food waste, (3) different types of food waste occurring in retail stores, (4) the impact different retail formats have upon the occurrence of food waste, (5) the type of food considered as waste that is suitable for being redistributed and (6) potential options for redistribution from a retailer's perspective.

*Value:* In the light of increasing awareness of sustainability in retailing the findings contribute to a more efficient use of resources by making best use of food that is still consumable but is currently declared waste in retailing. This can then build a bridge between profit oriented retailers and socially, non-profit oriented organisations involved in redistributing food waste – and thus extending food supply chain to people in need.

### **Keywords**

Grocery industry, food waste, retail, waste management, store formats, food rescue;

### **Classification**

General review

## **Avoidable Food Waste in Retail Stores**

### **Introduction**

Food waste has become a highly contentious political issue. For example in September 2011 the Environment Secretary in the UK Government claimed that the current form of food labelling in retailing resulted into the disposal of edible food waste worth £750 million (out of a total of the £12 billion) each year, and announced the abandonment of the use of sell by dates. Furthermore, public awareness is sensitised by documentaries such as the recent European film ‘taste the waste’ which portrays the extent of the food waste issue. The findings raise public awareness of food waste and trigger the discussion of how food waste can be reduced and what beneficial impact such a reduction or reutilisation could have on society and the environment.

Food waste is “composed of raw or cooked food materials and includes food loss before, during or after meal preparation in the household, as well as food discarded in the process of manufacturing, distribution, retail and food service activities [...]. Food waste can be both edible and inedible” (European Commission, 2010, p. 199). Eurostat data show that around 89 million metric tons of food waste is generated in the EU in one year. On a per capita basis this amounts to approximately 179 kg or 395 lbs per year (European Commission, 2010). Whilst part of the food waste that occurs is so called ‘unavoidable’ (unavoidable) food waste (for example pineapple skins), the European Commission Report defines the majority of food waste as edible or avoidable under normal circumstances prior to disposal. Von Normann (2009) estimates that between 3 and 8 per cent of the value of food products along the entire food supply chain (from growers to consumers) is so called avoidable food waste with the potential to be maintained for consumption. A major source for food waste is the retail stage in general and retail stores in particular (for example Salhofer et al 2008). Surprisingly, this

link in the food supply chain has not received sufficient attention in literature in terms of waste occurrence.

Given the substantial scale of (avoidable) waste in food supply chains in general and on the retail stage in particular this paper aims to (1) provide an overview on how literature has dealt with the phenomenon of food waste on a retail stage, (2) identify research gaps and consequently (3) set up a research agenda that guides further investigations into this topic area.

The realm of the paper is as follows: After having presented the relevance of the topic area food waste and the focus of the paper we present a literature review that characterises the state of the art of research. This leads to a definition of research gaps in retailing and consequently the development of a research agenda. The paper concludes by highlighting the implication which this new research endeavours will have for different stakeholder groups.

### **Literature review**

Despite the considerable amount of food waste occurring at different stages across the food supply chain, the phenomenon is still hardly covered in the academic literature in general and in retail/marketing literature as well as operations/supply chain management literature in particular. Waste as such is not even considered as being part of the (retail) supply chain and the scope of supply chain management (Stock, 1998; Hicks et al., 2004). Within grocery retailing, waste is primarily dealt with in the niche topic areas of ‘on-shelf availability’ (Fernie and Grant, 2008) and ‘instore logistics’ (Kotzab and Teller, 2005; Kotzab et al., 2007). Therein, waste is mainly considered a problem related to inaccurate forecast of demand and suboptimal replenishment processes.

Literature in the field of waste management is more extensive and points out that the majority of food waste occurs in the sectors of manufacturing, retailing and private households (Salhofer et al 2008). When focusing on the retail sector only, selective studies give first estimations about the quantities of food waste in retailing. In Austria, one of the smaller EU-countries, the amount of food waste that occurs on the retail and wholesale level within a year is reported to be 267,000 metric tons (Obersteiner and Schneider, 2006). In a single (Austrian) supermarket the daily amount of food that is still consumable is 45 kg (90lb). The same case study finds 38 kg (76lb) of bread and bakery products occurring daily in a bakery store (Schneider and Wassermann, 2004). A US-study by Jones (2004) reckons that 0.8% of the food offering in supermarkets ends up as waste (Salhofer et al., 2008). In the category of dairy products a further study reports similar numbers between 0.7% and 1.5% of products declared waste (Kotzab and Teller, 2005; Kotzab et al., 2007). Overall it is hard to quantify the amount of food waste that is edible and thus could be re-distributed from retail stores. Figures on distribution quantities of selected food rescue organisations are available and indicate that considerable quantities are put through these channels (see for example European Commission 2010; ECR-Austria 2012). Nevertheless this does not allow an overall estimation of how much food waste is edible in and thus could be re-distributed from retail stores.

A legal aspect of waste is addressed by the Packaging Waste Directive issued by the EU Parliament in 1994. This initiative seeks to reduce packaging waste by imposing recycling targets for both organisations and households (European Commission, 1994). The fact that packaging waste constitutes one-quarter of all commercial and domestic waste highlights its considerable social importance. More specifically, insights into the grocery sector reveal that food products are the source for 93% of all package waste while food products as such only account for 30% of sales turnover (Ferne and Hart 2001). The implementation of this EU

directive is an example for establishing new processes in order to reduce waste and save resources. In more recent supply chain literature waste reduction is investigated as a means to achieve sustainability in retailing (Kotzab et al., 2011). The reason why the phenomenon has not received more attention in the literature and has not been investigated in rigorous academic studies is because of its operational nature and the resulting difficulty to access data through retail organisations.

The previously mentioned ‘preparatory study on food waste’ by the European Commission was the first to emphasise the topic of food waste. It indicates a list of intuitive reasons why food waste occurs in retailing (European Commission, 2010). They are:

- *Supply chain inefficiencies:* Better coordination between retailers, distributors, wholesalers and manufacturers can reduce food waste and avoid it being shifted across the supply chain,
- *Stock management:* Difficulties anticipating demand resulting in overstocking; lack of incentive for higher accuracy in stock management due to take-back provisions in contracts with suppliers and low cost of discarding food,
- *Marketing strategies:* ‘Two for one’ (buy one get one free) - deals can shift potential food waste to consumers by encouraging them to purchase more than needed,
- *Marketing standards:* Aesthetic issues or packaging defects cause some products to be rejected, although neither food quality or safety is affected,
- *Misunderstanding of labeling:* The different kinds of date labels (‘sell by’, ‘best before’, ‘display until’) contribute to a misunderstanding about the meaning of these dates and lead to food being wasted (WRAP, 2010).
- *High product specificity:* Particular issues affect the longevity of specific food products (exposure to light increases in-store food wastage for example),

- *Temperature sensitivity:* Meat and dairy products are particularly vulnerable to temperature changes during transportation and storage, risking premature spoilage and impacting food safety;

These reasons can be seen as first indications, however, not as a conclusive list. It further becomes apparent that the definition of food waste is in the eye of the beholder. What is seen as ‘unavoidable’ and thus unsaleable from a retailer’s perspective (for example products with minor packaging defects) is often still consumable from a consumer’s perspective given basic quality and security requirements.

As of the end of the last century ‘food rescue’ organisations were the first to provide solutions on how to source, reuse and redistribute products considered as food waste but still consumable. Two types of food rescue organisations have been established in Europe:

(1) *Food banks* are non-profit organisations with a charitable mission collecting food products from retailers, restaurants or other premises redistributing it to organisations which help people in need (poorhouses, homeless, ...). They mainly operate with the support of volunteers. Food banks are well established in many countries across the world following their founding in 1967 in the United States with more than 200 food banks in operation (Global Foodbanking Network, 2011). One specific example in the UK is Fareshare (2011). Founded in 2004, it redistributes food to disadvantaged people in communities and also provides training and education on storage, safe food preparation, and nutrition. Fareshare operates in 17 locations around the UK and redistributed 3.600 tons of edible food in 2010/11. It supplies about 700 community groups and charities that care for 35.000 people (Fareshare, 2011). Surplus food is provided by partners in the grocery sector as for example the retail chain, J. Sainsbury, or the multinational consumer goods manufacturing company, Nestlé.

(2) *Social Supermarkets* are non-profit organisations also following a charitable mission collecting food from retailers and manufacturers free of charge, however, selling the products in supermarket like outlets at significantly lower prices in comparison to profit-oriented retail stores. The target group of such outlets is different to food banks in that they aim for people who are self-reliant but live in poor conditions. Access is controlled by registration cards which are issued against a proof of living below the so called official poverty line. The food product range of social supermarkets is comparable to those of conventional supermarkets and includes for example bread, dairy products, fruits and vegetables, drinks, and canned food. However, availability is very limited as social supermarkets can only offer what is made available by their supplying partners. Non-food products such as cosmetics, detergents, or baby products are hardly made available. Social supermarkets are supplied by all types of retail formats, for example supermarkets, hypermarkets or discounters. For these suppliers the cooperation with social supermarkets is part of their corporate social responsibility activities. Moreover, companies save disposal cost over transferring consumable food to municipal waste. This is made possible by the ability of social supermarkets to pass on products to consumers within a very short time. It is worth mentioning that social supermarkets in Austria have to comply with the same security standards as profit-oriented retailer operating stores in order to ensure consumer protection (ECR-Austria 2012). Social supermarkets mainly operate with the support of volunteers but also employ long-term unemployed people giving them an opportunity to return into the labour market. Social supermarkets were founded in the late 1990s and have become a well-established retail format in France (A.N.D.E.S., 2011) and in Austria (Holweg and Lienbacher, 2011). New social supermarkets are being opened for example in Germany, Belgium and Luxembourg. The EU report on

food waste highlights social supermarkets as one of the few initiatives of food waste prevention in the retailing sector (European Commission, 2010).

Notably, solutions for rescuing food waste that is still consumable have been initiated by non-profit organisations and have not come from the retailing sector itself. The core function of these organisations is centred on the redistribution of food whilst relying on a minimum of resources. These two types of rescue organisations provide a viable solution for redistributing food to people in need. Nonetheless, their overall impact is assessed as minor at this point in time. Fareshare estimates that it still only rescues 1% of all surplus food available (Fareshare, 2011). The majority of avoidable food waste is still disposed of by retailers given that there are no established processes for passing on food waste that can still be consumed. In parallel, there is rising public awareness about the topic of waste occurring at the retailing stage. The expression ‘dumpster diving’ describes persons who voluntarily climb into a dumpster to find valuables and even food. The German documentary ‘Taste the waste’ (Tastethewaste, 2011), is an impressive portrayal of the amounts of food waste occurring in retail stores and received acclaim at the international film festival Berlinale 2011.

In conclusion, the phenomenon of food waste at retail stores is still under researched with little knowledge about its nature, its drivers and potential.

### **Research gaps**

Based on the identified state of the art in literature and the practical relevance of the topic food waste we identify that following research gaps that can subsequently initiate further research:

- (1) *What are the criteria for defining food waste from a retailer’s perspective?* As per the definition of the European Commission (2010) avoidable food waste is synonymous to

the condition of products being edible under normal circumstances. From a retail perspective, products might be edible or consumable. However, such items are not saleable any more due to being too close to the expiration date or not meeting a retailer's internal quality standards.

- (2) *What is the decision process of a retailer in defining food waste?* Current retail literature does not portray this as a decision process that includes different decision takers (for example headquarters, store manager, merchandiser).
- (3) *What different types of food waste can be identified?* Presumably, the type of food leads to some kind of classification. The saleability of non-packaged food such as fruits and vegetables is assessed based on the perception of product quality (visual, olfactory, taste) whilst packaged goods are mainly assessed by date labels.
- (4) *What retail store format attributes have an impact on food waste?* Given that the product range varies between store formats - for example hypermarkets and discount stores - this might affect the occurrence of food waste. Retail format further includes other aspects which might impact food waste as for example store size or stock turn rate.
- (5) *Can food waste be seen as a valuable resource for further use and ultimate consumption?* The existence of food banks and the rapid rise of social supermarkets in many European countries indicate that food which is still consumable but not saleable can be seen as a potential resource rather than being regarded as waste and its mainly negative connotation (Lienbacher and Holweg, 2011). Are there any other opportunities for retailers to make use of these food items?

## **Research agenda**

The identified research gaps encourage further research on the phenomenon of food waste. The proposed research agenda aims to (1) build the basis for the development of a structured

supply chain process that facilitates the redistribution food waste and consequently (2) to make best use of food that is still consumable but not saleable any more in retail stores. This will build a bridge between profit oriented retailers and non-profit oriented organisations and generate a win-win situation in which for example social supermarkets or food banks increase their sourcing potential and conventional retailers increase their opportunities in turning food waste into an opportunity.

The amount of products that are not saleable (to customers) and not returnable (to the preceding distribution stage) but nevertheless consumable is regarded to be considerable. Thus the proposed future research aims to answer the following research question:

*‘What food products in retail stores - currently determined and processed as waste - are suitable of being redistributed for further consumption?’*

As such it focuses on food products in retail stores (in shelves or storage rooms) that are (1) not suitable to be sold to customers and (2) are too expensive to be returned to the distribution centre or a supplier and are consequently (3) considered to be disposable waste. Thus, there is a distinction between different forms of what is considered as food waste in a retail store. Figure 1 depicts the decision process of food products that are not sold or are seen to be non-saleable. The emphasis lies on what is still consumable food and need not to be disposed in a store (see flow of grey shaded shapes). The remaining share of those consumable food products is then evaluated with respect to its suitability to be redistributed.

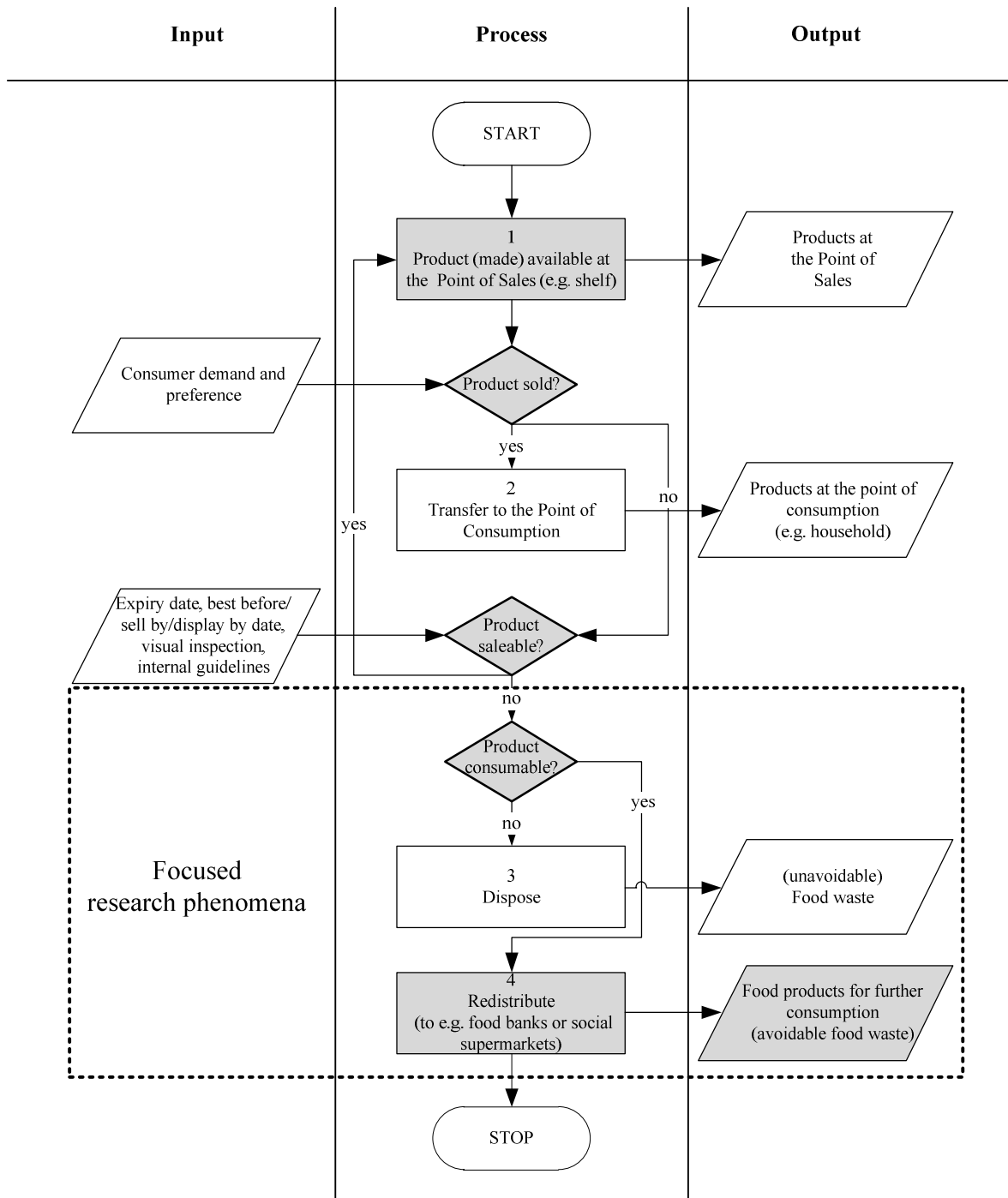
In order to answer the above research question the objectives of future research within the remit of the proposed agenda are to:

- Define the criteria based on which food is declared waste from a retailer’s perspective;

- Illustrate the decision process and the motives of a retailer - represented by store or merchandising manager - when defining waste within a store;
- Develop a typology of food waste in different kind of retail stores formats based on (1) product characteristics (2) frequency and (3) quantity of occurrence and (4) suitability for redistribution;
- Specify the feasibility of redistributing different types of food waste products occurring in a store;
- Identify the requirement of redistribution from a retailer's perspective;
- Investigate factors that influence store or merchandising managers' propensity to make avoidable food waste available for re-distribution instead of disposing it;

Importantly, this research should focus on the phenomenon of food waste at a retail store level exclusively. The question of waste quantity is deliberately neglected since the benefit in knowing about quantity figures is marginal for retailers and does not imply a solution oriented approach.

Figure 1: Decision process on food waste in a retail outlet



### Implications

The above literature review highlights that the topic of food waste touches upon a number of different research fields ranging from for example retailing, waste management, and food

safety to non-profit organisations, logistics and supply chain management. Such future research will thus have a considerable impact on various stakeholder groups of society:

For *retailers* the outlined research foci and the resulting outcome will provide an in depth insight into their store operations and in particular instore logistics processes related to food that is declared unsaleable and thus declared waste in most instances. A better understanding of the decision process that leads to the declaration of food waste can open new perspectives of how to deal with food that can potentially be used for further consumption. It will open up new opportunities for cooperation with food rescue organisations or other corporate social responsibility (CSR) projects. The findings have the potential to lead to establishing a standardised supply chain process for consumable food, similar to the existing processes in reverse logistics or the recycling of packaging waste, and will thus increase efficiency in the supply chain.

The findings from this proposed research will be transferable and thus relevant for any *other organisation selling, processing or providing food and food products*. Such organisations comprise canteens (for example in hospitals or schools), restaurants and food catering firms of any kind. The identified decision processes to define waste in stores and the typology of edible food waste can help them to question and reorganise their food disposal and recycling processes and take into account redistribution possibilities to for example charities.

The findings will have an impact on *agencies dealing with food standards* and will certainly raise the need to define standards for food that can be redistributed from stores for further consumption. In particular the identified typology of edible food waste can be used as a base for such a standard setting process.

The proposed research endeavours will have a considerable impact on *food rescue organisations* of any kind. The clearer understanding of the requirements for redistribution by

retailers will increase their opportunities for acquiring higher volumes of food. Currently co-operations are mostly built on personal and informal relationships with retailers as no standard process is established. A process will facilitate better planning and improve the organisational capacity of food rescue organisations.

For *society* as a consequence of the suggested research the redistribution of edible food will have multiple impacts: From a waste perspective, findings from this research will sensitise retailers and consumers to the waste problem and contribute to a reduction of municipal waste. From a consumers' perspective, more food that is passed on to food rescue organisations versus being disposed of will ultimately help people living in poor conditions. Lastly, and from a labour market perspective, the redistribution of food creates paid job opportunities for people in for example Social Supermarkets or for people working in non-profit organisations on a voluntary basis.

## **Conclusions**

In this paper we showed that food waste on a retail store level and the potential of edible or avoidable food waste to be redistributed for further consumption has been widely neglected in literature. However, governmental reports and academic studies reveal considerable opportunities to avoid, reduce and reuse food waste in retail stores and thus make best use of resources allocated to the production and distribution of groceries within food supply chains. Our research agenda suggests further investigations into specific decision processes related to the definition of food waste in retail stores and consequently into the evaluation of different types of food to be potentially redistributed for further consumption. Finally we propose a substantial impact of this research agenda and the related outcomes on grocery retail organisations, the food industry, food rescue organisations and other stakeholder groups in society, for example consumers and communities.

## References

- A.N.D.E.S., 2011. L'Association Nationale de Développement des Épiceries Solidaires. [National Association for the Development of Solidary Stores]. Accessed on 30<sup>th</sup> April 2011: <http://www.epiceries-solidaires.org/>
- European Commission 1994. European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste. Accessed on 20<sup>th</sup> October 2011: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31994L0062:EN:NOT>.
- ECR-Austria (2012). Leitfaden zur Lebensmittelweitergabe - ECR Arbeitsgruppe Soziale Nachhaltigkeit. Efficient Consumer Response Austria: Vienna.
- European Commission 2010. *Preparatory Study on Food Waste across EU 27* (Final report). Paris: European Commission in association with AEA Energy, Umwelt Bundesamt and Environment and BIO Intelligence Service.
- Fareshare 2011. FareShare – fighting hunger, tackling food waste. Accessed on 20<sup>th</sup> October 2011: <http://www.fareshare.org.uk/>.
- Fernie, J. and Grant, D.B. 2008. *On-shelf availability: the case of a UK grocery retailer. International Journal of Logistics Management*, 19 (3), 293-308.
- Fernie, J. and Hart, C. 2001. UK packaging waste legislation implications for food retailers. *British Food Journal*. 103(3), 187-197.
- Global Foodbanking Network, 2010. What is Food Banking? Accessed on 11<sup>th</sup> April 2010, <http://www.foodbanking.org/about/foodbanking.html>.
- Hicks, C., Heidrich, O., McGovern, T. and Donnelly, T. 2004. A functional model of supply chains and waste. *International Journal of Production Economics*, 89 (2), 165-174

Holweg, C. and Lienbacher, E. 2011. Social marketing innovation: New thinking in retailing. *Journal of Nonprofit & Public Sector Marketing*, 23(4), 307-326.

Jones, T. 2004. Using Contemporary Archeology and Applied Anthropology to Understand Food Loss in the American Food System. Tucson. Accessed on 30<sup>th</sup> December 2011: <http://www.communitycompost.org/info/usafood.pdf>.

Kotzab, H., Munch, H. M., de Faultrier, B. and Teller, C. 2011. Environmental Retail Supply Chains: when global Goliaths become environmental Davids. *International Journal of Retail & Distribution Management*, 39 (9), 658–681.

Kotzab, H, Reiner, G and Teller, C. 2007. Beschreibung, Analyse und Bewertung von Instore-Logistikprozessen [Describing, analysing and evaluating instore-logistics processes]. *Zeitschrift für Betriebswirtschaft*, 77 (11), 1-24.

Kotzab, H. and Teller, C. 2005. Development and empirical test of a grocery retail instore logistics model. *British Food Journal*, 107 (8), 594-605.

Lienbacher, E. and Holweg (2011): Strukturanalyse Sozialmärkte in Österreich [Structural analysis of Social Supermarkets in Austria]. In: Schnedlitz, Peter (Ed.): Schriftenreihe für Handel und Marketing, WU-Wien, Band 74. Obersteiner, G. and Schneider, F. 2006. *NÖ Restmüllanalyse 2005/06. Zusammensetzung des Restmülls (Analysis of Residual Waste in Lower Austria, Trans.)*. Vienna: University of Natural Resources and Life Sciences.

Salhofer, S., Obersteiner, G., Schneider, F. and Lebersorger, S. 2008. Potentials for the prevention of municipal solid waste. *Waste Management*, 28(2), pp. 245-259.

Schneider, F. and Wassermann, G. 2004. Sozialer Wertstofftransfer im Einzelhandel (Social transfer of products in retail). On behalf of the Initiative `Abfallvermeidung in Wien`, Vienna, Austria.

Stock, J.R. 1998. *Development and Implementation of Reverse Logistics Programs*. Oak Brook, IL: Council of Logistics Management.

Tastethewaste. 2011. Taste The Waste. A movie by Valentin Thurn. Accessed on 30<sup>th</sup> December 2011: <http://www.tastethewaste.com/>.

Von Normann, K. 2009. *Contribution of non profit organisations to reduction of food poverty*. Paper presented at the 3rd BOKU Waste Conference, April 15–17, 2009, Vienna.

WRAP. 2010. Improving the application and understanding of date labels and storage guidance: Activity brief United Kingdom.

# The retail store manager perspective of managing performance

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# The retail store manager perspective of managing performance

## *Case Study*

### **Purpose**

To explore the perception of front line retail operations managers with particular regard to their use of tacit knowledge and informal information, in the context of performance management.

### **Design/methodology/approach**

This study adopts a qualitative approach to explore the use of performance information from the perspective of the retail store manager. Interviews were conducted with twelve respondents within a single food retailer organisation, using Critical Incident Technique (CIT) as a protocol. The data was analysed using both CIT analysis and then with content analysis using themes drawn from the literature.

### **Findings**

The study provides insight to the store manager's world of retail operations, including their implicit support for key corporate measures of performance and their view of the limitations of company systems. Managing staff emerges as key to achieving performance outcomes. As such, staff disposition provides strong and early indication of performance prospects in the short term

### **Research limitations**

The study is focused on a single host organisation and findings may not be more widely applicable. The CIT method has a number of well documented weaknesses. Principally, it is based on both the perception and recall of the respondent. The study of performance has personal sensitivity for the respondent, with attendant risk of bias.

### **Research implications**

As a relatively small study in a single host organisation, further research in this field would extend knowledge and add to the extensive existing theory base around performance measurement and management. CIT has merit in similar future studies.

### **Practical implications**

This study finds support for corporate performance measures positively influencing the behaviour of operations managers in pursuit of performance outcomes and offers insight to how this can be refined in practice.

Developing and maintaining positive disposition in front-line employees is important to achieving performance outcomes and is something that retail store managers can exercise influence.

### **Originality/value**

Despite the considerable body of knowledge on performance measurement and management, there are few existing studies on how operations managers source and use performance information. The CIT is relatively novel in this context and has utility in terms of the exploratory nature of this study and the potential sensitivity around performance.

**Key words:** Retail Operations, Performance Measurement, Performance Management

## Introduction

Existing academic work on performance is dominated by a focus on measurement rather than management (Radnor and Barnes, 2007). There are some very practical reasons why this should be the case; it is a commercially sensitive area and capturing quality data for analysis on management is a challenge. We do know that the rationale for adopting corporate performance measures includes seeking to influence manager behaviour in pursuit of performance outcomes (Neely et al 1995, Waal 2003, Franco-Santos and Bourne, 2005). Therefore studies to explore how performance information is used, should be of academic and practical interest.

The aim of this study is to explore the use of performance information by store managers in the food retailing industry. I take a step back from assuming that the respondent relies entirely on a corporate system to indicate performance. The method adopted here allows respondents freedom to cite the source of their performance measure. This could therefore be corporate measures, but equally it might be some other informal source known to the manager through experience.

## Performance in Retail Operations

Roth and Menor (2003), note that “many service management problems are fuzzy and unstructured; are multidimensional and complex; and less conducive to normative analytical planning.” This is a view supported by Ghosh and Lusch (2000) who in writing specifically about performance in retailing, identified a “plethora” of variables to deal with. March and Sutton (1997) caution against “simple models of complex worlds.” Neely et al (1995) define performance measurement as the quantifying of efficiency and effectiveness of action. For the retail operations manager at the front line, this means monitoring the use of resources to support levels of sales activity on the one hand and whether the service meets customer expectations on the other. It has long been recognised that performance in retailing is about having the right goods, at the right place, at the right time, etc., and meeting a range of other customer expectations of the service (Dobson, 2005). Retailing therefore reflects wider issues identifiable in the evolution of performance measurement. Too much emphasis on “hard”, quantitative measures can encourage efficiency over effectiveness. The “lag” characteristics of purely financial measures have helped stimulate the development of balanced scorecards (eg. Kaplan and Norton 1992, 1996) and the inclusion of qualitative indicators as part of the performance equation. Whilst recognising that retail service delivery is a shared responsibility between the store operation, the supply chain and central buying/merchandising/marketing functions, the store manager will be under significant pressure to increase sales, and to manage costs, in order to maximise operating profits, whilst delivering a service that will meet the expectations of customers, to encourage loyal patronage. In practice, this means motivating and managing staff to get the immediate job done and to facilitate the smooth introduction of changes to working practices in pursuit of efficiency gains, often against resistance (Varley and Rafiq, 2004, p97). In the view of Grugulis et al (2010), this means that the store manager has to enthuse those working for them, whilst being prepared to apply disciplinary procedures as the situation arises. It can further be noted that contemporary information systems have facilitated much greater scope to remotely prescribe work tasks to be carried out by the store team, along with an accompanying surveillance regime to maintain compliance (Grugulis et al, 2010). From a more theoretical

perspective of bureaucratic controls, Adler and Borys (1996) note that “middle managers can coerce compliance and intensify work, or they can provide guidance, support and coordination.”

Existing studies of the management of performance in a retail operations setting, are relatively limited. In a study by Bourne et al (2005), managers of higher performing units in a retail repair shop setting were differentiated from weaker branches by being found to be using their own informal performance indicators, with the corporate system later confirming what was already known to them. In these higher performing units, there was evidence of a higher level of performance-related dialogue. The Grugulis et al (2010) study, previously cited, which was conducted in large format, UK food retailing, found a “leadership” rhetoric used within the host organisations; in their view a misnomer for driving or inspiring store staff to maintain service standards by coping with unplanned events such as late deliveries. In this context the researchers found little scope for the exercise of discretion by the store managers. Elsewhere and in the hospitality sector, there is evidence of strong resistance by retail restaurant managers to corporate attempts to determine rules and prescribe actions according to measurements (Ahrens and Chapman,2007). These managers saw head office prescription as inappropriate. Wilson’s (2000) four case studies from different service sectors including retail found no consistent use of performance information.

As well as the work on manager perceptions and interpretations of performance indicators in this context, there is a significant literature on the “outcome effect” with subjective ratings ( see for example Ghosh and Lusch, 2000, Ittner et al, 2003), dysfunctional behaviours (Ridgeway, 1956, Radnor, 2008), and linking rewards to performance (Rynes et al 2005, Osterloh and Frey 2007)

## **Methodology**

This study adopts an interpretivist approach in pursuit of insight to the world of the retail store manager pursuing performance outcomes. The researcher has some (rather dated) experience of food retail operations management, and more recently has conducted other research in this field. A single UK, consumer co-operative with substantial food retail interests agreed to allow access for the study. The data collection was conducted in 2010, comprising interviews with two senior operations executives within the business and with twelve store managers deemed as representative of the convenience formats operated by this retailer. The design, conduct and analysis of the interviews was informed by established work in this field (McCracken 1988, Patton 2002, King 2004).

The store manager interviews adopted the Critical Incident Technique (CIT) first developed by Flanagan (1954) and informed in this context by Chell’s (2004) phenomenological approach. The use of this method to explore manager perspectives is relatively novel. The strength of CIT for this purpose is that the qualitative data that it generates is distinctly the respondent’s view of the subject (Gremler, 2004). There is some prospect of inductive analysis, as extant theory is not a prerequisite. However CIT is also criticised, not least for being based on self-reports and on recall (Gremler,2004). If the incident chosen is back in time, the respondent’s assessment of meanings may have been rationalised.

For this study, respondents were interviewed in their work-place. Each was asked to identify recent occasions when business in-store had gone well or conversely, not well. The word “performance”

was omitted from these primary questions. They were then prompted to describe the situation in order that the researcher could understand where the initial indication of strong/poor performance originated and then the “action” that ensued. The design of this protocol would allow the respondent to cite either corporate systems or tacit knowledge as the source of the performance information. All interviews were conducted, transcribed and analysed by myself. I believe this to be a strength of this study, as each iteration through the data extended the depth of my understanding. The interview scripts were subjected to both a CIT categorisation process and content analysis, using themes drawn from the literature.

## Findings

The CIT interviews generated a total of 51 incidents. Of these, 38 were occasions when business had not gone well. This positive / negative imbalance is perhaps not surprising and could be seen in part as a weakness of the method. A good day for a store manager was everything running smoothly and the absence of a problem. There were relatively few “incidents” reflecting very strong performance. Of the total, 21 incidents can be categorised as specifically related to where company targets / budgets gave the first indication of the issue and of these, 12 were negative and the remaining 9 were positive. In the remaining 30 incidents (Negative 26 / Positive 4) , the initial performance indication came from outside the corporate information system.

Content analysis of the scripts provides valuable insight to the perception of store managers in this context. Key points can be summarised as follows;

- Sales is the primary performance measure for the store manager. This is a shared logic between senior management and store managers. There is evidence of understanding the relationship between sales and other subordinate measures of performance.
- Contemporary measures of availability are very effective drivers of behaviour
- Corporate performance measurement systems have limitations.
- Disposition of store staff identified as influencing performance outcomes. The store manager’s own behaviour can affect staff disposition.
- There is an endogeneity issue to consider with respect to future performance outcomes.

## Analysis

Sales levels dominate store manager perceptions of performance. Store managers are very sensitive to sales in relation to budgets and other benchmarks. This is articulated relative to other financial performance indicators; specifically waste, leakage and personnel costs. Other financial targets are more achievable if sales levels are meeting budgets. The direct relationship between availability and sales is explicitly recognised. Negative influences affecting sales and perceived as beyond the control of store managers, create a strong sense of injustice. Corporate measures of availability appear very effective in influencing manager behaviours in pursuit of stronger performance. All other non-financial performance indicators have a low profile in store manager responses, raising possible

concerns about their effectiveness. Store managers expressed concerns that the corporate reliance on financial performance indicators provides only a partial view of the reality of managing performance at store level. There is a significant qualitative dimension to managing performance that is not captured by the system.

There are examples of respondents citing tacit knowledge. Store managers use visual cues as indicators of prospective performance, but recognise their fallibility. Unplanned events, of which late deliveries, systems failures and staff absentees are frequent examples, typically have a negative impact on performance. The disposition of store staff is perceived as linked to performance. Happy staff will be more productive and provide a better customer service interaction. More productive staff will improve availability. Customers will be more loyal to a store with high levels of availability and a positive atmosphere. In turn, financial performance will improve. The reverse effect is also possible, through the same causal links between unhappy staff and poor financial performance. Some managers saw this effect as cyclical. Intriguingly, this perception of causal links is not dissimilar to those in the service profit chain (Heskett, et al 1997) .

In terms of what is actually done with performance information, these managers recognise the basic requirements to operate a legal and safe store that complies with company standards, policies and procedures. It is then possible to identify reactive actions in response to unplanned events and more proactive use of performance information via a range of analytical techniques. Actions to maintain availability in support of sales come through very strongly. Store managers own the responsibility for the development of store staff. The need for effective communication and the promotion of teamwork come through very strongly as prerequisites of high-performance. Store managers recognise the potential for their own personal demeanour to "rub off" on their staff. In this study, a number of respondents were clearly under pressure from the experience of performance being below target. In this context, some managers noted that there was a danger that poor performance figures could negatively influence their own personal behaviours. In turn, this could negatively affect the disposition of their staff, with an ensuing negative effect on performance (as above).

This study illustrates the range of potential time intervals between manager behaviour/decision interventions and performance outcomes. Much of the focus is very short term in nature, e.g. maintaining availability in support of sales over the next few trading hours. At the other extreme, there is a recognition that some outcomes are only built slowly over time, e.g. Loyalty-building in the service profit chain. As other writers have suggested, there is an endogeneity issue to consider in managing performance.

## Conclusions

This exploratory study has provided some useful insight to the perceptions of retail store managers in the context of performance management. However some caution should be exercised before making wider generalisations. This was a single case, from the co-operative sector and was relatively small scale. This context could explain some of the findings. The CIT method adopted here is of interest for its novelty in such a study. Arguably it is very suitable for exploratory research in a complex and uncharted context. However, CIT has limitations for being based around the recall of

respondents and for the subjective nature of the categorisation process, off-set here by the use of thematic content analysis.

Further research will be necessary to validate these findings. To conduct CIT studies in similar retail organisations would be a suitable first step. Developing the scope to include the perspective of store staff and of field managers would contribute further, along with a longitudinal dimension. Further, this study made no attempt to differentiate between store performance levels, which could usefully be reviewed for the future.

## References

- Adler P S and Borys B (1996) Two Types of Bureaucracy: Enabling and Coercive *Administrative Science Quarterly* Vol. 41 (1) pp 61-89.
- Ahrens T and Chapman C S (2007) Loosely coupled performance measurement systems In Neely A (Ed) *Business performance measurement: unifying theory and integrating practice* (2<sup>nd</sup> Ed) Cambridge University Press, Cambridge.
- Bourne M Kennerley M and Franco-Santos M (2005) Managing through measures: a study of impact on performance *Journal of Manufacturing Technology Management* vol 16(4) pp. 373-396 .
- Chell E (2004) Critical Incident Technique in Cassell, C. and Symon, G. (Eds) (2004) *Essential Guide to Qualitative Methods in Social Research*, Sage: London.
- Dobson P (2005) Retail Performance Indicators in the Nation of Shopkeepers *International Review of Retail, Distribution and Consumer Research* Vol 15 (3) pp 319-327.
- Flanagan J C (1954) The Critical Incident Technique *Psychological Bulletin* Vol 51 (July) pp 327-358.
- Franco-Santos M and Bourne M (2005) An examination of the literature relating to issues affecting how companies manage through resources *Production Planning and Control* Vol 16(2) pp.114-124.
- Ghosh D and Lusch R F (2000) Outcome effect, controllability and performance evaluation of managers: some field evidence from multi-outlet businesses *Accounting, Organisations and Society* vol 25 pp411-425.
- Gremler D D (2004) The Critical Incident Technique in Service Research *Journal of Service Research* vol 7(1) pp.65-89.

- Grugulis I Bozkurt O and Clegg J (2010) 'No place to hide'? The realities of leadership in UK supermarkets ESRC Centre on Skills Knowledge and Organisational Performance Research Paper No.91 (May).
- Heskett J L, Sasser W E and Schlesinger L A (1997) The service profit chain: how leading companies link profit and growth to loyalty, satisfaction and value Free Press, New York.
- Ittner, Christopher D., David F. Larcker and Taylor Randall (2003) "Performance Implications Of Strategic Performance Measurement In Financial Services Firms," Accounting Organizations and Society, 2003, v28(7,Oct-Nov), 743-772.
- Kaplan R S and Norton D P (1992)"The Balanced Scorecard: Measures that Drive Performance", Harvard Business Review, January-February pp. 71-9.
- Kaplan R S and Norton D P (1996). "Using The Balanced Scorecard As A Strategic Management System," Harvard Business Review vol 74(1) pp 75-85.
- King N (2004) Using interviews in qualitative research in Cassell, C. and Symon, G. (Eds) (2004) Essential Guide to Qualitative Methods in Social Research, Sage: London.
- March J G and Sutton R I (1997) Organizational Performance as a dependent variable Organization Science Vol 8(6) pp 698-706.
- McCraken G (1988) The long interview Sage, Newberry Park, California.
- Osterloh M and Frey B (2007) Does pay for performance really motivate employees? In Neely A (Ed) Business performance measurement: unifying theory and integrating practice (2nd Ed) Cambridge University Press, Cambridge.
- Patton M Q (2002) Qualitative Research and Evaluation Methods 3rd edn. Sage Thousand Oaks, California.
- Neely, A.D., Gregory, M. and Platts, K. 1995"Performance Measurement System Design: A Literature Review and Research Agenda", International Journal of Operations and Production Management, 15, 4, pp. 80-116.
- Radnor Z (2008) Muddled, massaging, manoeuvring or manipulated? A typology of organisational gaming International Journal of productivity and performance management vol 57(4) pp316-328
- Radnor Z J and Barnes D (2007) Historical analysis of performance measurement and management in operations management International Journal of Productivity and Performance Management vol 56 (5/6) pp.384-396.
- Ridgway V F (1956) Dysfunctional consequences of performance measurements Administrative Science Quarterly vol 1(2) pp. 240-7.
- Roth A V amd Menor L J (2003) Insights into service operations management: a research agenda Production and Operations Management vol 12(2) pp145-164.

Rynes S L Gerhart B and Parks L (2005) Personnel Psychology: Performance evaluation and pay for performance Annual Review of Psychology Vol 56 pp 571-600.

Varley R and Rafiq M (2004) Principles of Retail Management Palgrave Macmillan, Basingstoke.

Waal De A A (2003) Behavioural factors important for the successful implementation and use of performance management systems Management Decision vol 41(8) pp. 688-697.

Wilson A (2000) The use of performance information in the management of service delivery Marketing Intelligence and Planning vol 18 (3) pp 127-34.

**‘Independent Retail High Street Store Survival: The Power of Service’**

**Dr Tamira King and Dr Shaheena Janjuha-Jivraj and Dr Weifeng Chen**

Work In Progress. Extended Abstract

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## **‘Independent Retail High Street Store Survival: The Power of Service’**

Work In Progress. Extended Abstract.

### **Structured Abstract:**

#### **Purpose:**

This paper examines the owner managers perception of service and relationship marketing amongst independent family owned high street retailers in the UK.

Sales in town centres has experienced a marked decline over the last two years from 49.4% (2010) dropping to 42.5% (2011) and further contraction expected by 2014 to 39.8% (DBIS, 2011). This research attempts to understand how retailers can build better relationships with consumers and a better service experience, to ensure their survival.

#### **Design:**

This study is a work in progress. The authors follow a qualitative methodology and the interviews will be conducted in the future. Thus no data are currently available for analysis. Data will be collected through in-depth semi-structured interviews with thirty independently-owned retailers. Owner managers will be questioned on their views towards the customer shopping experience and relationship marketing approaches in their businesses.

**Initial Findings:** indicate that retailers feel that trust and relationship marketing investment plays an important role toward behavioral intentions.

**Originality:** This is the first study of its kind to explore relationship marketing and service its influence on UK independent family owned retailers. This research conducted by qualitative retail case study interviews with owner managers informs a conceptual model to be subsequently tested by consumer questionnaires in an attempt to understand whether relationship marketing and service is important to the success of independent family owned retail sector of Britain.

**Key Words:** Independent retailers, consumer behaviour, relationship marketing, family business, small medium sized enterprises.

**Research paper. Work In Progress**

## Summary:

Retailing in the high street is under threat as scores of larger chains post performance levels that indicate a decline in sales. Major shifts in shopping patterns have further undermined the attractiveness of the high street as a retailing destination. However, the heart for many high streets is the small independent retailers. In today's increasingly competitive economic climate independent retailers compete using their marketing orientated activities by offering value and service benefits to consumers. These efforts to compete by offering superior customer service has become key to their unique positioning and ultimately their survival when competing against the big retailer conglomerates in frugal times. Sales in town centres has experienced a marked decline over the last two years from 49.4% (2010) dropping to 42.5% (2011) and further contraction expected by 2014 to 39.8% (DBIS, 2011).

Many independent business are likely to be family owned businesses, despite the relatively high failure rate of family firms across generations, these businesses are better placed to withstand an economic downturn compared to other privately owned businesses. These businesses have created an image of serving their local business and community, at a time when there is a growing trend to favour locally sourced products and independent stores, perhaps this provides an opportunity for a renaissance within the high street. However the critical questions is whether this realistic and even sustainable.

There is very little research to date exploring how small independent retailers are currently trying to ride the recession through offering extensive customer service and generate relationship marketing schemes and whether this is actually impacting on the shopping behaviour of thrifty consumers. This paper investigates whether they have an advantage by being 'closer to their customers' and more market orientated culture and whether they are using it to their full potential.

This research examines their perception of the service experience amongst independent retailers. Data is collected through interviews with owner mangers investigating their perception of service quality and relationship marketing of independent retailers. The case studies discuss whether their ownership and management structure offers advantages to the customer service experience.

## Abstract:

As the retailing landscape experience seismic shifts, the impact of the current recession creates further challenges for retailers on the high street. The growth of out-of town shopping centres and reinvention of mail order sectors have further diluted the customer base on the high street. Whilst there is an increasing shift towards favouring locally sourced produce and locally run businesses, the mass migration of corporate retailers has resulted in 15% of premises vacant (Financial Times, 19.1.11). Future predictions for the high street are variable, however there is a contingent of businesses that have survived generations of change; many are independently owned businesses in relatively traditional sectors. By extension many of these are family firms with researchers citing anything between 60% - 80% being family owned (Daily and Dollinger, 1992; Naldi et al, 2007).

This research project investigates whether independent retailers do have an advantage by being closer to their customers and recognizing buying behaviour without the need for expensive loyalty schemes and more importantly, whether this provides leverage to help the survival of the business and perhaps opportunities for diversification. Smaller businesses are recognised to have certain characteristics that enable them to build close relationships with customers which should translate to high levels of 'authentic' personalised customer service. The research presented in this paper demonstrates the difficulties faced by independent retailers in creating a sustainably high level service for customers in the facing of increasingly sophisticated relationship marketing techniques applied by larger competitors. More broadly, this study provides a fundamental insight into our understanding of the growing importance of independent retailers to develop a services marketing management strategy that seek to balance the needs and expectations of consumers at a time when spending power is diminishing in certain sectors.

Despite the relatively high failure rate of family firms across generations, (Ward, 1988) some argue these businesses are better placed to withstand an economic downturn compared to other privately owned businesses due to characteristics of deferred gratification and greater staff loyalty (Habbershon and Williams, 1999). The findings will demonstrate how small independent family-owned retailers manage to create a sustainable customer service strategy and whether they experience fits with customers' expectations. The emphasis on family firms in this research will enable the researchers to identify any noticeable benefits accrued to family firms by virtue of tradition and loyalty.

There is very little research to date exploring how small independent retailers address the challenges posed in the current economic climate and assessing the value of their current relationship marketing strategies. Equally there is very little research assessing what impact the marketing activities of SME retailers have on their customers and whether they are successful in altering the behaviour of thrifty consumers. This paper investigates whether independent retailers have an advantage by being 'closer to their customers' and more market orientated culture and whether they are using this benefit to its full potential. Small business may pride themselves on knowing their customer and offering specialist services but this paper investigates the strength of these claims.

### Background Literature

It is important for retailers to consider how they communicate their offer (Sargeant and West 2001) and how they communicate with their customers (Buttle 2004). Research also demonstrates that word-of-mouth also influences consumer's purchasing decisions (Richins 1983; Kardes and Kim 1991, Stokes and Lomax 2002) and Kashyap (2001) demonstrated the psychological and economic effects of service guarantees on customers and on business reputation. There is a substantial body of research that addresses service quality in how consumer judge excellence or superiority (Cronin and Taylor, 1992, Parasuraman et al 1998) and Gonroos (1984) identifies that service is the point at which performance is judged. The complexity of service quality evaluations has been addressed and the subject of debate (Brown et al 1993, Buttle 1996).

Marketing applied to smaller businesses (i.e. those with less than fifty employees) has developed under the heading of 'Entrepreneurial Marketing' (Morris et al 2002) which encompasses the range of marketing activities implemented by entrepreneurial ventures, including concepts such as guerilla marketing (Gruber, 2004). Family firms are defined by the involvement of family members and typically characterize a high correlation between familial and organizational values, loyalty and deferred gratification, emphasizing the needs of the business (Harris et al, 1994). Researchers have struggled to apply marketing and strategic management tools in understanding the processes embedded in family owned and managed businesses (Gudmundson et al, 1999). In this research we examine how family businesses deliver on customer expectations by using the independent retailers owner managers as the primary source of data.

The researchers test variables from marketing models which measure customer experiences amongst this business group; The first model tested is 'the Gaps Model of Service Quality.' This approach provides a framework to clearly identify how independent retailers' services are aligned with consumer expectations. The model posits five gaps that provide a route to measure experiences with promises and expectations. The widely applied model has been used extensively in customer facing businesses such as; retail, banking, accountancy, catering, real estate, hospitals, travel agencies, higher education, libraries, and other settings in the United States and other countries (Parasuraman, Zeithaml, & Berry, 1994, p. 203; White & Abels, 1995, p. 38, Newman 2001, Long & McMellon 2004).

As stated earlier the work around the Gaps model has been applied to retailers with reliable results and so this provides an ideal framework to examine the nature of customer experiences in the context of family firms, this research provides an opportunity to test Ziethaml et al's (1990) in relation to the current retail environment.

### Relationship marketing

Research into relationship marketing illustrates that investment will increase a consumers trust and commitment in their consumer behaviour (Morgan and Hunt 1994) and lead to positive relational exchanges (Morgan and Hunt 1994). Therefore the role of 'trust and commitment' has been illustrated to affect the performance outcomes (Palmatier 2009) of small independent stores. Relationship marketing literature has become popular due to the increase in technology, the service economy and the popularity of total quality management (Noble and Philips 2004, Sheth and

Paravatiyar, 1995). Relationship marketing has been divided into key constructs previously and tested by De Wulf and Odekerken-Schroder (2003) and some of these constructs were also adapted in a later study by Palmatier et al (2009). These concepts will be drawn upon in this research.

#### Literature on retailing and small business

Smith and Sparks (2000) discuss the economic function of small UK retailers and their social and economic function and the communities which they serve. Broadbridge and Calderwood (2002) conduct research highlighting the detrimental affects of the large multiple retailer in the small independent store and Kirby (1978) highlighted their inability to compete against the mass market retailers. Clarke (2000) looks at the shift of retail power and the disadvantages that this cause to the small independent retailers.

Sales in town centres has experienced a marked decline over the last two years from 49.4% (2010) dropping to 42.5% (2011) and further contraction expected by 2014 to 39.8% (Department for Business Innovation and Skills (2011) cited in the Portas Review (DBIS, 2011). The number of town centre stores has shrunk by 15,000 between 2000 –2009 and a further 10,000 loss over the last few years.

As retailers disappear from the high street they initiate a downward spiral of decline on the high street , resulting from decreased footfall, in the last 3 years footfall has fallen by 10% (DBIS, Portas Review, 2011).

Small stores have been criticized for having marketing and marketing research as a low priority and becoming complacent in providing good customer service (Logan 1994.) Inadequate management (Kirby, 1984, 1985) and lack of understanding of consumer needs and shifts in patterns of consumption (Davies, 1976) has also been highlighted. Many researchers have observed the decline of small independent retailers (Davies, 1976; Kirby, 1978; Dawson and Kirby, 1979; Dawson, 1983) Coca-Stefanski et al (2005) look at the trends in decline of the small independent store by conducting research with these retailers and Paddison and Calderwood (2007) address the decline in rural retailing and highlight :

*'Higher stockholding and transport costs results in unfavourable cost structures. Achieving operational efficiency can be problematic.'*  
(p.139).

At the same time however, developments in marketing frameworks for small businesses have adapted existing tools applied to larger businesses, for example the adaptation of the marketing mix into the 3Ps by Ramarpu et al (1999); Product, Place and Promotion. Research by O'Dwyer et al (2009) examined the nature of marketing in SMEs; emphasizing the importance of integrated marketing as a key component of successful business performance. All too often marketing in small firms is considered to be ad hoc and unclear, in reality, centralized management and ownership structures mean intelligence about customers is held centrally by key family and / or managers. Research examining the nature of customer experiences in SMEs have identified strong customer-focus and orientation, both are closely aligned with successful business performance in SMEs (Siu, 2000; Pearce and Michael, 1996; Brooksbank et al, 1992). The customer experience is paramount in the SME independent retailer

shopping experience, as proximity to customers helps to minimize the perceived customer risks associated with shopping in a smaller, retailer without substantial brand recognition (O'Dwyer et al, 2009).

Researchers have struggled to apply marketing and strategic management tools in understanding the processes embedded in family owned and managed businesses (Gudmundson et al, 1999). Family firms are defined by the involvement of family members and typically characterize a high correlation between familial and organizational values, loyalty and deferred gratification, emphasizing the needs of the business (Harris et al, 1994). Therefore marketing initiatives may seem to be knee-jerk reactions without a formalized strategy, but in reality are more likely to be the result of inherent understanding of the customer base for the business. The dichotomy in the research underlines the fragmented and more ad hoc approach to marketing often evident in SME retailers, which does not mean it does not exist, but it operates in a different format to larger retailers.

Bates (1976), Jones and Oliphant (1976), Dawson and Kirby (1979) and Dawson (1983) highlighted the generic problems of small shops. These have been attributed, first, to inadequacies in the trading environment such as economic and social change, competition from multiple retailers and location difficulties. Secondly, there were a Series of identified inadequacies in the retail form: operating costs, investment capital available and supply problems.

### Methodology

This research examines the perception of service experience and relationship marketing amongst independent retailers. Data will be collected through thirty semi-structured in-depth interviews with independent retailers owner managers and explores whether their ownership and management structure offers advantages to the customer service experience.

### Expected findings

The expected findings will demonstrate how smaller family owned businesses address customer service and whether they have had to adapt in response to increased competition. The service quality models provide useful frameworks to provide this data, and drawing on previous research in this field we will identify whether the ownership and management styles of the cases in this research have an impact on the customer experience. We hope to identify whether there are certain characteristics that family-owned businesses possess that could be further developed to enhance their marketable appeal in building stronger relationships with their current customers. A further development may enable these businesses to identify an untapped customer base.

### References

Bates, P. (1976). *The Independent Grocery Retailer: Channel problems — A Report of a Survey*. Research Report 23. Manchester: Outlets Research Unit, Manchester Business School.

Brooksbank, R., Kirby, D.A. and Wright, G. (1992), "Marketing and company performance: an examination of medium sized manufacturing firms in Britain", *Small Business Economics*, Vol. 4 No. 3, pp. 221-36.

Broadbridge A and Calderwood E (2002) Rural Grocery Shoppers: Do their attitudes reflect their actions. *International Journal of Retail & Distribution Management*. 30 No 8. pp.394-406

Brown, T. Churchill, G. Peter, J. (1993) Improving The Measurement Of Service Quality *Journal Of Retailing* 69(1); 127-39

Buttle, F. (1996) "SERVQUAL: Review Critique, Research Agenda" *European Journal Of Marketing* 30 (1); 8-32

Buttle, F. (2004) *Customer Relationship Management: Concepts and Tools*. Oxford, Elsevier/Butterworth Heineman

Clarke I (2000) Retail power, competition and local consumer choice in the UK grocery sector. *European Journal of Marketing*. 34. No 8

Coca-Stefaniak A, Hallsworth A, Parker C, Bainbridge S, Yuste R (2005) Decline in the British small shop independent retail sector: Exploring European Parallels. *Journal of Retailing and Consumer Services*. 12, Issue 5, pp. 357-371

Cronin Jr, J. and Taylor, S. (1992), Measuring Service Quality: A Reexamination and Extension. *Journal of Marketing*, 56 (July); 55-66.

Dabholkar, P.A., Thorpe, D.I., Rentz, J.O. (1996) A measure of service quality for retail stores: scale development and validation. *Journal of the Academy of Marketing Science*, 24(1); 3-16.

Dawson, J.A. (1983). *Small Firms in Retailing: Terminal Illness or Just a Cold?* *IRS Working Paper 8303*. University of Stirling

Dawson, J.A. & Kirby, D.A. (1979). *Small Scale Retailing in the United Kingdom*. Farnborough: Saxon House.

Davies, R.L. (1976). Planning Solutions to the Problems of the Small Shop. *Town and Country Planning* 44 (4), April, 215-220.

DBIS (2011) 'The Portas Review. An independent review into the future of our high streets.' Report for UK Department for Business Innovation and Skills. <http://www.bis.gov.uk/assets/biscore/business-sectors/docs/p/11-1434-portas-review-future-of-high-streets.pdf> [accessed 13 April 2012]

De Wulf K and Odekerken-Schroder (2003) Assessing The Impact Of A Retailers Relationship Efforts On Customers Attitudes And Behaviours. *Journal of Retailing And Consumer Services*. 10 pp.95-108

Habbershon, T. and Williams, M. (1999) A resource-based framework for assessing the strategic advantages of family firms. *Family Business Review*, 12(1);1-25.

Jones, B. & Oliphant, R. (1976). *Local Shops: Problems and Prospects*. Reading: Unit for Retail Planning Information.

Kardes, F. and Kim, J. (1991), Consumer Inference co-chairs of a special topic session presented at the *Annual Conference of the Association for Consumer Research*, Chicago, IL.

Kashyap, R. (2001) The Effects Of Service Guarantees On External and Internal Markets. *Academy of Marketing Science*. Available at:  
<http://www.amsreview.org/articles/kashyap10-2001.pdf> [Accessed 29/09/04]

Kirby D and Hallsworth A (1978) *Retail Assessment Vol. 10*, No. 4 (1978), pp. 268-270 [Blackwell Publishing](#) on behalf of [The Royal Geographical Society \(with the Institute of British Geographers\)](#) Stable URL: <http://www.jstor.org/stable/20001367>

Kirby, D.A. (1984). Training for the Small Retail Business: The Results of a British Experiment. *International Small Business Journal* 2 (3), 28-41.

Kirby, D.A. (1985). Management Training for the Smaller Retailer. *Retail and Distribution Management* 13 (5), 42-47.

Kirby, D.A. (1986). The Smaller Retailer, in Curran, J., *et al*, *The Survival of the Small Firm I*. Aldershot: Gower.

Kirby, D.A. (1987). Village Shops: Improving Their Chances of Survival. *Planning Practice and Research* 2, March, 16-20.

Logan, S.N. (1994). Small Store Survival. *International Trends in Retailing* 11 (2), 71-85.

Gagliano, K. and Hathcote, J. (1994) Customer Expectations And Perceptions Of Service Quality In Apparel Retailing. *Journal Of Services Marketing* 8(1);60-69.

Grönroos, C. (1984) A Service Quality Model and its Marketing Implications *European Journal of Marketing*, 18 (4); 36-44.

Gruber, M. (2004) Marketing in new ventures: theory and empirical evidence. *Schmalenbach Business Review*, 56; 164-199.

Gudmundson, D. Hartman, E.A., Tower, B. (1999) Strategic orientation: differences between family and nonfamily firms. *Family Business Review*, 12(1); 27-39.

Harris, D. Martinez, J. and Ward, J. (1994) Is strategy different for the family-owned business? *Family Business Review*, 7(2); 159-174.

Gudmundson, D. Hartman, E.A., Tower, B. (1999) Strategic orientation: differences between family and nonfamily firms. *Family Business Review*, 12(1); 27-39.

Harris, D. Martinez, J. and Ward, J. (1994) Is strategy different for the family-owned business? *Family Business Review*, 7(2); 159-174

Newman, K. (2001) Interrogating SERVQUAL: a critical assessment of service quality measurement in a high street retail bank. *International Journal of Bank Marketing* 19(3);126 – 139.

Noble, M.S. and Phillips, J. (2004) Relationship hindrance: why would consumers not want a relationship with a retailer? *Journal of Retailing*, 80 No. 4, pp. 289-303.

Long, M. and McMellon, C. (2004) Exploring the determinants of retail service quality on the Internet. *Journal of Services Marketing*, 18(1);78 – 90.

Morgan, M.R. and Hunt, D.S. (1994) The commitment-trust theory of relationship marketing *Journal of Marketing*, 58, July, pp. 20-38.

Morris, M. Schindehutte, M. and LaForge, R. (2002) Entrepreneurial Marketing: A construct for integrating emerging entrepreneurship and marketing perspectives. *Journal of Marketing, Theory and Practice*, Fall; 1-19.

O'Dwyer M, Gilmore A, Carson d, (2009) "Innovative marketing in SMEs", *European Journal of Marketing*, Vol. 43 Iss: 1/2, pp.46 – 61

Palmatier R, Jarvis C, Bechkoff J, Kardes F (2009) The role of customer gratitude in relationship marketing. *Journal of Marketing*. 73 (September 09) pp.1-18

Palmatier R, Dant R, Grewal D, & Evans K (2006) Factors Influencing the Effectiveness of Relationship Marketing: A Meta-Analysis. *Journal of Marketing* 70 (October 2006), 136–153

Parasuraman, A, (1998) Customer Service in Business-to-Business markets: an Agenda for Research *Journal of Business & Industrial Marketing* 13(4).

Parasuraman, A. Zeithaml, V. and Berry, L. L. (1994). Alternative scales for measuring service quality: A comparative assessment based on psychometric and diagnostic criteria. *Journal of Retailing*, 70(5),201-230.

Parasuraman, A., Zeithaml, V. and Berry, L.L. (1985), "A Conceptual Model of Service Quality and Its Implications for Future Research," *Journal of Marketing*, 49 (Fall); 41-50.

Ramarapu S; Timmerman J & Ramarapu N (1999) Choosing between globalization and localization as a strategic thrust for you... *Journal of Marketing Theory and Practice*; Spring 7, 2; pg. 97-114

Richins, M. (1983) Negative Word of Mouth by Dissatisfied Customers: A Pilot Study *Journal of Marketing*. 47; 68-78

Sargeant A. and West C. (2001) *Direct and Interactive Marketing*, Oxford, Oxford University Press

Sheth, N. J., & Parvatiyar, A. (1995). Relationships marketing in consumer markets: Antecedents and consequences. *Journal of Academy of Marketing Science*, 23(4), 255-271

Siu, W.S. (2000), "Marketing and company performance of Chinese small firms in mainland China: a preliminary study", *Journal of Small Business and Enterprise Development*, Vol. 7 No. 2, pp. 105-22.

Sivadas E. and Baker-Prewitt J. (2000) An examination of the relationship between service quality, customer satisfaction, and store loyalty. *International Journal of Retail & Distribution Management*, 28(2);73 – 82.

Smith, A, Sparks, L. (2000), The role and function of the independent small shop: the situation in Scotland. *International Review of Retail, Distribution and Consumer Research*, 10 No.2, pp.205-26

Stokes D and Lomax W (2002) "Taking Control Of Word Of Mouth Marketing: The Case Of The Entrepreneurial Hotelier." *Journal of Small Business And Enterprise Development* 9(4); 349-357.

Van Dyke, T. P., Kappelman, L. A. and Prybutok, V. R. (1997) Measuring information system service quality: Concerns on the use of the SERVQUAL questionnaire. *MIS Quarterly*, 21; 195-208.

Vavra, T. G. (1997). *Improving your measurement of customer satisfaction: A guide to creating, conducting; analyzing, and reporting customer satisfy action measurement programs*. Milwau-kee, WI: ASQ Quality Press.

Ward, J. L. (1988) The special role of strategic planning for family businesses. *Family Business Review*, 1(2);105-117

White, M. D., and Abels, E. G. (1995). Measuring service quality in special libraries: Lessons from service marketing. *Special Libraries*, 6(1);36-45.

Zeithaml, V. A. Parasuraman, A. and Berry, L. L. (1990). *Delivering quality service: Balancing customer perceptions and expectations*. New York: The Free Press.

Zeithaml, V. A, Berry, L. L., and Parasuraman, A. (1993). The nature and determinants of customer expectations of service. *Journal of the Academy Marketing Science*, 21(1); 1-12.

# Learning Consumer Tastes through Dynamic Assortments

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We investigate the dynamic product assortment decisions of a retailer who is learning consumer tastes by observing sales. We define a partial order on assortments based on their information content, such that a more informative assortment induces less substitution from customers. Akin to the ‘stock more’ result in a multi-period inventory management setting with perishable inventory and unobservable lost sales, we find that it is never optimal for the firm to offer an assortment that is less informative than the myopically optimal assortment. We also provide valuable insights on how to dynamically change the assortment in order to achieve the optimal trade-off between exploitation and exploration.

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**Introduction.** In practice firms may not necessarily know the distribution of consumer tastes for some of the products they sell, especially for new ones. A firm that is uncertain about the distribution of consumer tastes can use product assortments as information gathering tools. Such an undertaking must optimally trade off information gathered on consumer tastes by observing sales from an assortment (which can be exploited in the long run) with the profits earned in the short term (by maximizing immediate rewards). This tradeoff is commonly known as the exploration-exploitation tradeoff.

**Model.** We consider a retailer who learns about consumer preferences by experimenting with different assortments and observing sales in product category with horizontally differentiated products, i.e., products which differ with respect to only one attribute for which consumers have different first choices provided that they cost the same. Example of such an attribute are fat content, sweet-

ness, spice level or color. We use a locational choice model à la Hotelling where consumer tastes are represented by a discrete set of locations and a Bayesian framework to model the updating of the firm's beliefs on consumer locations. Initially, the firm knows the set of all possible consumer locations on the attribute space, starts with a prior distribution over these locations and updates this distribution using Bayes' rule after observing sales in each period.

First, we solve the single-period problem where no learning takes place and show that the problem can be cast a shortest path problem and therefore solved efficiently.

Second, we consider the finite-horizon problem with learning. Because a given assortment may force consumers to substitute, there may be some censoring of consumer taste information if the firm observes sales but not tastes. We consider two scenarios: (i) the *uncensored* information case, in which the firm is able to observe consumer tastes post-purchase, that is, the firm learns the most preferred product for each consumer (even those who did not make a purchase from the chosen assortment); and (ii) the *censored* information case, in which the firm is only able to observe sales of each product (and possibly the number of customers who did not make a purchase). The firm is also uncertain about *market size*, i.e., the number of customers who visit the store each period. We initially assume that the firm observes the realization of market size at the end of each period, then extend our analysis to unobservable market size.

**Analysis.** We show that, in the uncensored information case, the optimal assortment in a given period is the one that maximizes the immediate profit; in other words, a myopic policy is optimal. In contrast, the optimal assortment in the censored case may be such that it is optimal to sacrifice some profit in the current period in order to gather better information about consumer preferences and earn more profit in future periods. We propose a partial order of assortments based on their information content and show that the optimal assortment under censored information cannot be less informative than the optimal assortment under uncensored information (the myopically optimal assortment). This result is similar in nature to the 'stock more' result which is well-known in censored newsvendor problems (e.g., Ding et al. 2002). In this setting a newsvendor observes sales rather than demand so that sales observations provide censored information on demand:

a stock-out only signals that demand must have been higher than the order quantity. In these problems, it is typically optimal to stock more than the myopically optimal order quantity because higher order quantities provide more information about the demand distribution. Hence, our paper establishes an analogous result for product assortment problems.

**Contribution.** Our paper contributes to the growing literature on dynamic assortment planning (e.g., Caro and Gallien 2007, Rusmevichientong et al. 2010, Saure and Zeevi 2010) in three ways. First, we demonstrate how a firm can learn consumer tastes over a set of horizontally differentiated products by changing its product assortment dynamically. Second, we generate insights on the structure of optimal assortments and, in particular, on the exploration-exploitation tradeoff in a new product category for which little is known about consumer preferences. We show that it may be optimal to alternate between periods of exploitation (using the myopically optimal assortment) and periods of exploration (offering an assortment that is more informative than the myopically optimal assortment) . We also study the *value of learning* which we break down into three components (*proactive, active and passive learning*) and study how they change with the prior distribution and the length of the planning horizon. We find that the value of learning is high when the time horizon is long, and when the firm is uncertain and/or has little information about consumer tastes. Third, our paper also contributes to the literature by highlighting similarities between Bayesian learning models in multiperiod inventory models with perishable inventory and unobservable lost sales, a.k.a censored newsvendor problems, and dynamic product assortment problems. In censored newsvendor models observing sales provides only censored information on demand. We analyze a different form of censoring, the censoring of consumer tastes, which occurs when the assortment offered by the firm induces consumers to substitute, that is purchase a product other than their ideal choice. Using a model of consumer choice behavior, we pose a novel censoring problem, which could not be captured by existing dynamic assortment models in the literature.

## References

- Caro, F., J. Gallien. 2007. Dynamic assortment with demand learning for seasonal consumer goods. *Management Sci.* **53**(2) 276–292.

- Ding, X., M. L. Putterman, A. Bisi. 2002. The censored newsvendor and the optimal acquisition of information. *Oper. Res.* **50**(3) 517–527.
- Rusmevichientong, P., M. Shen, D. Shmoys. 2010. Dynamic assortment optimization with a multinomial logit choice model and capacity constraint. *Oper. Res.* **58**(6) 1666–1680.
- Saure, D., A. Zeevi. 2010. Optimal dynamic assortment planning. Working paper, Columbia University, New York, NY.

# WHEN FRANCHISORS DESCRIBE THEIR IDEAL FRANCHISEE

## AN EXPLORATORY STUDY OF HOW FRENCH FRANCHISORS SEE THE ENTREPRENEURIAL PROFILES OF THEIR PROSPECTIVE FRANCHISEES

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### Abstract

**Purpose** – This article has two main objectives: first, to identify the various profiles of franchisees' entrepreneurs within franchise systems; second, to understand if a specific profile can be explained by the franchise system characteristics (franchise system age, size of the system, term of franchise agreement, franchise fee, cash liquidity requirements, total investment, ongoing royalty fee rate and sectoral differences) as it could help franchisors to better manage the selection of potential franchisees.

**Design/methodology/approach** – Qualitative research carried out within 14 franchising networks coupled with ANOVA analysis of data collected from 90 franchise systems.

**Findings** – Overall, the qualitative study leads to identify three main entrepreneurial profiles – *system-developer franchisees, in-store craftsman franchisees and opportunistic-investor franchisees* – which present entrepreneurial qualities varying in intensity. It also suggests that the selection of a specific profile by a franchising network is linked to its characteristics. The quantitative research carried out within 90 French franchising networks establishes that the term of the franchise agreement and the sector are linked to the selection of specific profiles. Managerial implications are drawn from these results and recommendations made for franchisors willing to improve their selection processes.

**Research limitations/implications** – Future research should focus on developing a scale to measure the identified profiles. A larger sample of respondents will allow refining our results. Cross-cultural studies should also be carried out.

**Originality/value** – This research fills a gap in the franchising literature as no study has developed a typology of franchisees entrepreneurial profiles and described them in terms of franchise system characteristics.

**Keywords** – Franchising, entrepreneur, entrepreneurship, franchisor-franchisee relationships, profiles

**Paper type** – Research paper

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**Retail logistics and supply chain management**

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## **Key Account Management and Supply Chain Management Execution**

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## **Key Account Management and Supply Chain Management Execution**

### **Abstract**

*Purpose:* This paper investigates the potential of key account management (KAM) forming an integral part of supply chain management (SCM). Based on the marketing and SCM literature that focuses on relationships and collaboration, a conceptual model is presented that shows the impact of a firm's supply chain partnering-related internal and external fitness (SCM conditions) on its ability to undertake KAM, and the subsequent impact of KAM on the execution of SCM.

*Methodology:* A survey of 174 managers representing different supply chain stages was used to test the model by variance-based structural equation modelling.

*Findings:* The findings reveal that external conditions directly affect the ability to undertake KAM. Nevertheless, internal SCM conditions show considerable indirect impact through external conditions and thus can be considered as an indirect determinant. The ability to undertake KAM in turn impacts the integration of business processes in terms of SCM execution directly and substantially. We finally confirm that the ability to undertake KAM can be considered to be a significant mediator between SCM conditions and SCM execution.

*Research limitations:* Context specific characteristics of the Central European supply chain setting where the empirical study was conducted needs to be taken into account when interpreting the data.

*Originality:* The main contribution of this paper is to prove the central role of KAM in affecting SCM execution.

### **Keywords**

Key account management, supply chain management, relationships, collaboration; execution;

*Research paper*

# Key Account Management and Supply Chain Management Execution

## 1. Introduction

One of the crucial elements in successful supply chain management (SCM) is its long-term relationship orientation towards customers and suppliers (Chen and Paulraj 2004; Cousins and Menguc 2006; Das 2006). Following Morgan and Hunt's (1994) relationship model supply chain managers aim to manage internal relations, horizontal relations and vertical relations with suppliers and customers. The importance of supply chain relationship management has been discussed by Cooper, Lambert and Pagh (1997), Mentzer et al (2001) and Cousins and Menguc (2006) who all considered supplier as well as customer relationship management as important processes and/or components of their SCM-models. Further, there is overall agreement that supply chain relationships are built upon trust and commitment from shared values and information, mutual dependence, communication and relationship benefits (Morgan and Hunt 1994; Spekman, Kamauff Jr. and Myhr 1998).

There has been substantial work in the marketing domain regarding relationship marketing (RM), for example see Möller and Halinen (2000), Morgan and Hunt (1994), and Brehmer and Rehme (2009), and key account management (KAM), for example see Millman and Wilson (1995) or Homburg, Workman Jr. and Jensen (2002). KAM is seen as providing added value in relationships (Pardo et al 2006) and requires the systematic selection, analysis, set up and maintenance of necessary infrastructure and management of the most important current and potential customers of a firm (Zupancic 2008).

Ojasalo (2001) considered key account management as a relationship-oriented marketing management approach focusing on dealing with major customers in the business-to-business market. He noted that a successful KAM strategy contains four basic elements: identifying the key accounts; analysing the key accounts, selecting suitable strategies for the key accounts; and developing operational level capabilities to build, grow, and maintain profitable and long-

lasting relationships with them. KAM embrace 'relationship keyness' (Ivens et al 2009) where certain external actors and their relationships are more important than others to a firm within the supply chain. Brehmer and Rehme (2009) identified three types of drivers for KAM: a proactive programme that is driven by sales opportunity; a reactive programme that is driven by customer demands; and an organisation-based programme that is driven by a belief in customer-centric organisational units. Thus, the need for understanding, developing and maintaining relationships is also evident in these drivers.

The requirement for a firm to adopt and execute SCM stems from the marketplace, which expects both product and service customisation and optimal utilisation of resources in a global environment (Cousins and Menguc 2006), similar to proposed drivers for KAM. This environment provides many organisations with an incentive to establish a value-added network, where complex inter-firm relationship management, collaboration and/or coordination takes place in the areas of product design, production, supplier selection and marketing (Cousins and Lawson 2007). Further, there is some evidence that the effective implementation or execution of SCM results in improved performance of firms (Frohlich and Westbrook 2001; Li et al 2006).

The impact of KAM on the development and execution of SCM has not hitherto been considered. For a firm to achieve effective SCM execution, the relationship and collaborative aspects of KAM as they affect SCM need to be investigated as we consider them fundamental to the overall SCM development and execution process. Based on the above literature regarding the potential of KAM for enhancing SCM execution, this paper has three research aims: (1) Discuss the role of KAM as part of the SCM concept, (2) show how the overall implementation of SCM within a firm affects its ability to undertake KAM and (3) investigate the importance of KAM for the execution of SCM. The core contribution of this paper is to prove the central role of KAM in affecting SCM execution.

After these introductory remarks we develop a conceptual model and hypotheses of SCM and KAM and our methodology for a research study. Following the presentation of the study results we discuss the core findings with respect to the ones in literature, and the paper is rounded-off with conclusions and implications for future research.

## **2. Conceptual model and hypotheses**

Due to the limited body of knowledge on KAM as an integrated part of SCM and the absence of an introduced measurement scale of KAM, we focus here on the core element of customer-related relationship management, which is the fundamental capability of supply chain partners to set up relationships with their customers. This refers to the planning and implementation elements of the KAM processes (Lambert, Cooper and Pagh 1998). They are: processing orders according to agreement with customers; forecasting future customer demand; adapting production capacity according to customer demand; informing customers about the current status of their orders; capability to manage returns and returned packaging; integrating key accounts in the development/implementation of marketing programme. This factor can be labelled 'ability to undertake KAM'.

The supply chain management literature sees the ability of undertaking KAM as an SCM-related process (Lambert, García-Dastugue and Croxton 2005) which supports the integration of processes between supply chain partners on a strategic level (Cousins and Lawson 2007; Kotzab et al 2011). More specifically, Teller, Kotzab and Grant (2011) provide empirical proof that the ability of undertaking KAM beyond other SCM related processes plays an substantial role in changing the level of SCM execution. The execution of SCM within a firm is understood as the firm's internal and external integration of business processes with customers and suppliers to create value and to improve the total performance of the supply chain (Lambert, Cooper and Pagh 1998; Frohlich and Westbrook 2001; Mentzer et al 2001). Thus the first hypothesis is:

*H<sub>1</sub>: The greater the ability to undertake KAM, the greater the level of SCM execution.*

SCM processes and thus the capability to do KAM are determined by the internal 'fitness' of a firm and in the following are labelled as internal SCM conditions. These comprise conditions such as top management support, the availability of human and financial resources, internal goal setting before SCM projects, abilities of staff to use and the appropriateness of SCM related IT-systems, internal guidelines for data exchange with supply chain partners, personnel trained to contribute to SCM projects, cross function project groups for SCM, expertise to set up supply chain partnerships and willingness within an organisation to integrate with other supply chain partners (Cooper, Lambert and Pagh 1997; Lambert, Cooper and Pagh 1998; Mentzer et al 2001; Fawcett and Magnan 2002; Cigolini, Cozzi and Perona 2004). We propose the internal SCM conditions as antecedents of the ability to undertake KAM and thus derive our second hypothesis:

*H<sub>2</sub>: The more internal SCM conditions are provided within an organisation, the greater the ability to undertake KAM.*

Internal SCM conditions are closely related to being externally 'fit' for SCM, in other words the provision of external SCM conditions (Droge, Jayaram and Vickery 2004) such as collaboration agreements with other supply chain partners, inter-organisational project groups, awareness of decision related interdependencies between organisations, mutual trust, existence of long term relationships with other supply chain partners, equal distribution of power, risks and benefits in the chain, mutual dependencies, exchange of stock level, forecasting and product development information, similarity of corporate culture and decision making processes (Lambert, Cooper and Pagh 1998; Mentzer et al 2001; Ho, Au and Newton 2002; Chen and Paulraj 2004). Based on these notions we also propose that external SCM conditions affect the SCM processes and thus the ability to undertake KAM (Lambert 2004). Our third hypotheses therefore is:

*H<sub>3</sub>: The more external SCM conditions are provided within an organisation, the greater the ability to undertake KAM.*

Both internal and external SCM conditions are seen to impact the execution level – in the same way as the ability to undertake KAM directly (Lambert, García-Dastugue and Croxton 2005). Also, following Lambert's (2004) view of a hierarchical order, internal SCM conditions may also directly affect external SCM conditions. Although not of primary importance for investigating the role of KAM for SCM execution, we nevertheless include these three effects in our conceptual model for the sake of completeness.

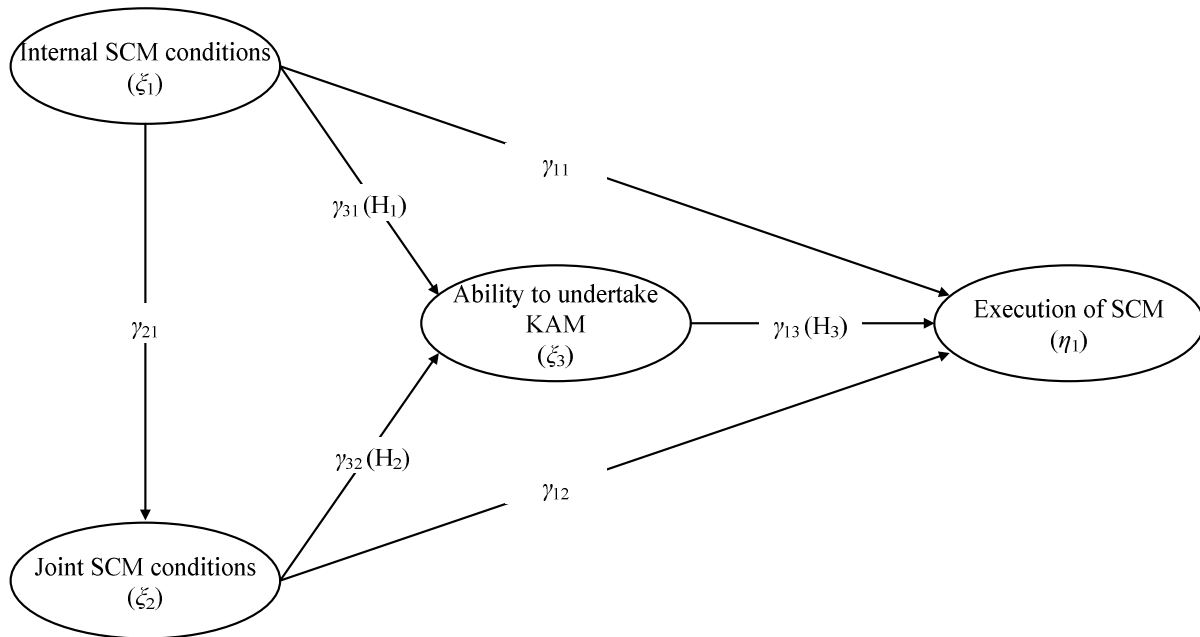
The first three hypotheses propose that the ability to undertake KAM plays a central role in influencing the execution level of SCM. This leveraging role of KAM as part of other SCM related processes was discussed and proposed by Lambert (2004) and Kotzab, Friis and Busk (2006). So far, the literature provides no empirical proof for the mediating power of KAM between internal and external SCM condition and SCM execution. Thus, we propose the following and final two hypotheses:

*H<sub>4a</sub>: The ability to undertake KAM significantly mediates the effect between internal SCM conditions and the execution of SCM.*

*H<sub>4b</sub>: The ability to undertake KAM significantly mediates the effect between external SCM conditions and the execution of SCM.*

To summarise our hypotheses a conceptual model is shown in Figure 1. The model proposes generic features of the relationship management process with customers as a central element for both (1) leveraging the strength of internal or external conditions of SCM execution and (2) influencing the level of SCM execution.

**Figure 1: Conceptual Model**



To test the significance of KAM construct as an antecedent and lever for SCM execution, we undertook an empirical study. The methodology for this study is detailed in the following section.

### 3. Methodology

#### 3.1. Empirical research design

To empirically investigate our conceptual model and to test our hypotheses we conducted a survey targeting senior managers of organizations in the manufacturing, trade and service industries in Austria. A structured self-administered questionnaire containing 45 questions using nominal and ordinal scales served as a research instrument.

Due to excellent access to organizations and a high level of SCM implementation in Austria we defined our population as the 790 largest Austrian organizations in the retail and manufacturing sectors per the ÖNACE-classification. From that we randomly selected 200 organizations and identified, pre-notified and contacted senior managers there responsible for logistics and SCM. After several extensive waves of reminding and motivating the identified

informants to complete our survey, we ended up with 174 usable questionnaires which equals a response rate of 87%.

The final sample consists of senior managers who represent manufacturing companies (39%) and trading companies (29%). All other organizations belong to the service, building and energy sector (32%). By comparing the affiliation of respondents with the distribution of industry affiliation in the drawn random sample we found no significant difference (Chi square-test;  $X^2_{(2)}=2.811$ ;  $p>.05$ ).

### *3.2. Scales and analysis*

The conceptual model includes reflective constructs, thus the indicators representing manifestations of the constructs. The scales standing behind the latent construct consist of items taken from the literature and were developed and purified by Kotzab et al (2011) (see Appendix).

We applied variance-based structural equation modelling using partial least-squares (PLS) to test the proposed effects (Chin 1998; Tenenhaus et al 2005), and the software SmartPLS (Ringle, Wende and Will 2005). In general the PLS approach conveys a number of advantages in terms level of measurement and multinormality compared to a co-variance based structural equation modelling (SEM) approaches. We specifically applied the variance-based approach because we tested a rather complex model based on a relatively small sample (Chin and Newsted 1999). Further, we are not attempting to test a theory; rather we are attempting to predict the antecedents of KAM and the impact of KAM on SCM. Lastly our study has a quite exploratory character and thus requires a variance-based rather than a co-variance based SEM approach.

By testing the local fit of the outer- or measurement model (i.e. the sets of constructs with the observable items standing behind them) of each of the three groups we found that all  $t$ -values

of the factor loadings proved to be highly significant ( $p < 0.001$ ) and all loadings exceeded the suggested size of 0.70 (Hulland 1999). The internal consistency is also considered satisfactory for all factors with Cronbach Alpha values exceeding 0.70 (Nunnally 1978) and the composite reliability of all factors greater than 0.70 (Fornell and Larcker 1981).

The degree of the convergent validity is acceptable with average variances extracted (AVE) in the range of 0.5 or higher (Bagozzi and Yi 1988). With regard to the constructs' discriminant validity, the AVE is larger than the highest squared inter-correlation with every other factor in the measurement models; i.e. the Fornell-Larcker-Ratio (FLR) is less than 1.0 (Fornell and Larcker 1981). Additionally all factor loadings on the assigned factor is higher than all loadings (i.e. cross loadings) on the non-assigned factors (Chin 1998). It can be concluded that there is a sufficient local fit of the data.

To evaluate the overall fit of the model with the empirical data we calculated the goodness of fit criterion proposed by Tenenhaus et al (2005) in the form of the geometric mean of the average communality and average  $r^2$ . Data on which our model is based has a reasonable goodness-of-fit of 0.49, which is slightly below the recommended threshold of 0.50.

#### **4. Findings**

We evaluated the structural models per Chin (1998) and Cohen (1988) using the coefficients of determination ( $r^2$ ), the size, signs and significance of the single path coefficients ( $\gamma_n$ ) and the effect sizes ( $f^2$ ). For testing the hypotheses we took into consideration both direct and indirect effects between the latent factors. The results are shown in Table 1.

By interpreting the direct effects exclusively we see that the internal SCM conditions ( $\zeta_1$ ) significantly and substantially affect the external SCM conditions ( $\zeta_2$ ) whereas the impact on SCM execution ( $\eta_1$ ) is slightly significant and weak. Nevertheless, the internal conditions show no significant effect on the ability to undertake KAM ( $\zeta_3$ ).

The external SCM conditions ( $\xi_2$ ) impact SCM execution ( $\eta_1$ ) only slightly with the effect being significant but weak. They also show a significant medium sized on the ability to undertake KAM ( $\xi_3$ ), which in turn significantly affects the execution of SCM by also having a medium-sized effect.

Taking into account the total effect by additionally considering indirect effects between constructs and thus considering (partial) mediating effects, we found that the internal SCM conditions have a significant and strong effects on both the ability of undertaking KAM ( $\gamma_{31} + \gamma_{21} * \gamma_{32}$ ) and executing SCM ( $\gamma_{11} + \gamma_{21} * \gamma_{12} + \gamma_{31} * \gamma_{13} + \gamma_{21} * \gamma_{32} * \gamma_{13}$ ). In terms of total effect, external SCM conditions also affect the execution of SCM significantly and substantially ( $\gamma_{12} + \gamma_{32} * \gamma_{13}$ ).

Based on these findings, two of the three hypotheses are supported. In the case of H<sub>2</sub> and H<sub>3</sub> we find support based on the significance and strength of the effects and the sign of the coefficients  $\gamma_{32}$  and  $\gamma_{13}$ . The pure consideration of the direct effect leads to the rejection of H<sub>1</sub>. Nevertheless, considering the strong indirect effects from internal SCM conditions on the ability to undertake KAM through the external conditions we see a strong and significant total effect and thus a strong overall impact.

**Table 1: Direct and indirect structural effects**

Affecting factors	Affected factors														
	Execution of SCM ( $\eta_i$ )				Ability to undertake KAM ( $\xi_3$ )				External SCM conditions ( $\xi_2$ )						
	Direct effects ( $\gamma_n$ )	Med	Indirect effects	Total effects	Direct effects ( $\gamma_n$ )	Med	Indirect effects	Total effects	Direct effects ( $\gamma_n$ )	Med	Indirect effects	Total effects			
Internal SCM conditions ( $\xi_1$ )	$\gamma_{11}$	.258 <sup>*(w)</sup>	{ $\xi_2, \xi_3$ }	.273 <sup>***</sup>	.531 <sup>***</sup>	$\gamma_{31}$	.050 <sup>ns(w)</sup>	{ $\xi_2$ }	.298 <sup>***</sup>	.348 <sup>***</sup>	$\gamma_{21}$	.805 <sup>***(s)</sup>	{-}	--	.805 <sup>***</sup>
External SCM conditions ( $\xi_2$ )	$\gamma_{12}$	.243 <sup>*(w)</sup>	{ $\xi_3$ }	.082 <sup>*</sup>	.325 <sup>***</sup>	$\gamma_{32}$	.370 <sup>***(m)</sup>	{-}	--	--	--	--	{-}	--	--
Capability to do KAM ( $\xi_3$ )	$\gamma_{13}$	.221 <sup>***(m)</sup>	{-}	--	.237 <sup>***</sup>	--	--	{-}	--	--	--	--	{-}	--	--

Caption: Med, mediators; \*, *t*-values significant at  $p < .05$  level (\*\*,  $p < .01$ ; \*\*\*,  $p < .001$ ); --, no (in)direct effect proposed or n/a; (w), weak effect ( $f^2$ -value  $\sim .02$ ), (m), moderate effect ( $f^2$ -value  $\sim .15$ ); s, strong effect ( $f^2$ -value  $\sim .35$ );

The interpretation of the coefficients of determination ( $r^2$ ) indicates that almost two-thirds of the variance of the factor external SCM condition is explained by the internal condition ( $r^2$ , .650). Both SCM conditions explain the capability to do KAM by slightly less than one fifth ( $r^2$ , .169). Finally the factor SCM execution shows an  $r^2$ -value of .359 meaning that all three factors contribute to the explanation of the variance considerably.

Finally, we tested for mediation of our core-construct KAM and applied the four-step procedure suggested by Baron and Kenny (1986) and - unlike the testing of the whole model as shown above - we estimate the effect separately for each set of constructs (see H<sub>4a</sub> and H<sub>4b</sub>):

(1) We tested the direct association between the two constructs of SCM conditions ( $\xi_1$  and  $\xi_2$ ) and SCM execution ( $\eta_1$ ) and thus initially neglected the mediating effect of our KAM construct ( $\xi_3$ ). Both constructs show a significant effect ( $\xi_1 \rightarrow \eta_1$ , .538<sup>\*\*\*</sup>;  $\xi_2 \rightarrow \eta_1$ , .546<sup>\*\*\*</sup>);

(2) The effects between the condition constructs and the mediator were assessed next. Again we see significant results ( $\xi_1 \rightarrow \xi_3$ , .384<sup>\*\*\*</sup>;  $\xi_2 \rightarrow \xi_3$ , .456<sup>\*\*\*</sup>);

(3) The third step included testing whether the proposed mediator affects the endogenous constructs. In our case the effect is significant ( $\xi_3 \rightarrow \eta_1$ , .466<sup>\*\*\*</sup>); and

(4) In the final step we investigated whether the indirect effects ( $\xi_1 \rightarrow \xi_3 \rightarrow \eta_1$ ,  $\xi_2 \rightarrow \xi_3 \rightarrow \eta_1$ ) are different from zero by applying Sobel's Test (Sobel 1982). We found that Sobel's  $z$  is 5.55 for the indirect effect of the internal SCM condition construct and 5.43 for the external SCM condition construct; thus the indirect effects are significantly different from zero ( $p < .001$ ).

Finally we determined the size or strength of the mediating effects by using the measure 'Variance Accounted For' (VAF) based on Shrout and Bolger's (2002) formula. The VAF value of the mediated construct internal SCM conditions is 0.250 and of external SCM conditions is 0.280. By interpreting the coefficients using the notions of Cohen (1988) we see that the mediating power of our KAM construct is medium sized. Since we face significant

results on each of the four steps we can confirm both H<sub>4a</sub> and H<sub>4b</sub> and conclude that the effects of SCM internal and external conditions on SCM execution is significantly mediated by KAM.

## **5. Discussion**

With respect to our first research aim our findings show that internal SCM conditions represent an indirect determinant and external SCM conditions are a direct determinant of a firm's ability to undertake KAM. This confirms Lambert's (2004) hierarchical order and emphasises the importance of first internally preparing an organisation for supply chain partnering and KAM, and consequently developing collaborative conditions with supply chain partners in order to be able to undertake KAM. In other words, supply chain partners need to be fit for SCM internally and then externally in order to be capable of following the principle of 'keyness of relationships' on the demand side (Homburg, Workman Jr. and Jensen 2002; Ivens et al 2009).

In terms of our second research aim, the findings clearly show that ability to undertake KAM is an important requirement for the execution of SCM. This supports Teller, Kotzab and Grant's (2011) work that KAM is a core SCM related process. As a consequence, looking upstream at relationship management with key accounts can be considered as an important success factor for SCM, albeit not the only one (Frohlich and Westbrook 2001). However, the relevance of KAM for supply chain partnering in this study stems from the strong and substantial mediating and consequently leveraging effect between getting the firm internally and externally fit for SCM and to execute SCM (Lambert 2004).

Finally, and in respect of our third research aim, the findings clearly indicate an important role for KAM within the remit of SCM. We thus conclude the KAM is central for successful SCM as a means to lever a long-term relationship orientation downstream towards customers (Chen and Paulraj 2004; Cousins and Menguc 2006; Das 2006).

Given the limited state of the KAM literature, our findings call for a stronger consideration of KAM in logistics and SCM research. In paraphrasing Drucker (1962) we conclude that KAM, due to its crucial relevance can be seen as the 'dark continent of supply chain partnering' and that firms should look downstream in developing relationship management within their supply chains.

## **6. Limitations and future research**

As with all research there are some limitations. Firstly, the context specific characteristics of the Austrian supply chain setting where our empirical study took place needs to be taken into account when interpreting the data. Although this problem is inherent for almost every empirical study, future replication in other settings can help to confirm our findings. A replication in other industries and by focusing on smaller organisations than the ones represented by our respondents might also stimulate more specific results.

Obviously quantitative studies like ours bear the limitation that our findings lack depth in terms of findings more details on the determinants and mediating effect of KAM. Case studies of single organisations using qualitative methods could provide more detail on the research questions asked in this paper.

Finally, as we noted above KAM is not the only factor affecting SCM. KAM has an mirror image in the form of Key Supplier Management thus it may be that KASM similarly affects SCM execution. Future research should investigate this other bi-directional phenomenon.

## 7. References

- Bagozzi, Richard P. & Y. Yi. On the Evaluation of Structural Equation Models, *Journal of the Academy of Marketing Science* 16, 74-94 (1988).
- Baron, R. M. & D.A. Kenny. The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations, *Journal of Personality and Social Psychology* 51, 1173-1182 (1986).
- Brehmer, Per-Olof & J. Rehme. Proactive and reactive: drivers for key account management programmes, *European Journal of Marketing* 43, 961-984 (2009).
- Chen, I. J. & A. Paulraj. Understanding supply chain management: critical research and a theoretical framework, *International Journal of Production Research* 42, 131-163 (2004).
- Chin, Wynne W. The Partial Least Squares Approach to Structural Equation Modelling, In *Modern Methods for Business Research*, George A. Marcoulides ed., Lawrence Erlbaum Associates, Ed. Mahwah, New Jersey, 1998.
- Chin, Wynne W. and P. R. Newsted. Structural Equation Modelling: Analysis with Small Samples Using Partial Least Squares, In *Statistical Strategies for Small Sample Research*, R. H. Hoyle ed., Sage, Thousand Oaks, CA, 1999.
- Cigolini, R., M. Cozzi & M. Perona. A new framework for supply chain management Conceptual model and empirical test, *International Journal of Operations & Production Management* 24, 7-41 (2004).
- Cohen, J. *Statistical power analysis for the behavioral sciences*. Lawrence Erlbaum Associates, Hillsdale/NJ, 1988, .

Cooper, Martha C., D.M. Lambert & J.D. Pagh. Supply Chain Management: More Than a New Name for Logistics, *International Journal of Logistics Management* 8, 1-14 (1997).

Cousins, Paul D. & B. Lawson. Sourcing Strategy, Supplier Relationships and Firm Performance: An Empirical Investigation of UK Organizations, *British Journal of Management* 18, 123-137 (2007).

Cousins, Paul D. & B. Menguc. The implications of socialization and integration in supply chain management, *Journal of Operations Management* 24, 604-620 (2006).

Das, T. K. Strategic Alliance Temporalities and Partner Opportunism, *British Journal of Management* 17, 1-21 (2006).

Droge, Cornelia, J. Jayaram & S.K. Vickery. The effects of internal versus external integration practices on time-based performance and overall firm performance, *Journal of Operations Management* 22, 557-573 (2004).

Drucker, Peter F. The economy's dark continent, *Fortune* 65, 103, 265-270 (1962).

Fawcett, Stanley E. & G.M. Magnan. The rhetoric and reality of supply chain integration, *International Journal of Physical Distribution & Logistics Management* 32, 339-361 (2002).

Fornell, Claes & D.F. Larcker. Evaluating structural equation models with unobservable variables and measurement error, *Journal of Marketing Research* 18, 39-40 (1981).

Frohlich, Markham T. & R. Westbrook. Arcs of integration: an international study of supply chain strategies, *Journal of Operations Management* 19, 185-200 (2001).

Ho, Danny C. K., K.F. Au & E. Newton. Empirical research on supply chain management: a critical review and recommendations, *International Journal of Production Research* 40, 4415-4430 (2002).

Homburg, Christian, J.P. Workman Jr. & O. Jensen. A Configurational Perspective on Key Account Management, *Journal of Marketing* 66, 38-60 (2002).

Hulland, John. Use of partial least squares (PLS) in strategic management research: A review of four recent, *Strategic Management Journal* 20, 195-204 (1999).

Ivens, Björn S., C. Pardo, R. Salle & B. Cova. Relationship keyness: The underlying concept for different forms of key relationship management, *Industrial Marketing Management* 38, 513-519 (2009).

Kotzab, Herbert, A. Friis & T. Busk. The implementation of supply chain management within organizations: construct, measurement and explorative empirical discussion, *Die Unternehmung* 60, 89-104 (2006).

Kotzab, Herbert, C. Teller, D.B. Grant & L. Sparks. Antecedents for the adoption and execution of supply chain management, *Supply Chain Management: An International Journal* 16, 231 (2011).

Lambert, Douglas M. The Eight Essential Supply Chain Management Processes, *Supply Chain Management Review* 8, 18-26 (2004).

Lambert, Douglas M., M.C. Cooper & J.D. Pagh. Supply Chain Management: Implementation Issues and Research Opportunities, *International Journal of Logistics Management* 9, 1-19 (1998).

Lambert, Douglas M., S.J. García-Dastugue & K.L. Croxton. An Evaluation of Process-Oriented Supply Chain Management Frameworks, *Journal of Business Logistics* 26, 25-51 (2005).

Li, Suhong, B. Ragu-Nathan, T. Ragu-Nathan & S. Subba Rao. The impact of supply chain management practices on competitive advantage and organizational performance, *Omega* 34, 107-124 (2006).

Mentzer, John T., W. DeWitt, J.S. Keebler, S. Min, N.W. Nix, C.D. Smith, et al. Defining Supply Chain Management, *Journal of Business Logistics* 22, 1-25 (2001).

Millman, Tony & K. Wilson. From key account selling to key account management, *Journal of Marketing Practice: Applied Marketing Science* 1, 9-21 (1995).

Möller, Kristian & A. Halinen. Relationship Marketing Theory: Its Roots and Direction, *Journal of Marketing Management* 16, 29-54 (2000).

Morgan, Robert M. & S.D. Hunt. The Commitment-Trust Theory of Relationship Marketing, *Journal of Marketing* 58, 20-38 (1994).

Nunnally, J.C. *Psychometric Theory*. McGraw-Hill, New York, 1978, .

Ojasalo, Jukka. Key account management at company and individual levels in business-to-business relationships, *Journal of Business & Industrial Marketing* 16, 199-220 (2001).

Pardo, Catherine, S.C. Henneberg, S. Mouzas & P. Naudé. Unpicking the meaning of value in key account management, *European Journal of Marketing* 40, 1360-1374 (2006).

Ringle, C.M., S. Wende & A. Will. *SmartPLS 2.0 (beta)*, [www.smartpls.de](http://www.smartpls.de). University of Hamburg, Hamburg, 2005, .

Shrout, Patrick E. & N. Bolger. Mediation in experimental and nonexperimental studies: new procedures and recommendations, *Psychological Methods* 7, 422-445 (2002).

Sobel, M. E. Asymptotic intervals for indirect effects in structural equations models, In *Sociological Methodology*, S. Leinhardt ed., Jossey-Bass, San Francisco, 1982.

Spekman, Robert E., J.W. Kamauff Jr. & N. Myhr. An empirical investigation into supply chain management. A perspective on partnerships, *International Journal of Physical Distribution & Logistics Management* 28, 630-650 (1998).

Teller, Christoph, H. Kotzab & D.B. Grant. Improving the execution of supply chain management in organizations, *International Journal of Production Economics* in press(2011).

Tenenhaus, Michel, V.E. Vinzi, Y.M. Chatelin & C. Lauro. PLS path modeling, *Computational Statistics & Data Analysis* 48, 159-205 (2005).

Zupancic, Dirk. Towards an integrated framework of key account management, *Journal of Business & Industrial Marketing* 23, 323-331 (2008).

## Appendix

Factor Indicator (“to what degree...”)	Measures/Indices <i>ρ/α</i> AVE
<b>Internal SCM conditions (ξ<sub>1</sub>)</b> (Kotzab, Friis and Busk 2006;Cigolini, Cozzi and Perona 2004;Mentzer et al 2001; Lambert, Cooper and Pagh 1998; Cooper, Lambert and Pagh 1997)	
<i>x</i> <sub>11</sub> ...are personnel / human resources made available for SCM issues?	.948/.940
<i>x</i> <sub>12</sub> ...are financial resources made available for SCM issues?	.663
<i>x</i> <sub>13</sub> ...does top-management of your company support SCM issues?	
<i>x</i> <sub>14</sub> ...were internal goals set up before SCM projects were launched?	
<i>x</i> <sub>15</sub> ...are employees able to use IT-systems for SCM issues?	
<i>x</i> <sub>16</sub> ...does your company have IT-systems capable of processing data from other SCM partners?	
<i>x</i> <sub>17</sub> ...is there an agreement on guidelines with respect to the exchange of information with other companies in the supply chain? <sup>†(III)</sup>	
<i>x</i> <sub>18</sub> ...are employees trained in order to contribute to SCM-projects?	
<i>x</i> <sub>19</sub> ...does your company have project groups consisting of people from different functional areas?	
<i>x</i> <sub>110</sub> ...is there the necessary expertise in your company to set up and maintain supply chain relationships?	
<i>x</i> <sub>111</sub> ...your company is willing to integrate with other supply chain members? <sup>†(V)</sup>	
<b>External SCM conditions (ξ<sub>2</sub>)</b> (Cigolini, Cozzi and Perona 2004; Ho, Au and Newton 2002;Fawcett and Magnan 2002; Lambert, Cooper and Pagh 1998)	
<i>x</i> <sub>21</sub> ...is there collaborative agreement on the evaluation of supply chain processes with other supply chain members?	.942/.933
<i>x</i> <sub>22</sub> ...is there an agreement on collaborative goals with other supply chain members?	.654
<i>x</i> <sub>23</sub> ...are there supply chain project groups in place with other supply chain members?	
<i>x</i> <sub>24</sub> ...is your company aware that its decisions may affect other supply chain members?	
<i>x</i> <sub>25</sub> ...is your company willing to trust other supply chain members?	
<i>x</i> <sub>26</sub> ...does your company have long term relationships with other supply chain members?	
<i>x</i> <sub>27</sub> ...is there an equal distribution of power among all members in your supply chain?	
<i>x</i> <sub>28</sub> ...is the distribution of risks and benefits even between your company and other members in your supply chain?	
<i>x</i> <sub>29</sub> ...is there mutual dependency between your company and other members in your supply chain?	
<i>x</i> <sub>210</sub> ...does your company exchange information regarding stock levels with other supply chain members?	
<i>x</i> <sub>211</sub> ...does your company exchange forecasting information with other supply chain members?	
<i>x</i> <sub>212</sub> ...does your company exchange product development information with other supply chain members?	
<i>x</i> <sub>213</sub> ...is your corporate culture similar to other supply chain members?	
<i>x</i> <sub>214</sub> ...is your corporate decision-making similar to other supply chain members?	

<b>Latent Dimension</b>	<b>Measures/Indices</b>
Indicator (“to what degree...”)	$\rho/\alpha$ AVE
<b>Ability to do KAM (<math>\xi_3</math>) (Lambert, Cooper and Pagh 1998)</b>	
$y_{31}$ ...is your company able of processing orders according to agreement with customers	
$y_{32}$ ...is your company able of forecasting future customer demand	
$y_{33}$ ...is your company able of adapting production capacity according to customer demand	.697 / .785
$y_{34}$ ...is your company able of informing customers about the current status of their orders	.350
$y_{35}$ ...is your company able of managing returns and returned packaging	
$y_{36}$ ...is your company able of integrating key accounts in the development/implementation of marketing programme	
<b>Execution of SCM (<math>\eta_1</math>) (Mentzer et al 2001; Frohlich and Westbrook 2001; Lambert, Cooper and Pagh 1998)</b>	
$y_{11}$ ...has your company integrated sourcing, logistics, marketing, product development and other areas with your suppliers?	.700/.780
$y_{12}$ ...has your company integrated sourcing, logistics, marketing, product development and other areas with your customers?	.695
$y_{13}$ ...has your company internally integrated its sourcing, logistics, marketing, product development and other areas?	
<b>Caption:</b> $x, y$ , indicator or manifest variable; $\xi, \eta$ , factor or latent (endogenous) variable; $\mu$ , mean value; $\sigma$ , standard deviation; $\alpha$ , Cronbach’s Alpha; $\rho$ , composite reliability; AVE, Average Variance Extracted;	
<b>Notions:</b> Ratings based on a 5-point scale, verbally and numerically anchored (1, to a very low degree; 5, to a very high degree); Cut-off values for measurement validity: $\alpha > .7$ ; $\rho > .6$ ; AVE > .5 (Fornell and Larcker 1981; Bagozzi and Yi 1988); sample size: n=174;	

# Methods for evaluating and optimizing delivery schedules based on shelf space allocations

**Rob Broekmeulen and Karel van Donselaar**

**Purpose** - The purpose of this paper is to develop a method to evaluate and optimize delivery schedules for single products displayed in grocery stores.

**Design/methodology/approach** - Motivated by previous case study research by our group at European grocery retailers, we developed a model for the replenishment logic and in-store logistic processes at grocery stores. We extended the basic inventory control policy found in automatic store replenishment systems to deal with non-stationary demand, limited shelf space and non-linear handling costs. The non-linearity of the handling costs is caused by exogenous determined case pack sizes and backroom operations. We focus on dry groceries, such as cereals, canned food and detergents to avoid perishability issues. We derived approximations to set the parameters that minimize the supply chain costs for a given customer service target. We validated the approximations with an extensive simulation study.

**Findings** - The paper demonstrates the potential effects of different delivery schedules on the supply chain costs, especially when the shelf space is limited and the costs associated with handling are high.

**Research limitations/implications** - We developed a single product model which can serve as a building block for multi-product models. The assumptions for the model apply mainly for non-perishable grocery products where shelf space allocations are determined by the merchandising managers and therefore outside the control of the logistics department responsible for the replenishment.

**Practical implications** - This paper shows the trade-off between different delivery schedules, based on aspects such as costs and capacity utilization. The developed approximations help to optimize these schedules in a cost-effective way.

**Originality/value** - This paper makes a major contribution towards integrating in-store logistic processes in replenishment systems. A recent review on retail category management by Hübner & Kuhn (2012) indicates that shelf capacity is often not aligned with the replenishment regime. Previous research on the tactical store delivery planning, such as Gaur & Fisher (2004) and Ronen & Goodhart (2008), does not deal yet with shelf capacity and in-store handling. This paper shows the implications of delivery schedules, available shelf space, in-store logistic processes and required customer service on the costs of supplying the stores.

**Keywords** - delivery schedule, in-store operations, retail, inventory management, distribution

**Classification** – research paper (abstract only)

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# French e-grocery models: a comparison of deliveries performances

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# French e-grocery models: a comparison of deliveries performances

## Abstract

This paper proposes a discussion of three scenarios related to French e-grocery developments, in order to identify and analyze the impacts of new forms of proximity deliveries on households' shopping trip flows. One of our objectives will be to consider logistics solutions adopted by online retailers.

Firstly, we present the two basic models of B2C: order-picking on a dedicated site and in-store picking. Secondly, we evaluate three distribution systems adopted by French e-grocery retailers. We focus in particular on the impact of these systems on consumers' purchasing trips and, to this end, we will use an empirical simulation approach to make a comparison of the systems studied.

**Keywords:** e-Grocery, Warehouse-picking, Store-picking, Home Delivery (HD), Out of Home Delivery (OHD)

# French e-grocery models: a comparison of deliveries performances

## 1. INTRODUCTION

After a slow start, particularly in France, the BtoC (Business to Consumer) services is now booming sometimes leading to fractures, especially in logistics (order-picking and deliveries). It therefore seems urgent to be concerned with deliveries to Internet users, either directly at home or to pick-up points, because city logistics could become a key factor in online selling development success or failure. In the past decades, city logistics has been developed to deal with the main problems of urban freight distribution, studying freight movements in urban areas and proposing solutions to reduce congestion and pollution. Moreover, end-consumer movements, related to household supply, have recently been studied from a city logistics point of view (Gonzalez-Feliu *and al.*, 2010). However, most of these studies take into account only traditional shopping trips, avoiding several categories of trips related to e-commerce and teleshopping distribution channels. Moreover, e-commerce related studies focus on customer choices or optimization approaches in fields like culture and clothing (Taniguchi and Kakimoto, 2003; Rohm and Swaminathan, 2004), whilst e-grocery, one of the fields with stronger potentials, is less studied (Durand and Vlad, 2011).

For this reason we decided to focus on e-grocery. We wish, in particular, to focus on interactions between e-grocery end-consumer flows and city logistics systems. Thus, one of our objectives will be firstly to consider logistics solutions adopted by online retailers. We present the two basic models of e-grocery distribution: order-picking on a site dedicated to this preparation and in-store picking. Secondly, we evaluate the three distribution systems adopted by the French e-grocery retailers. We focus in particular on the impact of these systems on consumers purchasing journeys and, to this end, we propose a simulation approach empirically built from data surveyed to make a comparison of the systems studied.

## 2. E-SUPPLY CHAIN MANAGEMENT

Logistics plays a major role in e-commerce success, yet its status remains secondary. Indeed, when an on-line shopper receives its order under the expected conditions, there is no reason to linger there. However, when logistics leaves something to be desired (delay, theft, loss, etc), it could be crippling for the continuation of purchases on the website frequented. Logistics performance is therefore, an obvious element of on-line sales; it is an integral part of transaction.

At the same time, as underlined by Baglin *and al.* (2005), B2C imposes specific logistics that, in particular, depend on the products sold. There are almost as many e-logistics as families of products and the choice of one of them by the cyber-storekeeper, if it is guided of course by the nature of products, also depends on the nature of the retailer: a storekeeper, only present on-line will not choose the same options as a colleague who also sells in-store. Essays concerning typologies are regularly the object of academic research in this area, in particular concerning model choice criteria (Durand, 2008).

According to Dornier and Fender (2001), logistics is an essential component of web-based retailers' strategies, also defined as e-tailers. More precisely, two main components can be identified in strategic logistics management for e-commerce activities: inventory strategies and transport schemes. If we observe online order-picking (related to inventory), we can define two basic organizational models (Paché, 2008): (1) order-picking at a dedicated site; for example, an upstream national or regional warehouse (warehouse-picking) or closer to the place of consumption in a downstream local depot (depot-picking) ; (2) store-picking.

### **2.1. Order-picking at a dedicated site**

According to De Koster (2002), when the number of SKU (Stock Keeping Units) for B2C is large (several tens of thousands) and when the on-line activity is not marginal (several hundreds of orders a day), storage on a specific site, dedicated to e-commerce, seems a necessity. Three alternative inventory schemas have been considered: (1) upstream storage, in producers' warehouses for slow moving items; (2) more downstream storage, for fast moving products, in national (or interregional) warehouses dedicated to e-commerce and managed by distributors and/or LSPs (Logistics Service Providers); (3) far downstream storage, for very fast moving articles in urban (or suburban) depots, directly connected to on-line sales structures and directly managed by distribution companies.

Let us specify that the first alternative, that of the order-picking in producers' warehouses, contains several variants (Durand, 2010). We will look at the variant that minimizes the number of HDs (Home Deliveries) and examine its process (cf. Figure 1). First, on-line consumers place orders of several lines on a retail website. Then, the cyber-storekeeper makes it to follow to the concerned producers. The latter separately carry out order-picking, giving their parcels to a solitary LSP to avoiding multiple deliveries. Grouping parcels by customer (it's, in fact, a type of cross-docking operation), then takes place: the multi-suppliers' orders are thus strengthened. Once assembled, orders soon start to be delivered to Internet users. A single HD per household makes this alternative unmistakably the most economic and the most ecological variant.

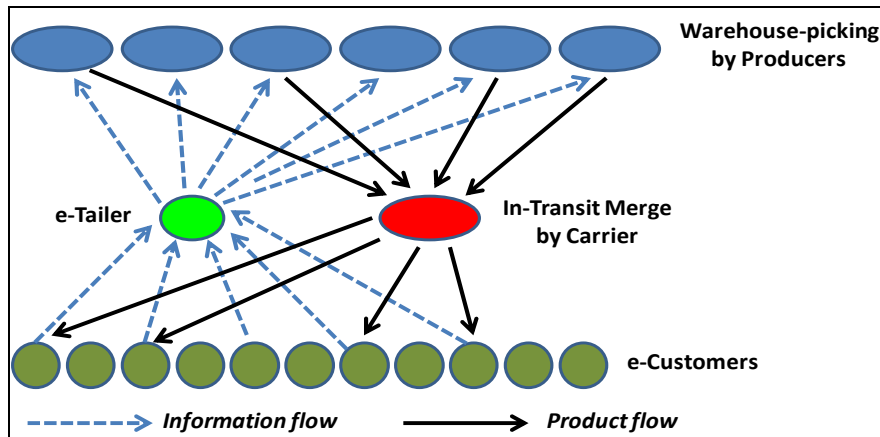


Figure 1: Upstream warehouse-picking and in-transit merge operations

(adapted from Chopra and Meindl, 2004)

Let us add that we regularly encounter this first alternative in the editorial e-supply chain, because of a plethora of several million on-line articles. On the other hand, it is absent in the e-grocery sector. Indeed, the offer of cyber-markets is only composed of approximately five or six thousand very fast moving articles. Consequently, grocery items are rather stored downstream in warehouses (or depots), allocated to distributors. It corresponds to the two other order-picking alternatives. According to Yrjölä (2003), a logistics unit dedicated to e-grocery operations justifies itself since the number of on-line consumers per km<sup>2</sup> is increased. Concerning final delivery, we also observe several variants: the management of HD being integrated in or delegated to LSPs, or hybrid.

## 2.2. Store-picking

On-line retailers, who choose to lean on a network of existing stores, opt for a very simple process and a quickly operational process. This model, which was the cornerstone of Tesco's e-grocery success, is based on the fact that on-line orders are transferred to the store nearest to the e-consumer's location. Order-picking is often made by employees of the store concerned (they pick articles from shelves) and, once the basket has been filled, HDs are, in general, made by the storekeeper or by a LSP, with a multi-temperature vehicle. So, using existing infrastructures, store-picking is characterized by a reduced investment and, therefore, by a very short ROI (Return On Investment). Another asset of this model is in the fact that on-line consumers can opt to pick-up goods purchased, directly in store (as shown in Figure 2), avoiding transportation costs in this way. So, this model also constitutes an OHD (Out of Home Delivery) alternative. However, this second model contains a risk: that of the disturbance of traditional in-store customers by pickers. Faced with this eventuality which could entail

leaks of consumers, Ogawara *and al.* (2003) suggest adopting warehouse-picking as soon as the customer catchment area has good potential. In any case, the store-picking model constitutes the proof that on-line business does not mean the death of outlets: indeed, their mobilization could be an invaluable support to e-logistics.

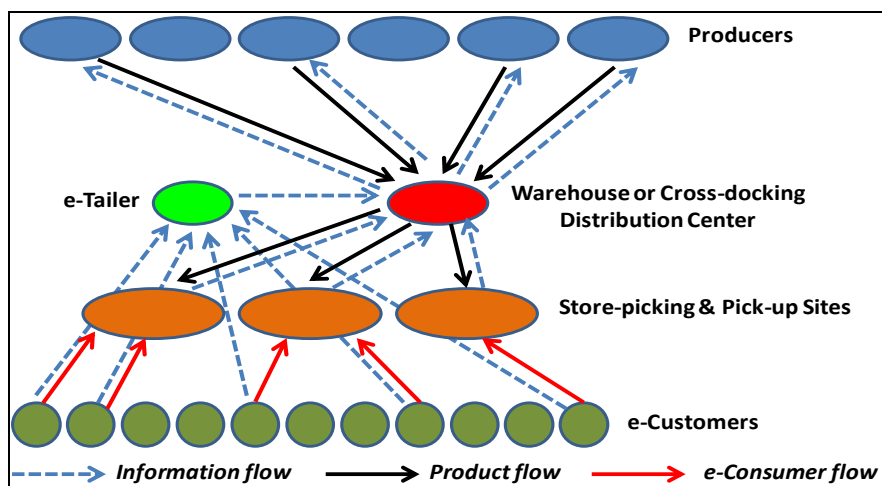


Figure 2: Downstream store-picking and e-consumers pick-up operations  
(adapted from Chopra and Meindl, 2004)

These two basic models of B2C logistics continue to be the object of academic works (Marouseau, 2007), but are the facts? Do we find these two models in the practices of on-line storekeepers, in particular in the French market?

### 2.3. Logistics practices observed by French cyber-traders

To sketch a state of the art of the logistics practices by French cyber-storekeepers, we adopted a research methodology (cf. Frame 1) that we have however limited, for questions of opportunity, to three business sectors: floral, editorial and food.

The mobilized approach is of qualitative nature. Fifteen semi-directive interviews, of an average duration of one hour and thirty minutes, were conducted: three in the floral sector (*Interflora, Aquarelle* and *Bebloom*), 2 in the editorial sector (*Fnac* and *Alapage*), 10 in the food sector with seven French large distributors (*Carrefour, Auchan, Cora, Galeries Lafayette, Intermarché, Système U* and *Leclerc*). These conversations were then the object of an accurate analysis of the speech, in the sense of Paillé and Mucchielli (2003), what allowed in the end to put in perspectives 12 e-supply chains.

Frame 1: Methodology of research used

This research, from which the Table 1 is established, gives a summary, allowing us to note that the studied e-supply chains often lean on organizations stemming from the old economy and therefore already integrate preoccupations about urban logistics.

Type of e-supply chain	Supply	Flow management	Logistics model	LSPs involvement
Floral products	Limited Only some SKU tens	Pull Bunch built-to-order	Store-picking for <i>Interflora</i> (brick-and-mortar)	None (insourcing of deliveries)
			Warehouse-picking for <i>Aquarelle &amp; Beblom</i> (pure-players)	Transport Outsourcing ( <i>Chronopost</i> ...)
Editorial products	Very large Several millions SKUs	Push Large stocks, upstream by suppliers	Warehouse-picking - insourced by <i>Fnac</i> (brick-and-mortar) - outsourced by <i>Alapage</i> (pure-player)	Transport Outsourcing ( <i>Chronopost</i> ...) and Storage Outsourcing by <i>Alapage</i>
Food products (e-grocery)	Large Several thousand SKUs	Push Large stocks, downstream by retailers (brick-and-mortar)	Store-picking for <i>Intermarché</i> , <i>Système U &amp; Leclerc</i>	None <i>Système U &amp; Leclerc</i> don't practise HD
			Warehouse-picking for <i>Carrefour</i> , <i>Auchan</i> , <i>Cora</i> et <i>Télémarket</i>	Adaptable <i>Carrefour</i> practices outsourcing, whereas <i>Auchan</i> insources

Table 1: Logistics practices observed by French cyber-storekeepers (Durand, 2007)

If we had the opportunity to work on three business sectors, we only had time to look at e-grocery in depth, for which we have conducted numerous interviews. It is for that reason that afterwards we are going to limit our paper to it, by focusing more exactly on the evaluation of three distribution systems that the French distributors *Intermarché* and *Auchan* have developed. Later, we will conduct additional interviews in floral and editorial sectors to do the same thing.

### 2.3.1. The *Expressmarché* logistics model

Pick-up directly in store, an alternative to store-picking, seems to have convinced the most hesitant French distribution brands (Durand, 2009). It is in particular the case of *Intermarché*, whose will is to control its logistic costs (the main reason behind this choice). It is, therefore, on 300 supermarkets that *Expressmarché*, the cyber-market of the grouping, leans today. *Intermarché* has chosen to take advantage of the density of its network (a selling point every 18 km). If HD can also be envisaged because of this very good territorial cover, *Expressmarché* was also made available on its two pick-up

or OHD alternatives: the classic in store pick-up and the drive-through, which means that Internet users do not need to alight from their vehicles.

### 2.3.2. The *Auchandirect* logistics model

*Auchan* is one of the first large French retailers to have invested in the e-grocery market by launching *Auchandirect* in 2001. At this time, the customer catchment area, served by the central warehouse of Chilly-Mazarin (near Paris), was limited to the southern region of Paris. Since then, whilst sticking with warehouse-picking, *Auchandirect* has widened its national coverage by opening five new sites: a second in Ile-de-France and four near major cities (Lyon, Lille, Toulouse and Marseille). In 2004, *Auchan* branched its digital distribution out further, developing an alternative cyber-market in parallel called *Chronodrive*.

### 2.3.3. The *Chronodrive* logistics model

The *Chronodrive* alternative corresponds to an original OHD concept. Orders are prepared in nearby depots, situated in big city suburbs. To differentiate from warehouse-picking, we use the term “depot-picking” to describe the activity of these infrastructures, exclusively dedicated to storage and to order-picking (they are not stores). Internet users come to pick up and adjust their orders. If warehouse-picking can only be associated to HD and if the store-picking authorizes both HD and basket pick-up, *Chronodrive* only allows the order pick-up. Except for the fact that it favors the territorial extension of the of *Auchan's* e-grocery activities, the *Chronodrive* alternative allows the distributor to by-pass the HD problem. Currently about twenty sites are operational in France and model profitability seems satisfactory. The opening of new depots is programmed, the objective being, according to Silly (2008), to quickly reach one hundred.

We have just sketched a state of the partial art of the logistical alternatives retained by French cyber-storekeepers and, more exactly, by French e-grocers stemming from the “brick-and-mortar” system, that is to say from a system where it is possible backing to an existing network of stores. It is indeed necessary to know that the quasi-totality of French pure cyber-storekeepers, which dashed into e-grocery, failed in delivering goods to their customers because, effectively, they didn't have networks of stores. In summary, we have to underline that, faced with difficulties caused by HD, French e-grocers are more and more interested in two types of OHD: (1) pick-up directly from their stores; (2) pick-up from suburban depots as *Auchan* via its *Chronodrive* model.

Let us underline that, generally speaking, deliveries OHD are less expensive than HD, at least for e-grocers! Nothing proves however the ecological interest of OHD. Besides, the research of Browne *and*

*al.* (2005) shows that OHDs could provide a result contrary to the objective of reducing greenhouse gas (GHG) emissions. This system could indeed generate more movements than within the framework of traditional in-store shopping. Such uncertainties about the advantages of OHD with regard to HD require simulations to be undertaken from typical scenarios of urban logistics and, especially, that comparative analysis of the environmental disturbances produced by each of these scenarios is carried out. The next section will look at this, by studying three e-grocery logistics models.

### **3. INTERACTIONS BETWEEN E-GROCERY DEVELOPMENT AND CITY LOGISTICS**

As stated by Ségalo *and al.* (2004), urban goods movement (UGM) is composed of several categories and subcategories. In this paper, we are interested in two types of movements: last mile inter-establishment movements and end-consumer movements, which are susceptible to evolve with the development of e-grocery. Inter-establishment movements represent about 40-45% of the total UGM in an urban area (Patier, 2002). The last mile flows of retailing activities are estimated to be 11% of total UGM (Routhier *and al.*, 2009), whereas those related to only grocery are about 9%.

End consumer movements represent about 45%-50% of the total UGM (Patier, 2002). Nowadays, most of these flows are traditional shopping trips, but the new forms of distribution need to start to be taken into account from a global city logistics point of view. E-grocery currently represents less than 5% of total shopping trips and could represent, according to Georget *and al.* (2008), more than 15% in 2020. Regarding transport models from a city logistics point of view, three main strategies are commonly seen in practice: (1) HDs from a specific warehouse; (2) HDs from a store; (3) OHDs through a store or a depot.

#### **3.1. Home Deliveries from a dedicated warehouse**

In the “HDs from a specific warehouse” case, orders are prepared by a warehouse-picking process. Important changes are then noted in the supply chain because this new and dedicated warehouse is not located in a peripheral area. The ordered products are delivered to the place of consumption using light goods vehicles, through an optimized route. These trips are made by delivery vehicles and can be assimilated to traditional e-commerce HD with more restrictive constraints (Durand and Vlad, 2011).

#### **3.2. Home Deliveries from a traditional store**

In the “HDs from a supermarket” case, orders are this time prepared by a picker, in the lanes and in the shelves of a store. This outlet, generally a supermarket of a 2,000 square meter surface, is located on the outskirts of the urban area, a few miles away from the consumer home. Let us add that there

are no major changes in the supply process of the store. The purchased products are either directly delivered at home or picked up by the consumer, mainly by car, avoiding queues and waiting times. These trips can be then assimilated to personal trips for shopping purposes (Gonzalez-Feliu *and al.*, 2010).

### **3.3. Out of Home Deliveries via a store or a depot**

In the third and last case, the “OHDs through proximity pick-up points” case, the main changes in the supply process consist above all of including new local depots. This time, indeed, the ordered products are directly prepared either in a depot (that is to say in a new site) through a depot-picking process, or in a store by a classical store-picking process. Let us add that these two different types of points, in which the products are finally picked up by the final consumer, are both located near the place of consumption (Augereau and Dablanc, 2008).

Finally, we would like to put forward a small overview of e-grocery development. If on-line sales concern almost all business sectors, one has to admit that e-grocery still represents a niche market: its turnover only was about 1.2 billion euros in 2009 in France. Besides this, currently only about three million French Internet users use on-line supermarkets. This type of sale is attractive firstly for reasons of practicality and of time saving. Consumers want to save time during food purchasing in two ways: (1) on going to the store by reducing (or even by eliminating) their round trip time and, also, the time of spent looking for a parking space; (2) during their time in store by eliminating waiting times at food preparation counters and at the checkout. Internet users underline the practicality of on-line sales, also in two ways: (1) on-line stores are continuously open, 24 hours a day – therefore this scenario allows transactions at any time of the day; (2) on-line orders can be directly delivered or dropped off at pick-up points. Let us add that the consideration of environmental problems also seems to push households to develop their Internet purchases: the environmental impact seems rather positive because of the reduction of movements and of GHG.

The cost of this service however seems to constitute the major obstacle to e-grocery development because, in the mind of many French people, on-line shopping is more expensive: either the price of products sold on Internet is higher because it integrates the cost of basket picking and delivery costs; either the price of articles is situated at the same level as that practiced in store and it is advisable to add to this the logistic service costs. Less sensitive to this cost than the other SPCs (Socio-Professional Categories), the SPC+ (upper SCP) is also, at the moment, the category the most attracted by e-grocery: more half of their food expenses would already be made in cyber-markets, while the offer, a

real element of differentiation between e-grocers, is particularly reduced with only 7,000 references on average, compared to 40,000 for a traditional supermarket.

#### 4. SIMULATION AS AN EVALUATION TOOL FOR E-LOGISTICS

In this section, we provide an assessment of three distribution scenarios adopted by French e-grocers: (1) one that allows only warehouse-picking, which is translated into HD services only; (2) one based on store-picking and that combines HD services with in-store pick-up shopping trips; (3) the last that, conversely, only offers a pick-up service from a nearby depot.

##### 4.1. The proposed scenarios

In order to isolate the effects of e-commerce from other effects, such as population growth or changes in retailing demography, we propose several hypothesis built from the reference presented above by changing only the end-consumer supply organizational schemas (with the respective inter-establishment changes if applicable). The proposals are:

- S0: A reference situation, corresponding to those of the urban area of Lyon in 2005-2006 (Gonzalez-Feliu *and al.*, 2010).
- S1: A “**warehouse-picking & HD**” scenario. This hypothesis supposes that the only distribution channel for e-grocery services is that of HDs using a warehouse-picking strategy. This supposes the use of a regional depot, then the simulation of HD routes from this depot. This scenario supposes that only large e-grocery groups are proposing these services.
- S2: A “**store-picking & HD**” scenario based on the assumption that all households asking for e-commerce services are served by a store within their urban area. This scenario supposes two types of retailing activities: small retailers will cover small routes from all locations within the urban area, whereas big stores will use peripheral stores as the starting point of longer routes.
- S3: A “**depot-picking & OHD**” scenario based on the assumption that only depot-picking can be used by the inhabitants for e-commerce purposes. These depots are located in the areas having already a supermarket, in order to obtain a realistic set of depots.

For each hypothesis, a quota of 10 to 50% of e-commerce users is supposed. Moreover, both warehouse-picking and store-picking strategies will be simulated each time.

#### 4.2. Simulation procedure

The simulation procedure chart is shown in Figure 3. We assume that all strategies follow a store-picking inventory schema, since this is nowadays the most interesting in terms of environmental and social impact (Durand, 2010). For this reason, only B2C flows will be simulated.

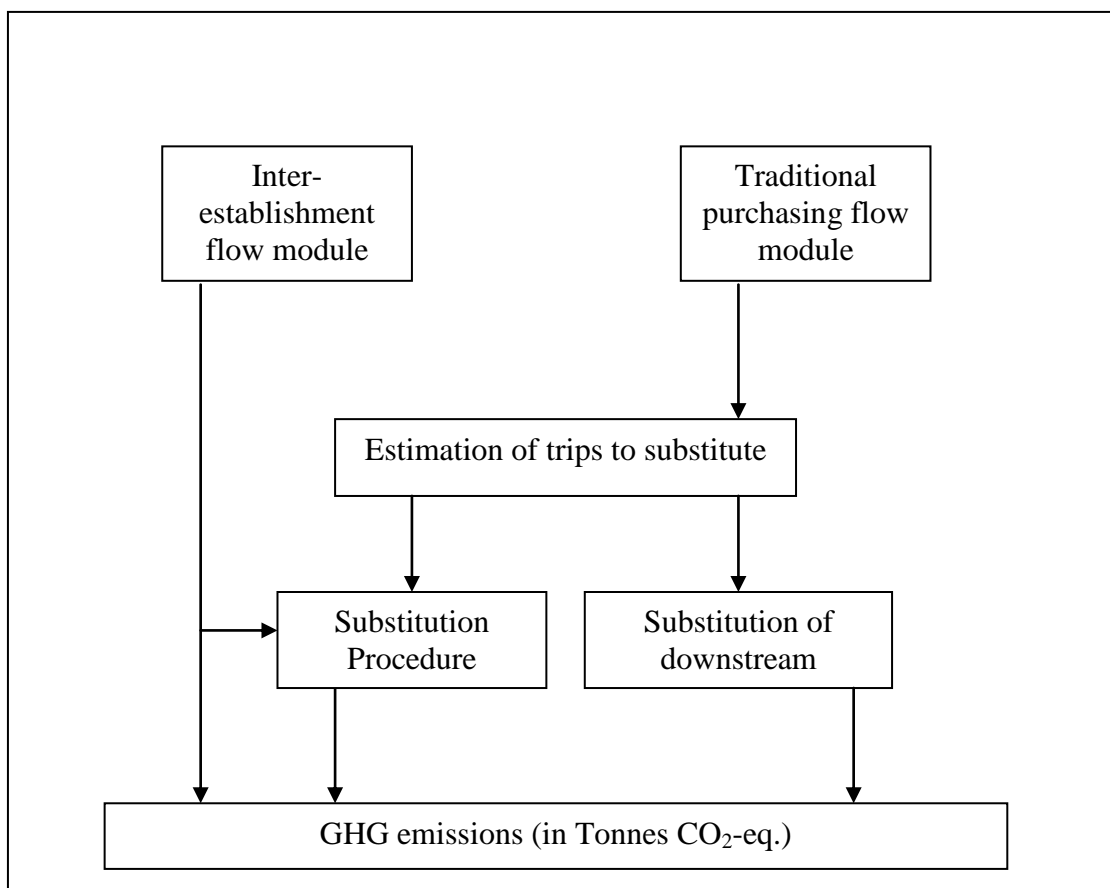


Figure 3: Integrated simulation procedure chart

(adapted from Gonzalez-Feliu *and al.*, 2011)

Two models are used to obtain the basic inter-establishment movements and traditional purchasing flows. Through Freturb model (Routhier and Toilier, 2007), we obtain the last mile flows that deliver or pickup retailing activities. Then, a shopping trip model is used to estimate shopping trip flows. In order to estimate the impacts of e-grocery distribution on these trips, the substitution procedures described by Gonzalez-Feliu *and al.* (2011) are used. Finally, we use Copert tables (ADEME, 2006) to estimate the environmental issues, more precisely the GHG emissions, in tonnes of equivalent CO<sub>2</sub>.

### 4.3. Simulation results

We are thus able to establish a number of results, which we could develop a comparative analysis of three systems studied. These results are reported in Table 2. Note that the reference scenario produces nearly 8.3 Tonnes of CO<sub>2</sub>-eq. in the Lyon urban area and that, in 2006, the downstream delivery flows were considered negligible.

		IEM	PD	ST	Total
	Reference	4,4	0	3,9	8,3
1	10%	-0,5%	9,2%	-8,9%	-0,1%
	20%	-1,2%	18,3%	-19,0%	-1,0%
	30%	-2,6%	27,5%	-29,1%	-2,1%
	40%	-3,8%	36,7%	-39,3%	-3,2%
	50%	-5,0%	45,8%	-49,4%	-4,3%
2	10%	0,0%	2,0%	-2,8%	-0,4%
	20%	0,0%	4,1%	-6,9%	-1,3%
	30%	0,0%	6,1%	-10,9%	-2,2%
	40%	0,0%	8,2%	-15,0%	-3,2%
	50%	0,0%	10,2%	-19,0%	-4,1%
3	10%	-0,4%	0,8%	-3,1%	-1,3%
	20%	-0,9%	1,5%	-7,4%	-3,2%
	30%	-1,3%	2,3%	-11,7%	-5,0%
	40%	-1,7%	3,1%	-16,0%	-6,9%
	50%	-2,2%	3,9%	-20,3%	-8,8%

Table 2: Simulation Results in Tonnes CO<sub>2</sub>-eq. / year in the Lyon urban area

(IEM: Inter-Establishment Movements - PD: Proximity Delivery Movements - ST: Shopping Trips)

From them, we can observe that scenario 1, which uses specific peripheral warehouses with only HD for e-grocery distribution, and scenario 2, which mixes HD and pick-up services, are less favorable in terms of GHG emissions than scenario 3, which uses nearby depots. In the two first scenarios, the decrease in individual movements related to purchasing do not efficiently compensate the increase due to the use of commercial vehicles for HD services, which does not seem to be optimized. In scenario 1, almost all the gains made in terms of shopping trips are neutralized by long and sub-optimized HD routes. In scenario 2, these routes are better optimized (the starting point is in general inside the urban zone or in the first periphery) but, in general, car pick-up generates more distance and, thus, more GHG emissions than traditional shopping. Scenario 3, the “pick-up everything” is more favorable, but the gains in GHG emissions remain small: less than 9% gain in T. CO<sub>2</sub>-eq. when the utilization rate is 50%.

## CONCLUSION

In this paper, we have given an overview on the latest developments in e-grocery distribution and presented a scenario analysis using an empirical simulation approach. Three scenarios, each of them related to a new form of B2C services (HDs, shopping trip in a car and proximity pick-up points) have been presented and simulated. We can observe that scenario 1, the “all-HD”, and scenario 2, which mixes HD and pick-up services, appear to be less favorable than scenario 3. While the individual purchase movements decrease, the use of commercial vehicles for at HD does not seem to be optimized in this configuration. The resulting gain in GHG emissions is respectively about 4.3% and 4.1% when the utilization rate is 50%. Scenario 3, the “all-pick-up” would apparently be more favorable: almost a 9% GHG emission reduction when the utilization rate is 50%. This reflects a sharp decline in motorized shopping trips, the assumption was made that the depots are located near the heart of residential neighborhoods and the density of these points is sufficient to lead to changes in user behavior, including the use of their car. Finally, through the external impacts of household supplies, we show that consolidation of HDs and proximity reception points (where most trips are made on foot) can lead to significant savings.

The remaining question concerns the managerial implications of the three scenarios. Regarding the first, in which 40% of e-shoppers opt for an in store pick-up service, it raises the key question of the nature of the operator who must support the HD services. Does the e-tailer assume this role? Is not that rather the role of an LSP to do it? This second alternative would be to fine-tune the prospect of consolidating and sharing online order processing on urban platforms to reduce the number of HDs per household.

Regarding scenario 2, the “all HD”, the internalization of HD appears relevant because it generates transport cost savings. However, LSPs specialized in the field, starting with *Star's Service* for example in France, also seem able to offer quality services at a very reasonable price. Finally, the local depot option is the most interesting in terms of reducing CO<sub>2</sub> emissions, but also the most costly and longest in implementation. The deployment of local depots requires significant investment (Augereau and Dablanc, 2008), which inevitably leads to higher management costs. A pooling of these infrastructures through urban platforms could then be the best solution to the urban delivery problem (Paché, 2010), although this strategy remains long and arduous (Gonzalez-Feliu and Morana, 2010).

## REFERENCES

- Augereau, V., and Dablanc, L., (2008), "An Evaluation of Recent Pick-up Point Experiments in European Cities: the Rise of two Competing Models?" In *Innovations in City Logistics*, ed. Taniguchi, E., & Thomson, R.G., Nova Science, pp 301-320.
- Baglin, G., Bruel, O., Garreau, A., Greif, M., Kerbache, L., and van Delft, C., (2005), *Management industriel et logistique : conception et pilotage de la supply chain* (4<sup>ème</sup> édition), Economica.
- Browne, M., Castro, J., Nemoto, T., and Visser, J., (2005), "Intermodal transport and city logistics policies" , 4<sup>th</sup> International Conference on City Logistics, Langkawi (Malaysia).
- Chopra, S., and Meindl, P., (2004), *Supply Chain Management: Strategy, Planning and Operations*, Pearson Prentice Hall, New-Jersey.
- De Koster, M.B.M., (2002), "Distribution Structures for Food Home Shopping", *International Journal of Physical Distribution & Logistics Management*, Vol 32 N°5, pp. 362-380.
- Dornier, Ph-P., and Fender, M., (2001), *La logistique globale : enjeux, principes, exemples*, Editions d'Organisation, Paris.
- Durand, B., and Vlad, M., (2011), "Auchan et Intermarché : deux styles de glisse sur la vague de la cyber-épicerie, in *Revue des cas en gestion*", ed. Joffre, O., & Simon, E., Editions EMS Management & Société (www.revuecasgestion.com), N°5, pp. 39-48.
- Durand, B., (2010), "e-commerce et logistique urbaine : quand le développement durable s'en mêle...", *Revue Française de Gestion Industrielle*, Vol 29 N° 2, pp. 7-26.
- Durand, B., (2009), "Mutations logistiques de la cyber-épicerie française : quand les groupements d'associés défient la distribution intégrée", *Logistique & Management*, Vol 17 N° 2, pp. 51-64.
- Durand, B., (2008), "Quoi de neuf en France dans le B to C ? La logistique suit-elle enfin ? ", 11<sup>ème</sup> Colloque Etienne THIL, Université de La Rochelle.
- Durand, B., (2007), "La dimension stratégique des chaînes logistiques du BtoC", in *La gestion des chaînes logistiques multi-acteurs : perspectives stratégiques*, ed. J. Spalanzani & G.Paché, Grenoble, Presses Universitaires de Grenoble, Chapitre 10, pp. 185-202.
- Georget, P., Damery, N., and Gallois, J.B., (2008), *Quel avenir pour le commerce en France ? Neuf patrons vous en disent plus*, Somogy Société, Paris.
- Gonzalez-Feliu, J., Ambrosini, C., and Routhier, J.L., (2011), "New trends on urban goods movement modelling: proximity delivery versus shopping trips", European Transport, to appear.
- Gonzalez-Feliu, J., and Morana, J., (2010), "A la recherche d'une mutualisation des livraisons en milieu urbain : le cas des NMPP", *Revue Française de Gestion Industrielle*, Vol 29 N° 2, pp. 71-92.
- Gonzalez-Feliu, J., Routhier, J.L., and Raux, C., (2010), "An attractiveness-based model for shopping trips in urban areas", 12<sup>th</sup> World Conference in Transportation Research, Lisbonne, (Portugal), 11-15 juillet.
- Marouseau, G., (2007), "Les revirements stratégiques de la grande distribution française en matière de commerce électronique" , 6<sup>th</sup> International Congress Marketing Trends, Paris, Janvier.
- Ogawara, S., Chen, J.C.H., and Zhang, Q., (2003), "Internet Grocery Business in Japan: Current Business Models and Future Trends", *Industrial Management & Data Systems*, Vol 103 N°9, pp. 727-735.
- Paché, G., (2010), "Logistique urbaine mutualisée : quelle stratégie de différenciation pour le commerce alimentaire en ligne ? ", *Revue Française de Gestion Industrielle*, Vol 29 N° 2, pp. 27-48.
- Paché, G., (2008), "Efficient Urban e-Logistics: Mutualization of Resources and Source of Competitive Advantage", 7th International Meeting for Research in Logistics, Avignon, (France), September 24-26.
- Paillé, P., and Mucchielli, A., (2003), *L'analyse qualitative en sciences sociales et humaines*, Armand Colin, Paris
- Patier, D., (2002), *La logistique dans la ville*, Celse, Paris.
- Rohm, A.J., and Swaminathan, V., (2004), "A Typology of Online Shoppers Based on Shopping Motivations", *Journal of Business Research*, Vol 57 N° 7, pp. 748-758.

- Routhier, J.L., Traisnel, J.P., Gonzalez-Feliu, J., Henriot, F., and Raux, C., (2009), *ETHEL II: Energie, Transport, Habitat, Environnement et Localisations*, Rapport final, Convention ADEME.
- Routhier, J.L., and Toilier, F., (2007), "FRETURB V3, a Policy Oriented Software of Modelling Urban Goods Movement" In Proceedings of the 11th World Conference on Transport Research - WCTR'07, 24-28 June, Berkeley, USA.
- Ségalou, E., Ambrosini, C., and Routhier, J. L., (2004), "The environmental assessment of urban goods movement" In Taniguchi, E., and Thomson, R.G., eds., *Logistics Systems for Sustainable Cities*, Elsevier, Amsterdam, 2004, pp. 207-220.
- Silly, G., (2008), "Auchan réinvente l'e-commerce", *Management*, octobre, pp. 26-27.
- Taniguchi, E., and Kakimoto, T., (2003), "Effects of e-commerce on urban distribution and the environment", *Journal of Eastern Asia Society for Transportation Studies*, Vol 5, pp. 2355-2366.
- Yrjölä, H., (2003), Supply Chain Considerations for Electronic Grocery Shopping, Dissertation for the degree of Doctor of Science in Technology, University of Technology, Helsinki, Finland.

# Inventory centralization: is it really always the good way?

## Questioning through case studies

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# Inventory centralization: is it really always the good way?

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### Abstract

The theory of inventory centralization, based on the Square Root Law, is establishing the global logistic cost from the cost of holding inventories. In this case, the move from ten depots towards a completely centralized system reduces the inventory requirement. Keeping the hypothesis of this law, it is firstly possible to make a generalization about the move from  $d$  depots towards a more centralized system, with only  $w$  warehouses (where  $d$  is greater than  $w$ ). It is the first object of our paper.

However, the theory of inventory centralization is, from a few years, somewhat questioned, especially because of green logistics development. Indeed, the necessity to reduce the greenhouse gas emissions is now becoming a priority. So, the costs of transportation are bound to increase, in particular road transportation costs. So, stocks could be redistributed over different sites and, then, they could be less centralized. The second object of our paper is therefore to specify under which conditions the inventory centralization reaches its limits and under which conditions the inventory decentralization becomes relevant.

**Keywords:** Inventory centralization, Square Root Law, Warehousing costs and stock holding costs, Transportation costs, Inventory decentralization.

# Questioning of the theory of inventory centralization

## 1. INTRODUCTION

Storage or transportation? With the objective of minimizing the global logistic cost, we have to think alternatives again. However, there is now something more to take into consideration. Over the past seven years, ecological considerations have indeed been added to the first considerations, which only were economic. So, the global logistic cost henceforth has to integrate this ecological (or green) component, in particular through the environmental accounting, and therefore to take into account carbon assessments.

The time of the multiple depots seems a thing of the past. Indeed, the period from 1990 to 2005 witnessed the decrease in the number of small-sized sites: depots were gradually changed to less numerous but much bigger warehouses. At the beginning of the 1990s, new concepts, in particular those of RDC (Regional Distribution Centre) and of ELC (European Logistics Centre) appeared. These infrastructures indicate logistic sites which generally deliver goods to several countries, even whole continents such as Europe.

This trend to reduce the number of depots has widely dominated during fifteen years as it was particularly rewarding financially. At that time, the environmental concerns were still secondary: sustainable development and green logistics were hardly ever spoken of, in particular in France. Likewise, the increase in the number of consolidation platforms, without stock and using cross-docking technology, was noticed. These platforms, a direct consequence of the tense flow development, constituted a good solution for the control of the transportation costs so long as deliveries were really consolidated.

However, transportation costs are bound to increase durably. First, on the economic level, we can expect in a very near future an increase in the price of the barrel of oil. Then, green logistics has developed, linked to the necessity of reducing the greenhouse gas emissions, which should lead to higher costs. Already, in France, we can see the introduction of new taxes (Ecotax, Carbon tax...), the goal of which is to penalize road transportation, gradually but durably. So, the legitimacy of the theory of inventory centralization, more exactly the Square Root Law, seems to be more and more into question. Economic actors, in particular distributors, have already gone back to dispatching their stocks on several sites when the tense flow alternative is not possible and therefore when they need stocks.

Could inventory decentralization become a reality, since it constitutes an alternative for the best control of transportation costs and at the same time a progress towards greener logistics? The object of our paper is precisely to provide some answers. In order to do so, we shall first propose a follow-up on the Square Root Law. Then, we shall specify under which conditions the inventory centralization reaches its limits and, therefore, under which conditions inventory decentralization becomes relevant.

Within a constantly evolving international environment, companies are always confronted with organizational and logistic transformations, whatever their size, their suppliers, their customers or their business sectors. For example, we often notice manufacturing relocations in emerging countries (Eastern Europe, countries of the Maghreb, China, etc.). Yet, this industrial practice is not without impact on the organization and the complexity of supply and distribution flows (multi-stage assembly system, multi-echelon inventory management...). Moreover, low cost sourcing is sometimes become high cost supplying (Moati, 2008). The function of logistics is thus experiencing a deep change, in which environmental factors play more and more an important part.

In order to meet these new challenges, logistic solutions are constantly evolving. Such is the case in the distribution sector. Sometimes, the evolution goes towards a decline in stock level, obtained either through inventory centralization or platform mobilization (tense flow management). At other times, proximity to the customers is privileged: it implies inventory decentralization. In every case, the objective is to offer an optimal solution in terms of quantity, quality, cost and delivery dates (Caron and Marchet, 1996; Wanke and Zinn, 2004).

In a first part, we are going to sum up the questions concerning inventory strategies: to store or not to store? Where to do it and in which proportion? Then, through two case studies, we shall revisit the theory of inventory centralization and, in particular, the Square Root Law: we shall recall the fundamental results and propose a follow-up. Finally in a third part, again through a case study, we shall specify the current limits of this law and clarify under which conditions the inventory decentralization becomes relevant.

## **2. INVENTORY STRATEGIES WITHIN GLOBAL LOGISTICS PERFORMANCE**

Managers and researchers wonder in a quasi-permanent way about the relevance of inventory, about its interest but also about its inconveniences (Croxtton and Zinn, 2005; Vallin, 2008). Is it necessary to store? And if yes, where to do it and how? With the help of small-sized and proximity structures? Or with very large and international warehouses? Also, in order to establish a state of the art on this subject, we suggest at first to

specify the inventory contribution to logistics performance. We shall stop then on the trade-off which exists between transportation and warehousing according to their costs.

### **2.1. Inventory and logistics performance**

The supply chain performance confronts in terms of economic results, but also in terms of customers satisfaction. Concerning this second point, we have to underline the sensitive increase in requirements, in particular about products delivery dates. The generalization of tense flows (synonym for inventory reduction) probably constitutes the best example. Indeed, the tense flow adoption in supply chain management means an increase in deliveries frequencies. So, this logistic practice, nevertheless very attractive in terms of inventory costs ("0-stock" concept), can turn out dramatic, from an environmental point of view, if the occupancy rate of distribution tours is too weak (McIntyre *and al.*, 1998; Aronsson and Brodin, 2006).

Consequently, warehousing occupies a strategic place in logistics management because of its role of "regulator" (Mocellin, 2004). That is why it is common to wonder about the number and the location of logistic infrastructures (Anupindi and Bassok, 1999). If a warehouse indicates a large-sized storage unit (in average two or three tens of thousands square meters) located in a central position, a depot is smaller and indicates a storage unit located near customers, which guarantees relatively short delivery dates.

Two big logics dominate at present the debates within supply chains: (1) the one which privileges a high service level, in particular a minimization of delivery times, and which multiplies deliveries from proximity sites to the detriment of transportation costs (as far as the transported volumes are generally low); (2) the other which, on the contrary, allows to minimize global logistic cost, in particular transportation costs, through consolidation operations spaced out in the time - we are not any more then in same day delivery or in "D-day for D+1", but rather on weekly deliveries by total truckload (TL). So, we have to underline that the first logic is not always environment-friendly: (1) transportation operations are not systematically minimized; (2) non-polluting (or less-polluting) means of transportation are not necessarily used. In this sense, the tense flow management, if there is no systematic consolidation of flows, does not join in a green logistics approach.

## 2.2. Transportation costs and warehousing costs: the two elements to assess

The location of sites aims at making supply chain more efficient (Feng and Zhang, 2005; Vallin, 2008). Whichever is the logic adopted, be it based on a high service rate or on a limitation of global logistic cost, the objective is to improve supply chain efficiency. In certain cases, in particular when distributors are looking for minimal transportation costs, locations close to selling points seem then preferable. However, this logic implies a more important number of warehouses, which obviously entails an increase in inventory costs. We have besides to underline that the location of logistical infrastructures has to be led at the same time as the determination of the optimal number of sites (Cachon, 2001). The opposite would indeed constitute nonsense.

This second element takes on a major importance, according to Cooper *and al.* (1992), because the global logistic cost also depends on the total number of sites. Then, if a warehouse implies, at first, consequent investments (about \$1,000 per square meter [except arrangements]), it means then significant operating costs. So, the higher the number of storage units, the higher the inventory costs. On the other hand, the final delivery costs are lower, as far as these numerous units are *a priori* closer to delivery points in the event of very well dispatched locations. Figure 1 proposes a stylized representation of these opposite variations. It is therefore a real challenge to determinate the optimal number of warehouses, which minimizes the global logistic cost.

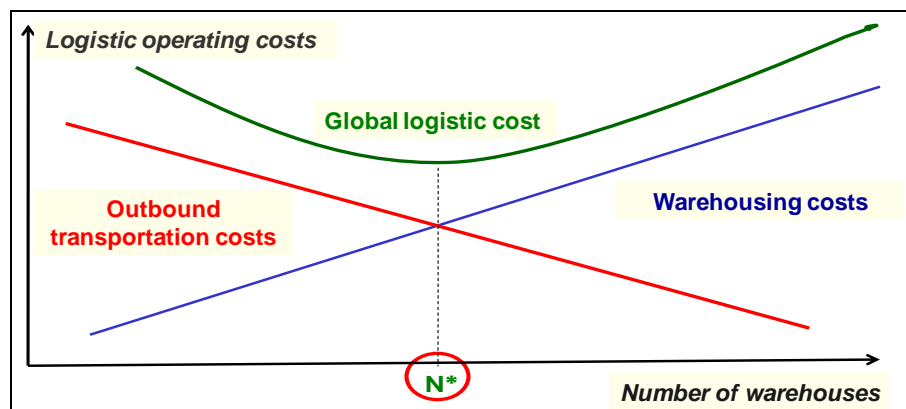


Figure 1: Trade-off in transportation and warehouse operating costs  
(according to Cooper *and al.*, 1992)

## 3. THE THEORY OF INVENTORY CENTRALIZATION REVISITED THROUGH TWO CASE STUDIES

According to Slack *and al.* (2004), the most common approach to deciding how much of any particular item to order, when stock needs replenishing, is called the Economic Order Quantity (EOQ) approach. This approach, also called Harris Model (1913) or still Wilson Model (1934), attempts to find the best balance between the advantages and disadvantages of holding stock and to minimize the global logistic cost: with low values of

order quantity, holding costs are low but the costs of placing orders are high because orders have to be placed very frequently.

The sum of holding and order costs is minimized when order quantity is equal to:

$$\sqrt{2 D C_o / C_h} \quad (1)$$

This value, the EOQ, also called Harris formula or Wilson formula, constitutes the optimal quantity. In this formula, D represents the demand per time unit (yearly period, monthly period, weekly period...),  $C_o$  is the cost of placing an order (or ordering cost) and  $C_h$  designates the cost of holding (or carrying) one product unit in stock per time unit.

In a similar manner with this approach, the theory of inventory centralization is based on the Square Root Law (Starr and Miller, 1962; Maister, 1976; Mc Kinnon, 1989; Fernie and Sparks, 2004), which is establishing the global logistic cost from the cost of holding inventories in warehouses. In this case, the move from ten depots towards a completely centralized system using only one warehouse reduces the inventory requirement by 68 per cent (McKinnon, 1989), that is to say exactly:

$$[ 1 / \sqrt{10} ] - 1 \quad (2)$$

It is the reason why we call it the Square Root Law (SRL).

### **3.1. Ogero Company case study**

For example, we can take the Ogero Company. This is an European distribution case study of a French liqueurs manufacturer, located near Angers.

Initially, before 1995, this producer achieved its deliveries *via* a network of 11 depots located close to its European customers: Paris, London, Madrid, Amsterdam, Rome, Stockholm, Munich, Berlin, Athens, Budapest and Warsaw. Figure 2 gives a good idea of these different locations which are distributed well enough throughout Europe.

In 1994, the average annual demand of each depot was about 800 pallets. The cost of holding one pallet in stock for a year ( $C_h$ ) was about FF2,500 and the ordering cost ( $C_o$ ) about FF650. So, for each depot, the Ogero Company global logistic cost was as follows:

$$EOQ = \sqrt{2 \times 800 \times 650 / 2,500} \quad (3)$$

$$EOQ \# 20 \text{ pallets per order} \quad (4)$$

$$\text{Total Logistic Cost (TLC)} = EOQ \times C_h \quad (5) \quad \text{according to the Harris (or Wilson) Model theory}$$

$$TLC_{1994} = 20 \times 2,500 \quad (6)$$

$$TLC_{1994} = \text{FF}50,000 \text{ per depot} \quad (7)$$

As shown by the Harris formula, the EOQ gave 20 pallets per order and per depot, that is to say 40 orders a year, a stock coverage of 9 days (that is to say 9 days between 2 orders) and a Global Logistic Cost (GLC) of about FF550,000 for all the 11 depots:

$$GLC_{1994} = 11 \times 50,000 \quad (8)$$

$$GLC_{1994} = \text{FF}550,000 \quad (9)$$

By 1995, Ogero Company wished to reduce its GLC. The company therefore became interested in the theory of inventory centralization and has decided to abandon its network of 11 depots in favor of a completely centralized system using only one warehouse: an European Logistics Center (ELC) located in Stuttgart (Germany).

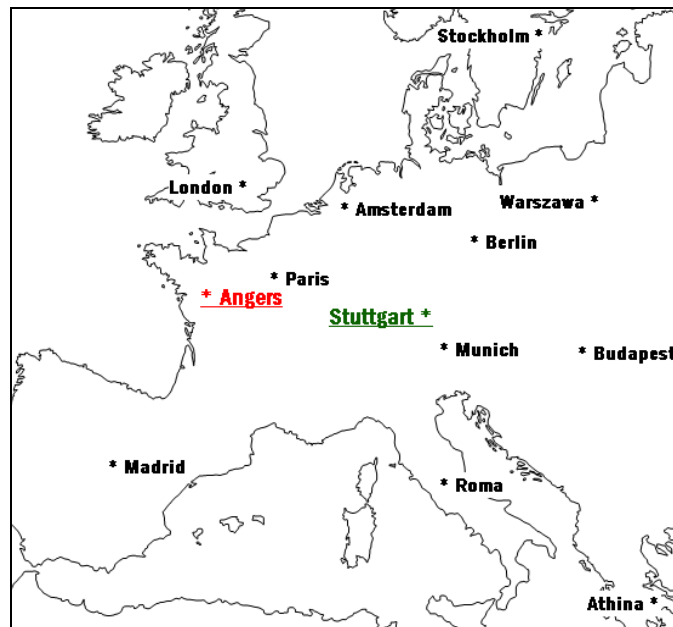


Figure 2: Ogero Company Distribution  
 Firstly, European Network in 1994 (11 depots in black)  
 and, then, ELC at Stuttgart in 1996

Stuttgart has been chosen as this city was the center of gravity of the previous network. At the beginning of the study, Ogero Company considered locating the ELC in Angers close to its main production unit. But, as we can see in Figure 2, the location near Angers was too remote to offer optimal distribution over the whole of Europe. This is why Stuttgart was selected.

In 1996, the Stuttgart ELC processed 9,000 pallets, that is to say practically the same quantity as in 1994, where each of the 11 depots processed on average 800 pallets. The cost of holding one pallet in stock for a year ( $C_h$ ) was about FF2,400 and the ordering cost ( $C_o$ ) about FF660. This time, by the ELC alternative, the Ogero Company global logistic cost was as follows:

$$EOQ = \sqrt{2 \times 9,000 \times 660 / 2,400} \quad (10)$$

$$EOQ \# 70 \text{ pallets per order} \quad (11)$$

$$GLC_{1996} = EOQ \times C_h \quad (12)$$

$$GLC_{1996} = 70 \times 2,400 \quad (13)$$

$$GLC_{1996} = FF168,000 \quad (14)$$

So, with an EOQ of 70 pallets per order, that is to say a total truckload (TL), the number of orders a year increased to 128 and the stock coverage decreased to less than 3 days. Finally, the implementation of the theory of inventory centralization was generating savings of FF382,000 a year. Let us underline that this 70% reduction, noticed in the practice, is in fact very close to the value that the theory let glimpse, that is to say:

$$[1 / \sqrt{11}] - 1 \quad (15).$$

### 3.2. Generalization of the Square Root Law through the Gotié Company case study

Keeping the hypothesis of the Square Root Law, where  $C_o$  and  $C_h$  are almost constant, it is possible to make a generalization of this law: the move from  $d$  depots towards a more centralized system using  $w$  warehouses, where  $d$  is greater than  $w$ , reduces the inventory requirement by:

$$[1 / \sqrt{d / w}] - 1 \quad (16)$$

So, if  $d$  is equal to 100 and  $w$  is equal to 10, again we get a reduction of 68% (McKinnon, 1989). Therefore, the savings depend on the ratio of  $d$  on  $w$  - the higher this ratio, the higher the reduction.

By way of example, we can take Gotié Company. This is an European distribution case study of a French furniture retailer, whose main suppliers are located in Vendée, near Cholet. Initially, before 2000, this retailer achieved its deliveries from the different production units of the Cholet region *via* a network of 12 depots-

stores (with showroom) located close to the main zones of consumers: Strasbourg, Marseille, Madrid, Brussels, Manchester, Naples, Göteborg, Zurich, Hamburg, Prague, Zagreb and Warsaw.



Figure 3: Gotié Company Distribution Network in 1999

Figure 3 gives a good idea of these different European locations. Despite the fact that the suppliers organized the transportation by rail from factories to depots-stores (DSs), with the help of LSPs (Logistic Service Provider) in order to consolidate shipments, the 12 DSs belonged to Gotié Company.

In 1999, the average annual demand of each of 12 DSs was about 48 containers. The cost of holding one container in stock for a year ( $C_h$ ) was about FF170,000 and the ordering cost ( $C_o$ ) about FF7,000. So, for each depot-store (DS), the Gotié Company global logistic cost was as follows:

$$EOQ = \sqrt{2 \times 48 \times 7,000 / 170,000} \quad (17)$$

$$EOQ = 2 \text{ containers per order} \quad (18)$$

$$TLC = EOQ \times C_h \quad (19)$$

$$TLC = 2 \times 170,000 \quad (20)$$

$$TLC = \text{FF}340,000 \text{ per DS} \quad (21)$$

Then, the EOQ gave 2 containers per order and per DS, that is to say 24 orders a year, a stock coverage of 2 weeks, and a global logistic cost (GLC) for the 12 DSs about 4 million FF:

$$GLC_{1999} = 12 \times 340,000 \quad (22)$$

$$GLC_{1999} = \text{FF}4,080,000 \quad (23)$$

Wishing to reduce its global logistic cost in 2000, Gotié Company was also interested in the theory of inventory centralization, especially since the development of Internet allowed this retailer to put on-line on the Web its

offer and to do without stores and showrooms. Thus, Gotié decided to go from a network of 12 DSs to a more centralized system using 4 warehouses, called “Regional Distribution Centers” (RDC) and located in Aix-en-Provence (France), Munich (Germany), Amsterdam (The Netherlands) and Gdansk (Poland). As we can see in Figure 4, these different towns were selected because they constituted local centers of gravity of customers network:

- Aix-en-Provence RDC for Madrid, Marseille and Naples;
- Munich RDC for Prague, Zurich and Zagreb;
- Amsterdam RDC for Brussels, Manchester and Strasbourg;
- Gdansk RDC for Göteborg, Hamburg and Warsaw.

So, the 12 DSs have been gradually closed and replaced by only 4 RDCs, always delivered to by rail transportation and property again of Gotié Company.



Figure 4: Gotié Company RDCs Organization in 2001

Since 2001, furniture manufacturers do not directly deliver any more to the 12 DSs, but only to the 4 RDCs. So, inbound transportation costs from factories to RDCs, which are always payable by suppliers, are now lower than inbound transportation costs of the previous model, where each of the 12 DSs was delivered to. The crossed distances are, indeed, now shorter and the inbound transportation costs are therefore lower. So, this is one of the main reasons why furniture manufacturers have revised their selling prices downwards. On the other hand, the outbound transportation costs from RDCs to consumers, which are always chargeable to Gotié retailer, have increased because the crossed distances are henceforth longer. Moreover, let us underline that these outbound transportation operations are achieved by road.

In 2002, the 4 RDCs processed 600 containers altogether (on average 150 containers per RDC), that is to say practically the same quantity as in 1999 where each of the 12 depots-stores processed 48 containers on average. This time, the cost of holding one container in stock for a year ( $C_h$ ) was about €25,000 (*i.e.* FF164,000) and the ordering cost ( $C_o$ ) about €1,100 (*i.e.* FF7,216). So, the Gotié Company global logistic cost was as follows:

$$EOQ = \sqrt{2 \times 150 \times 1,100 / 25,000} \quad (24)$$

$$EOQ \# 3.5 \text{ containers per order} \quad (25)$$

$$TLC = EOQ \times C_h \quad (26)$$

$$TLC = 3.5 \times 25,000 \quad (27)$$

$$TLC = \text{€}87,500 \text{ per RDC} \quad (28)$$

With an EOQ of about 3.5 containers per order and per RDC, the number of orders per year increased to 41 and the stock coverage decreased to less than 9 days:

$$GLC_{2002} = 4 \times 87,500 \quad (29)$$

$$GLC_{2002} = \text{€}350,000 \text{ or FF}2,296,000 \quad (30)$$

Eventually, the global logistic cost was reduced to about €350,000 (*i.e.* FF2,300,000) for the 4 RDC's, which proved again that the implementation of the theory of inventory centralization was generating savings about FF1,800,000 a year (FF4,080,000 – FF2,296,000). Let us again underline that this 44% reduction, noticed in the practice, is very close to the value that the theory gives, that is to say:

$$\left[ 1 / \sqrt{12 / 4} \right] - 1 \quad \text{i.e. a 42\% reduction} \quad (31).$$

#### 4. MANAGERIAL PERSPECTIVES: THE LIMITS OF THE SQUARE ROOT LAW

The theory of inventory centralization is at the moment somewhat questioned (Schmitt *and al.*, 2008). Indeed, as we can see with Gotié Company case study, the outbound transportation costs (from depots or RDCs to customers) are chargeable to the retailer and, with a more centralized system using only 4 warehouses, the inbound transportation costs from factories to RDCs are less expensive than the inbound transportation costs in the previous model with 12 depots (these inbound transportation costs are chargeable to manufacturers). On the other hand, we can notice that the outbound transportation costs from RDCs to customers constitute a higher cost than the outbound transportation costs in the previous model with 12 depots.

##### 4.1. Conditions inventory decentralization calculation

So, inbound rail transportation costs chargeable to manufacturers have decreased and, on the other hand, outbound road transportation costs chargeable to the retailer have increased. If the manufacturers have therefore reduced their products' selling prices applied to Gotié Company, nothing proves that this saving is great enough to cover the increase of the total transportation cost. Indeed, transportation costs are finally increasing and are still bound in the future to increase with the likely increase in petroleum prices and, also, because of the research of greenhouse gas (GHG) emissions reduction through new taxes introduction. So, this is why stocks could be henceforth more and more redistributed over different sites, and therefore less centralized (Bernstein and DeCroix, 2004).

Then, if the hypothesis of a constant  $C_h$  (cost of holding one product unit in stock per time unit, still called "holding cost") does not constitute a problem, we could not say the same for the hypothesis of a constant  $C_o$  (cost of placing an order, still named "order cost"). This is why, through this research forum, we question in part the Square Root Law: " $C_o$  cannot be considered any more as a constant data in different scenarios". In fact,  $C_o$  depends on the number of sites. On this point, there is in fact a well known trade-off between warehousing and transportation: as the number of sites is high, the cost of operating them is also high, but outbound transportation operating costs are low, because the different sites are close to customers, and *vice versa* (Cooper *and al.*, 1992 – cf. Figure 1).

For that, we can consider two scenarios. In the first scenario ("d depots" scenario), the order cost is less than the second scenario ("w warehouses" scenario) order cost, because outbound road transportation distances from depots to customers are smaller than outbound road transportation distances from RDCs to customers. So, the two scenarios order costs are not equal as in the Square Root Law traditional model.

The "d depots" scenario order cost is called " $C_{o_d}$ " and the "w warehouses" scenario order cost is called " $C_{o_w}$ ". Our research proves that if:

$$C_{o_w} > (d / w) \times C_{o_d} \quad (32)$$

the theory of the Square Root Law could be questioned, when the Selling Prices Reduction (S.P.R.) is too low.

That is to say if:

$$S.P.R. < \Delta C \quad (33)$$

where  $\Delta C$  is the outbound transportation cost increase when we choose a more centralized system. We easily demonstrate that:

$$\Delta C = \sqrt{2 D C_h} \times (\sqrt{w C_{o_w}} - \sqrt{d C_{o_d}}) \quad (34)$$

So, if D is equal to 12,000 units a year, if d is equal to 50 depots and w to 10 warehouses, if  $C_h$  is equal to \$60 per unit for a year and  $C_{o_d}$  to \$450 per order, then  $C_{o_w}$  cannot be greater than \$2,250 per order, that is to say:  $(50 / 10) \times 450$ . Otherwise the Square Root Law could be questioned, if S.P.R. (selling prices reduction) was too slack.

#### 4.2. Revised Gotié Company case study

By way of example, we can take again Gotié Company case study. Before 2000, this distributor achieved its deliveries *via* a network of 12 depots located close to its main customers. At first, the EOQ gave 2 containers per order and per depot, and a global cost about FF4,080,000 a year.

Wishing to reduce its global logistic cost, Gotié Company was interested in the theory of inventory centralization and decided to go from a network of 12 depots to a more centralized system only using 4 RDCs, located in France, Germany, The Netherlands and Poland. So in 2002, the EOQ gave 3.5 containers per order and per RDC, and a global logistic cost (GLC) about €350,000 a year, that is to say roughly a 44% reduction.

Recently, in 2010 exactly, Gotié Company realized that because of the increase in transportation costs, the firm had to differentiate  $C_{o_w}$ , the “4 RDCs” scenario order cost, from  $C_{o_d}$ , the “12 depots” scenario order cost. In 2008, when the furniture demand was about 200 containers on average per RDC, Gotié Company estimated that  $C_{o_w}$  was equal to €1,600 per order and that  $C_h$  was about €25,000 per container in stock for a year. Then, the global logistic cost was as follows:

$$EOQ = \sqrt{2 \times 200 \times 1,600 / 25,000} \quad (35)$$

$$EOQ \# 5 \text{ containers per order} \quad (36)$$

$$\text{Total Logistic Cost (TLC)} = EOQ \times C_h \quad (37)$$

$$TLC = 5 \times 25,000 \quad (38)$$

$$TLC = \text{€}125,000 \text{ per RDC} \quad (39)$$

With an EOQ of about 5 containers per order and per RDC, the number of orders a year was equal to 40 and the stock coverage became 9 days. Finally, the global logistic cost (GLC) for 2008 was estimated to be €500,000 for all the 4 RDCs:

$$GLC_{2008} = 4 \times 125,000 \quad (40)$$

$$GLC_{2008} = \text{€}500,000 \quad (41)$$

But, if Gotié Company had kept its original network of 12 depots, as they had before 1999, the annual average demand would have been about 67 containers per depot. Then, the retailer estimates that  $C_{o_d}$  would then have only been equal to €420 per order. There would be no change of course for  $C_h$ , that is to say: €25,000 per container in stock for a year. So, the global logistic cost would have been as follows:

$$EOQ = \sqrt{2 \times 67 \times 420 / 25,000} \quad (42)$$

$$EOQ \# 1.5 \text{ containers / order} \quad (43)$$

$$TLC = EOQ \times C_h \quad (44)$$

$$TLC = 1.5 \times 25,000 \quad (45)$$

$$TLC = \text{€}37,500 \text{ per depot} \quad (46)$$

With an EOQ of about 1.5 containers per order and per depot, the number of orders a year would have increased to 45 and the stock coverage would have decreased to 8 days of stock. Finally, the global logistic cost for 2008 would have been estimated to be €450,000 for all the 12 depots:

$$GLC_{2008} = 12 \times 37,500 \quad (47)$$

$$GLC_{2008} = \text{€}450,000 \quad (48)$$

In this case, we can therefore see that the the Square Root Law can be questioned. Indeed, if we differentiate  $C_{o_w}$  from  $C_{o_d}$ , the 4 RDCs system global logistic cost was equal to €500,000 in 2008 whereas the 12 depots system global logistic cost would have been estimated to be €450,000 for the same year, that is to say a 10% saving (€50,000). The original 12 depots network would have therefore been the best way of minimizing the global logistic cost. But, this is true on one condition...

## 5. CONCLUSION

The theory of inventory centralization is being questioned to a certain extent. This is the result of the increase in outbound transportation costs. This durable increase is in fact the result of the conjugation of two phenomena: (1) the likely increase in the price of the barrel of oil; (2) the green logistics development, that is to say the necessity of reducing the greenhouse gas (GHG) emissions and therefore the necessity to penalize road transport by new taxes and to encourage conversely railway transport. As we could see with Gotié Company, in the case of a more centralized system, the outbound road transportation costs are increasing and these additional costs are only payable by retailers. If, however, manufacturers have significantly reduced their selling prices applied to Gotié Company, because the inbound rail transportation costs have decreased, nothing proves that the saving resulting from S.P.R. (selling prices reduction) is significant enough...

In Gotié Company case study, we have therefore seen that the original 12 depots system was *a priori* better than the more centralized 4 RDCs system, and that the gross saving was about 10%. Now, we have to clarify

that, in the more centralized system, the selling prices applied by manufacturers to Gotié Company have decreased by about 1%, because the inbound transportation costs payable by producers have decreased. Also, as the total 2008 turnover achieved by the different suppliers of Gotié Company has reached €4.3 million, the selling prices reduction is then estimated at about €43,000. So, this saving is less important than the €50,000 gross saving achieved by the 12 depots system over the 4 RDCs system. Consequently, with a €7,000 advantage (net saving), the 12 depots network always remains the best way to optimize distribution. In this particular case, the theory of inventory centralization has therefore reached its limits.

In conclusion, with a more centralized system, the durable increase in outbound road transportation costs is not necessarily covered by the selling prices reduction applied by manufacturers to retailers. So, in certain cases, it could be really more relevant to opt for an inventory rational decentralization. This strategic logistics choice, which can however surprise because it questions the Square Root Law, would therefore imply, always for these cases of course, on one hand an economic advantage but also an ecological advantage: the road transport mode could be indeed more easily allowed for short distances. So, inventory decentralization seems now to constitute one of the ways for a greener logistics. More research is needed: we have henceforth to specify in which professional sectors it comes true and, in particular, we have to know in which cases  $\Delta C > 0$ .

## References

- Anupindi, R., and Bassok, Y., (1999), "Centralization of stocks: retailers vs. manufacturers", *Management Science*, Vol 45, pp. 178-191.
- Aronsson, H., and Brodin, M.H., (2006), "The environmental impact of changing logistics structures", *The International Journal of Logistics Management*, Vol 17 N°3, pp. 394-415.
- Bernstein, F., and DeCroix, G.A., (2004), "Inventory policies in a decentralized assembly system", *Working paper*, Duke University.
- Cachon, G.P., (2001), "Stock wars: inventory competition in a two echelon supply chain with multiple retailers", *Operations Research*, Vol 49 N°5, pp. 658-674.
- Caron, F., and Marchet, G., (1996), "Impact of inventory centralization on safety stock for two-echelon systems", *Journal of Business Logistics*, Vol 17 N°1, pp. 233-257.
- Cooper, J., Browne, M., and Peters, M., (1992), *European logistics : markets, management and strategy*, 2<sup>nd</sup> Ed. Blackwell Publishers.
- Croxtan, K., and Zinn, W., (2005), "Inventory considerations in network design", *Journal of Business Logistics*, Vol 26 N°1, pp. 149-168.
- Feng, T., and Zhang, F., (2005), "Centralization of suppliers: the impact of modular assembly on supply chain efficiency", *Working Paper*, University of California.
- Fernie, J., and Sparks, L., (2004), "Retail logistics: changes and challenges" In *Logistics and retail management*, Fernie, J., & L., Sparks, (eds.), 2<sup>nd</sup> Ed. Kogan.
- Harris, F.W., (1913), "How Many Parts to Make at Once. *Factory*", *The Magazine of Management*, Vol 10 N°2, pp. 135-152 - Reprinted in *Operations Research*, Vol 38 N°6 (1990), pp. 947-950.
- Maister, D. H., (1976), "Centralization of inventories and the Square Root Law", *International Journal of Physical Distribution*, Vol 6 N°3, pp. 124-134.

- McIntyre, K., Smith, H.A., Henham, A., and Pretlove, J., (1998), "Logistics performance measurement and greening supply chains: diverging mindsets", *The International Journal of Logistics Management*, Vol 9 N°1, pp. 57-68.
- McKinnon, A. C., (1989), *Physical distribution systems*. Routledge.
- Moatti, V., (2008), "Low cost sourcing... or high cost supplying?", Actes de la XVIIème conférence de l'Association Internationale de Management Stratégique, Nice (France), Mai.
- Mocellin, F., (2004), *Gestion des entrepôts et plates-formes*. Dunod.
- Schmitt, A., Snyder, L., and Shen, Z., (2008), "Centralization versus decentralization: risk pooling, risk diversification, and supply uncertainty in a one-warehouse multiple-retailer system", Proceedings of the 13<sup>th</sup> Manufacturing and Service Operations Management Conference (College Park [MA]), 1-7.
- Slack, N., Chambers S., and Johnston, R., (2004), *Operations management*, 4<sup>th</sup> Ed. Prentice Hall.
- Starr, M.K., and Miller, D., (1962), *Inventory control: theory and practice*, Prentice Hall.
- Vallin, P., (2008), *Problématiques de la logistique : questions et réponses*, Economica.
- Wanke, P., and Zinn, W., (2004), "Strategic logistics decision making", *International Journal of Physical Distribution & Logistics Management*, Vol 34 N°6, pp. 466-478.
- Wilson, R.H., (1934), "A scientific routine for stock control", *Harvard Business Review*, Vol 13 N°2, pp. 116-128.

# Supply chains: agile, robust or both?

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Purpose	The purpose of this paper is to analyze the agility of supply chains and the managerial tools deployed.
Design methodology	An on-line survey was taken of 330 supply chain managers in France taken from the population of supply chain managers. Exploratory and confirmatory factor analysis were performed on the data.
Findings	Agility as a managerial concept is found to include at least three distinct latent variables. The tools of supply chain managers are found to be deployed jointly in at least three major families. A causal link is found between the tool families and the agility variables.
Research limitations/implications	The research is limited by the size and origin of the sample. The results would require further in-depth studies to be validated.
Practical implications	In order to improve certain types of agility, supply chains must implement certain tool sets.
Originality value	Agility has been studied for companies, never for supply chains. Further, this empirical research proves the existence of distinct agility qualities and shows that tools are better suited to certain types of agility.
Keywords	Supply Chain, agility, robustness, empirical research.
Paper type	Research paper

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## Abstract

Though it is widely accepted that supply chains must strategically be robust and agile, many questions remain unanswered about how best to characterize robust or agile supply chains and corresponding strategies. Similarly, we know little about the connections between the management levers deployed by supply chains to engineer successfully a robust, or an agile supply chain. This paper investigates how robustness and agility are achieved in a sample of 225 French supply chain managers. Scales are developed for measuring robustness and agility and strategies were identified in the sample. There is consistent evidence that each of these strategies relies on different management tools and relate to certain economic sectors. The implications for our findings on future research and practice in the near future are considered. This paper investigates the capabilities of the supply chain and the managerial levers used through a survey of 225 French examples. New constructs are proposed both in capabilities and managerial levers. Relationships are evaluated between both. We detect different types of agility which are correlated to different families of levers according to the industrial sector.

Keywords : Supply Chain, agility, robustness, empirical research.

## Acknowledgement

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## 1 Results and discussion

Armed with the latent variables which measure agility, resilience and flexibility in supply chains on one hand and the current use or deployment of enablers on the other, we can now investigate if enablers actually influence the traits of supply chains, and if so, how. The managerial question we hope to answer here is: which managerial tools can help my supply chain achieve higher agility, resilience or flexibility? Note how the notion of performance or measured indicator is absent from the answer which will be given. This study only provides decision-makers with indications as to what supply chain trait is provided better by which particular tool or set of tools

according to testimonies from other decision-makers who have implemented them (or not).

The pairwise Spearman correlation between the enablers and the agility, resilience or flexibility characteristics did not reveal coefficients higher than .60 which would tend to imply that the enablers which the respondents have deployed or use do *not* correlate with the purported characteristics of their supply chains. For all respondents, the deployment of *collaborative tools* does not correlate well with either *agility* (Spearman's coefficient = .316), *resilience* (.587) or *flexibility* (.581). The *IT tools* do not seem to enhance the respondents' supply chain qualities either: Spearman's coefficient is .575 with *agility*, and .586 with *flexibility*.

Given the fact that three scales for characteristics were developed whereas four were for the enablers, our intuition is that there are some differences among the respondents which might explain why correlations are not higher. We studied those same correlations by separating the respondents by economic sector. Given the paucity of the data for some of the sectors involved, the results herein (and which should be validated by further study) are for four sectors only: food, retail/distribution, industry (excluding automotive, energy, food and luxury) and fast moving consumer goods (FMCG). We observe that the FMCG supply chain has deployed *IT tools* to achieve *agility*: the Spearman coefficient is an interesting .928 (see table 1 on page 4). It appears that the retail/distribution supply chains deploy *Collaborative tools* to achieve *flexibility*. Industrial supply chains also either deploy *IT tools* but to achieve *resilience* or some deploy *Reactivity tools* to achieve *agility*. The significant correlations have been singled out in bold face. Industry uses both *IT tools* and *Reactivity tools* to achieve respectively *resilience* and *agility*. Note how, for each couple of enabler latent variable and supply chain trait, only one sector stands out. In other words, in each industrial sector, one supply chain quality is pursued with one type of managerial set of tools only.

Given the composition of the latent variable *agility* which places much emphasis on tracking market expectations and changes, we looked at the correlation with the tools which are supposed to most enhance this particular trait; ie, the set described as *differentiation tools* (based upon setting up suppliers near markets, developing multimodal transport and alternative distribution channels). There is apparently no correlation. A similar surprising lack of correlation appears between *Reactivity tools* which represent forecasting and planning tools and *Agility* characteristics with its reactive and adaptability capabilities (not presented here).

Table 1: Correlation between *IT tools* and *agility* per industrial sector.

Economic sector	Spearman coefficient	Signif.
Food	.649*	.016
Retail / distribution	.370	.293
Industry	.579**	.006
<b>FMCG</b>	<b>.928**</b>	.008

(\*\* Correlation significant to  $p < 0.01$ )

Table 2: Correlation between *Collaborative tools* and *flexibility* per industrial sector.

Economic sector	Spearman coefficient	Signif.
Food	.277	.298
<b>Retail / distribution</b>	<b>.790**</b>	.007
Industry	.174	.462
FMCG	-.174	.784

(\*\* Correlation significant to  $p < 0.01$ )

Extending the results given by the high correlation coefficients, we plot the regression lines explaining the supply chain traits by the tools deployed. The results are presented in [Table 5](#).

*Agility* is achieved through the deployment of *IT tools* in the FMCG supply chains. The respondents are half way through the implementation of those tools and their agility grows correspondingly. There is no respondent which scores badly on those tools, yet the causation effect is sufficiently clear. The supply chains which scored 9.7 on *IT tool* (the scale extends from a possible low of 4.3 to a maximum of 17.2), barely managed a score of 6.58 on *agility* (scale from 2.9 to 11.7). If it deploys all of the seven tools included, it can expect to increase its agility score to 7.42. Notice how this does not allow the supply chain to achieve the maximum in agility.

In the same way, for the *flexibility* in the retail and distribution supply chain, most managerial practices of the *IT tool* box are well deployed and hence there are no supply chain among our respondents which could populate the lower left hand quadrant where one finds low values for IT Tools and low values for the flexibility trait. Hence the regression line is imprecise and the regression coefficient could possibly be higher.

As regards the two types of qualities sought by industry, we observe a large

Table 3: Correlation between *IT tools* and *resilience* per industrial sector.

Economic sector	Spearman coefficient	Signif.
Food	.651	.053
Retail / distribution	-.091	.846
<b>Industry</b>	<b>.745**</b>	<b>.005</b>
FMCG	.371	.468

(\*\* Correlation significant to  $p < 0.01$ )

Table 4: Correlation between *Reactivity tools* and *agility* per industrial sector.

Economic sector	Spearman coefficient	Signif.
Food	.475	.034
Retail / distribution	.014	.952
<b>Industry</b>	<b>.630**</b>	<b>.001</b>
FMCG	.141	.790

(\*\* Correlation significant to  $p < 0.01$ )

cloud of points showing that the causation link between the deployment of *IT tools* and *resilience* is tenuous, resulting in a flattish regression line. The heterogeneity in the scores for given deployment levels may be due to the variety of industrial supply chains involved. Further investigation might provide better explanations. The achievement of *agility* through the deployment of *reactivity* tools on the contrary is a well shaped oval cloud with some representatives of industry lacking agility because they have not deployed the corresponding reactivity tools. The lowest possible score on the deployment of this tool-set is 2,793. There is a respondent whose score is this low but still achieves a respectable agility score of 3.649 when the lowest possible

Table 5: Regression equations and regression coefficients which plot the qualities of supply chains according to the tools deployed

Quality for an industry and a given tool set	$R^2$	Slope	Intercept
Agility in FMCG through IT tools	.74	.596	.452
Flexibility in Retail through collaborative tools	.56	3.33	-10.6
Resilience in Industry through IT tools	.17	.308	3.34
Agility in Industry through reactivity tools	.40	.735	2.60

score on that trait is 2.935. According to the regression formula, however, this supply chain should increase this agility score to 10.8 if it implements all the corresponding reactivity managerial tools.

These indications can become the basis for normative managerial counsel and represent part of the positive contribution to managerial practice which this study obtains. We now wrap up the results.

## 2 Conclusion

This survey results in more questions being asked than have been answered. We were expecting to identify the relationships between the inter-organizational management tools and the agility or resilience qualities that most supply chains wish to achieve. Our empirical results indicate that supply chains distinguish between *three* different types of capabilities and that, to achieve a set of capabilities, they will choose between *four* different tool sets according to their economic sector. This empirical result has some consonance with those observed in [Narasimhan et al. \(2006\)](#). Independently from the tools studied, there are some notable differences with the results presented in [Bottani \(2010\)](#) which has not found support for the flexibility or resilience supply chain traits seen here (fully 69% of their sample was considered to be agile as explained by three variables based upon employee competency, manufacturing technology and customer orientation). Hence the affirmation presented there whereby agility should be considered to be an important strategy, suitable in contexts where rapid response to market changes are required needs to be qualified. Our results suggest that three questions need to be answered: which agility, through which enablers and for which supply chain? The answers we propose can be summarized in the following.

The *Fast Moving Consumer Goods* supply chains look to develop agility through IT tools. They know that innovation forces them to make their supply chains evolve constantly, they react and adapt very quickly to their customers' and competitors' actions by tuning their product line-up, managing their suppliers collaboratively, specializing their production sites, and, in general, integrating their IT tools along their supply chain.

The *retail and distribution* supply chain prefers to deploy collaborative tools like ECR policy, vendor managed inventories, warehouse and transport management systems, the corresponding collaborative platforms and attending reporting tools. Their supply chain is flexible: their sales forecasts allow them to anticipate change,

they reach customers through several channels and their warehouses are large enough so as to absorb seasonal and peak demands.

*Industry* supply chains wish to enhance resilience and agility. To achieve them, they deploy IT tools and reactivity tools. They look for resilience with IT tools as characterized by risk evaluation (and hence control), they source critical components in such a manner as to absorb incidents and they enjoy visibility over their supply chain. They look for agility using reactivity tools: through better forecasting and planification, but also by moving the differentiation of their products downstream nearer to the final customer.

The findings presented have some strong implications for both theory and managerial practice. In terms of theory, it is probably no longer enough to consider the agility of a supply chain as a monolithic construct independent from the economic sector in which the analysis is being applied. There are clearly three different constructs to be distinguished. Further investigation is required to prove beyond doubt whether or not each of these sets of capabilities can be achieved by a particular set of enablers and if there variations per industrial sector. The findings provide basis for the differentiation of the supply chain capabilities and enablers per economic sector and to even consider enablers as enhancing desirable supply chain traits according to the sector to which a supply chain belongs. This study raises the interesting notion of honing a supply chain strategy according to the sector and required capabilities. Another observation which does not find a satisfactory explanation here is that the FMCG supply chain, which certainly is linked to retail and distribution companies to reach the final customer, apparently prefers a different set of tools to achieve a different set of agility capabilities than what is aimed for and deployed by the retail/distribution supply chain. The lesson could be that according to their place within the supply chain and distance from the end-consumer, partners will have a different vision of what constitutes their challenges and the best way to achieve the corresponding agility capabilities. A trait common to most of the respondents and which also stands out in all four enabler constructs is their use of IT tools and management information systems generally speaking which confirms similar results from the literature.

The study also reveals important consequences for managers. First, they must clearly identify the supply chain traits that they wish to enhance before turning to the tools to do so. These tools, in turn, will be different according to the supply chain or sector they are in. Second, they will need to group the management and information

technology tools in terms of families: those who tried mixing tools from different families do not provide evidence of a benefit. Along the same line of reasoning, there is no need to deploy in a supply chain both collaborative tools *and* IT tools: they won't generate better agility if one's supply chain is FMCG, the IT tools are enough.

Some limitations to this paper should also be mentioned. The most relevant one refers to the fact that, due to the limited sample size, it was not possible to conduct a full statistical analysis (ie, principal component and cluster analysis) by economic sector or by size of firms. The indications presented for the four selected sectors must be considered to be only indications of results which further study must still validate.

## References

- Bottani, E., 2010. Profile and enablers of agile companies: an empirical investigation. *International Journal of Production Economics* 125, 251–261. 6
- Narasimhan, R., Swink, M., Kim, S., 2006. Disentangling leanness and agility: an empirical investigation. *Journal of Operations Management* 24, 440–457. 6

## **What are tradeoffs and obstacles towards a comprehensive framework of supply chain performance in global food chains?**

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## **Abstract**

### Purpose

The paper investigates why business still postpones integration of sustainability and other non-financial performance measures into global agrifood supply chains.

### Design/methodology/approach

On basis of literature-based conceptual reasoning (“disciplined imagination”), we identify tradeoffs that are prevalent in basic agrifood supply chain strategy types (efficient, risk-hedging, responsive, and agile chains) and tradeoffs that additionally emerge when agrifood chains simultaneously strive for sustainability. Further, we conceptualize one major obstacle for businesses pursuing comprehensive supply chain performance in global agrifood chains, which helps explaining why agrifood chains procrastinate the integration of sustainability into their business activities.

### Findings

First, we develop a variety of research propositions about performance trade-offs that appear when agrifood chains follow different supply chain strategy types. Second, we point out that many supply chain performance attributes represent in fact credence attributes not to be verified by the (final) consumer. Rational business responses to this situation tend to optimize publicity efforts by sustainability reports and other brand-enhancing marketing tools that are often and easily decoupled from real efforts of operations and supply chain improvements.

### Research limitations/implications

The research propositions are to be tested in follow-up empirical and modeling/simulation research on global food supply chains.

### Originality/value

The conceptual considerations presented in the paper serve as basis for managers and academics to develop innovative inter- and intra-organizational business processes that reconcile tradeoffs pushing the performance frontier outwards and that overcome hurdles towards sustainability that are inherent in current food production, processing, retailing and consumption/shopping practices.

## **Keywords**

Supply chain management, global agrifood chains, sustainability, tradeoffs, supply chain strategy types

## Value-attenuation in service-dominant logic

### Abstract

The benefits of co-creation of value, as proposed in the service-dominant logic of marketing, have become widely recognized. Yet, little is known about the outcomes of obstructions to this co-creation of value and the effects on firms, customers and their corresponding value networks. However, such instances are very common. In the case of retail out-of-stocks, customer actions affect not only the offering retailer, but also her value network. Addressing this, the paper proposes that service failures may lead to the reconfiguration of the customers' value creation, and the consequential redistribution of value between and within value networks. The paper suggests that value-redistribution may lead to a hold-up situation in which value network partners refrain from cooperative investment in service failure prevention due to misalignments in the motivation of value network actors. The paper argues that as an outcome, value is attenuated on the actor and network level.

### Keywords

Service-dominant logic, service failure, value attenuation, out-of-stocks.

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**Contemporary issues in retailing**

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## B2B Technology Readiness in SME Retailing

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## **B2B Technology Readiness in SME Retailing**

### **Abstract**

#### **Purpose**

Given the significant amount of research investigating Technology Readiness in a consumer context, there is a significant gap in the literature considering this construct in a B2B context. This paper develops and empirically tests a B2B Technology Readiness Index (TRI) based on the seminal paper of Parasuraman (2000).

#### **Design/Methodology/Approach**

SME retailers' readiness to adopt web technologies as a route to market is examined. A quantitative survey design was employed gathering data from retailers via on and off line methods and using Confirmatory Factor Analysis to interrogate the data.

#### **Findings**

The findings show that the original conceptualisation of Parasuraman (2000) is validated with four distinct sub-dimensions found: Optimism, Innovativeness, Discomfort and Insecurity.

#### **Practical Implications**

Understanding the readiness of retailers to engage with new technologies is important not only from the sales and marketing perspective of the potential vendors of such technologies but also from a public policy perspective. Understanding the innate readiness to engage with new technologies of retailers will facilitate government intervention in reducing such barriers and increasing the propensity of retailers to use such technologies.

#### **Originality/Value**

Despite the importance of web technologies for retailers, the majority of the extant research considers the issue through the framework of adoption. However, this paper proffers a different perspective and develops a measurement tool to understand how ready retailers are to adopt rather than their level of adoption.

**Keywords:** *Technology Readiness Index (TRI), Web Services, Retail B2B, Online Retail*

**Classification:** Research Paper

## 1.0 Introduction

Retailers use the Internet for different purposes ranging from a simple online presence to radically transforming existing business operations, facilitating online sales, building relationships and seeking new business opportunities (White and Daniel, 2004; Doherty and Ellis-Chadwick, 2010). Findings from previous studies identified factors, such as lack of competencies, limited technological resources and the high cost of developing and maintaining websites as inhibitors of retailers' readiness to adopt or advance their online presence (Doherty et al., 2003; Weltevreden, 2005). The development of the skills necessary to exploit the potential of the internet may not be lacking in larger organisations. However, small retailers are adopting third party web service providers to help leverage the technical expertise and knowledge necessary to facilitate their ebusiness solutions (Ray and Ray, 2006). Even so the pace of the adoption of technologies has not been as high as expected and furthermore not all of the adoption projects have been successful (Asare et al., 2011).

According to Tornatzky and Fleischer (1990), the Internet would be classified as a 'discontinuous' technology since it involves the development of significantly new processes within the smaller organisation. While much attention has been given to the readiness of consumers to adopt new technologies including such models as the Technology Acceptance Model (TAM) (Davis, 1989) and the work on diffusion of innovations (Rogers 2003), less attention has been given to the issue of how ready organisations are to adopt new technologies or to apply already adopted technologies in innovative ways (Jung-Yu and Chorng-Shyong, 2010). Technology readiness, in a consumer context, is defined as "people's propensity to embrace and use new technologies for accomplishing goals in home life and work" (Parasuraman, 2000: 308). In a business-to-business (B2B) context, the readiness of organisations to engage with new and existing technologies is important especially for small retailers who need to exploit the benefits of the Internet as a medium to extend their business activities.

The aim of this paper is to assess the Technology Readiness Index (TRI) construct (Parasuraman, 2000) within a B2B domain. It investigates whether organisational traits will impact technology adoption behaviour and will be drivers or inhibitors of technology readiness in this new business context. This research design adopts an SME retail perspective and examines the Technology Readiness of these organisations to adopt the web as a channel to market. In doing so it seeks to build on the multi-dimensional technology readiness construct (Parasuraman, 2000) by exploring its relevance and applicability within a B2B context. This paper is organised as follows. After a short review of the Technology Readiness concept from the original consumer perspective, the paper considers the relevance of the original four dimensions individually within a B2B perspective. The methodology and data collection are then described. Analysis of the results of the survey are presented and followed by a discussion of the managerial implications and conclusions.

## 2.0 Technology Readiness

The concept of the Technology Readiness Index (TRI) (Parasuraman, 2000) emanates from a stream of research which posits an individual's personality to be at the centre of their acceptance of technology (Lin and Chang, 2011; Walczuch et al., 2007). TRI measures an individual's readiness to use new technology in general using four personality traits; optimism, innovativeness, discomfort and insecurity. To date Technology Readiness studies conducted have been confined largely to the business-to-consumer (B2C) domain (Lin and Hsieh, 2006) and little effort has been made to consider technology readiness from an organisational perspective. This is surprising given that the readiness to adopt web related

technologies is considered a crucial indicator when implementing e-business (Lai and Ong, 2010). Consequently research focusing on the readiness of organisations to adopt new technologies such as the Internet is considerably limited (Jung-Yu and Chorng-Shyong, 2010; Asare et al., 2011). Simultaneously such research is topical given the numbers of organisations adopting the web as a business channel to gain/maintain a competitive advantage in a crowded market space.

Extant research on the readiness of small organisations to adopt technology is even more limited (Kuan and Chau, 2001). Palmer et al. (2012) takes a different perspective and considers the prediction and assessment of ongoing usage of internet based customer service technology in a set of regional dental offices in the USA. Their paper considers how legacy issues affect system usage and include a proxy for readiness (membership in a preferred provider organisation) in their model. Using a logistic regression model, they found that membership in such an organisation increased the likelihood of system usage by more than 49% in the time period under observation. This recent paper demonstrates the importance of developing a measure of readiness for technology at firm level. Lin and Hsieh (2012) replicate and validate the TRI across different contexts and cultures showing that the original aspects of the scale are still relevant. The following sub-sections will outline the four dimensions of technology readiness according to Parasuraman (2000) and develop them in a B2B context.

## **2.1 Optimism**

Optimism is conceptualized as a driver of technology readiness, and relates to a positive view of technology and a belief that technology offers people increased control, flexibility and efficiency (Lin and Chang, 2010). Recent studies investigating individuals' readiness to accept and adopt new technologies, for example self service technologies have found that individuals who have positive perceptions of technology are more likely to accept and adopt new technologies (Liljander et al., 2006; Lin and Hsieh, 2007). Empirical investigations in online retailing have also found that owner/managers who have a positive view of the benefits of implementing web technology in their business are more likely to adopt the web as a channel to market (Doherty and Ellis-Chadwick, 2009; Weltevreden and Boschma, 2008). Furthermore those that perceive the web as superseding existing technologies support efficient execution of web strategies which in turn leads to more advanced e-commerce activities thus facilitating a competitive edge in the online marketplace (Doherty et al., 2003).

## **2.2 Innovation**

Research asserts that innovation is regarded as a key ingredient to gaining a competitive edge and individuals who display innovative characteristics tend to be technology pioneers and early adopters of new technologies (Iacovou et al., 1995; Rogers, 2003). Agarwal and Prasad (1998:206) proposed a similar construct of personal innovativeness within the IT domain, defining it as "the willingness of any individual to try out new information technology". Arguably decision makers of online organizations display innovative characteristics due to their willingness and ability to cope with the complexity and uncertainty of operating in the virtual domain (Rogers, 2004). However, as technology readiness is likely to be greater in those individuals they are also likely to consult expert advice, opinions and services from specialists in order to advance ecommerce opportunities to facilitate a strong competitive position online (Ray and Ray, 2006; Weltevreden and Boschma, 2008).

### 2.3 Discomfort

Discomfort relates to perceived lack of control and a general feeling of being overwhelmed by the technology, which results in increased anxiety and inhibits technology readiness and innovative adoption behaviour (Massey et al., 2007; Matthing et al., 2006). It measures the degree to which people have a general prejudice against technology based products and services. Similar effects are found in organisations operating in high-technology markets, which are characterised by considerable uncertainty due to the constant changing and heterogeneous nature of technology (Walczuch et al., 2007).

Technical readiness also determines how capable and comfortable a company is in adopting an innovation (Iacovou et al., 1995; Kuan and Chau, 2001). However, technical complexities inherent in dynamic web technologies demand technical skills and knowledge. A lack of technical competence and know-how is likely to inhibit an organisation's readiness to use new technologies. Researchers, Doherty et al. (1999; 2003) have found that retailers' negative perceptions relating to technical reliability and functionality augmented feelings of discomfort and insecurity when considering new technologies. Furthermore, where there is a lack of knowledge or expertise regarding the technology this may increase the firm's vulnerability and the perception of possible exploitation thus amplifying perceptions of risk and therefore inducing a lack of trust and commitment toward adopting or using the technology (Gefen, 2003; Pavlou, 2003). Overall, the perception of a lack of necessary resources to implement or improve web technology can increase feelings of uncertainty and risk and inhibit the readiness of organizations adopting new technologies (Daniel et al., 2002).

### 2.4 Insecurity

Insecurity indicates a distrust of technology and scepticism about its ability to work properly. Such apprehensiveness results in individuals avoiding the use of technology due to an innate fear of technology (Lin and Hsieh, 2007). Recent investigations have found that firms adopting web technologies are likely to need new infrastructure and skills to facilitate the growth of this channel, which increases feelings of insecurity and therefore inhibits their readiness to embrace it as a channel to market (Jung-Yu and Chorng-Shyong, 2010; Weltevreden and Boschma, 2008). Current research (Lu et al., 2010) further asserts that trust in the online environment is also an issue for businesses particularly those considering using it as a primary commercial channel (Pavlou and Gefen, 2004; Ratnasingam et al., 2002). The insecurity associated with using the Internet as a commercial channel arises out of the web being a relatively new trading environment for many businesses, especially smaller ones. The primary concern from an organizational perspective relates to the deficiency in licensing and regulations and also no formal governing body exists to regulate business practices resulting in anxiety and increased risk with using the web as a commercial channel and more so for those using it as a transactive trading channel (Pavlou, 2002; Ratnasingam, 2005; Ratnasingam et al., 2002).

Although feelings of different valance may co exist, a person's predisposition to adopt and use new technologies, as expressed in the TR construct, suggests that either positive or negative beliefs towards the technology will dominate (Parasuraman, 2000). It has also been found that customer segments with differing TR profiles vary significantly in terms of Internet related behaviours (Lin and Chang, 2011; Parasuraman and Colby, 2001) . Consequently the importance of assessing TR from an organisational perspective cannot be ignored and needs to be incorporated into future modelling of web adoption, especially in the context of a B2B relationship.

### **3.0 Research Methodology**

The objective of this research is to test the concept of Technology Readiness (TR) in the B2B domain thus filling a distinct gap in the literature. The original scale of Parasuraman (2000) was adapted to develop the instrument to be sent to the retailers.

### **3.1 Context of the Study**

The company type under investigation for the purposes of this study was an SME retailer with an online presence, who would be expected to have some knowledge of the relevant technology. The target respondent was owner and/or manager of the retail establishment, which is most appropriate in smaller retailers in Ireland who would not have the marketing or technical resources in the organisation to develop and maintain their own web presence. The service concerned the readiness of retailers to adopt the internet for their business through a relationship with their web solution service provider (WSSP). Web Solution Service Providers (WSSPs) is a term developed for this research to describe firms offering customised services for developing, designing, and marketing websites including hosting, domain registration, and maintenance and support services specifically tailored for their customers' online business.

### **3.2 Scale Development**

To assess the TR index in the context of this study a more parsimonious scale was adapted from the original battery of items. The final thirty six items of Parasuraman (2000) were initially considered and reviewed. Following a pilot test, and discussion with retailers, a reduced set of twenty three items were chosen and adapted in a B2B online services context. The final items selected can be viewed in Appendix 1. A survey instrument was designed with the choice of responding either online or offline. The survey used seven point Likert scales anchored at strongly disagree (1) and strongly agree (7).

### **3.3 Survey Distribution**

A list was developed using commercial databases supplemented with Internet searches in key categories resulting in a total list of 843 small retailers in Ireland being sent the questionnaire. Respondents were initially posted the hard copy which included an invitation to complete the instrument online. A second wave of questionnaires with the accompanying cover letter was sent two weeks later. Finally, to increase responses, retailers were telephoned to ask them to participate in the survey (wave 3) and to remind them of the questionnaire.

### **3.4 Method of Analysis**

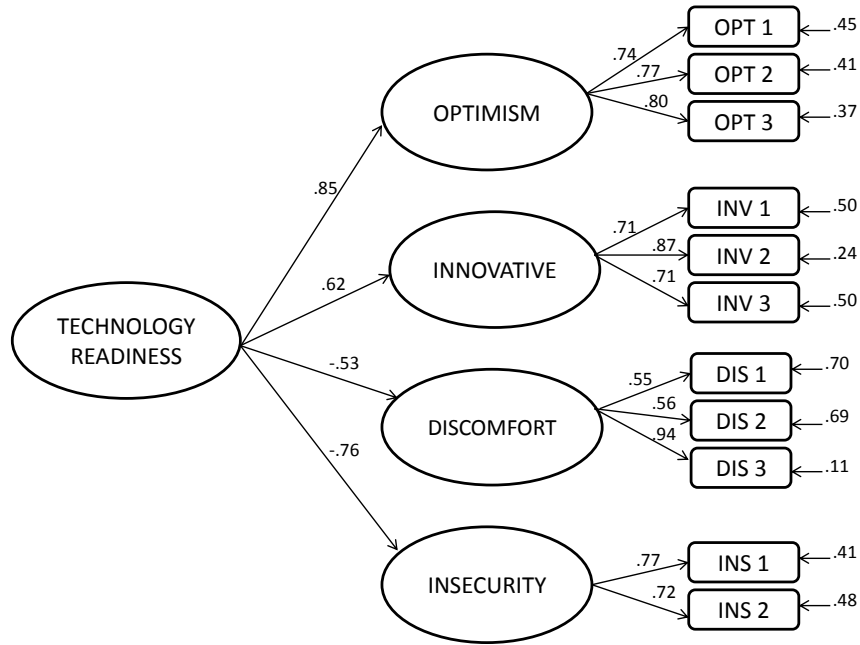
The latent construct TR is represented by the proposed four sub constructs, which are specified by items adapted from Parasuraman's (2000) TR index. As the model has latent constructs and multiple indicators a confirmatory factor analysis was run using Lisrel 8.8 (Jöreskog Sörbom, 1996) to test the proposed model. The measurement model is examined in three stages. First, as per Anderson and Gerbing's (1988) recommendations it is important to achieve unidimensionality of the latent variables which requires each construct to be assessed individually to investigate if the proposed manifest variables are reliable indicators of the latent construct. The next stage involves running the model as a second-order factor model to determine if the proposed four factor structure applies in the context of this study. Following this validity and reliability of the constructs are assessed by determining the average variance extracted and composite reliability scores of each construct (Diamantopoulous and Sigaw, 2000; Fornell and Larcker, 1981).

While there are no golden rules for assessment of model fit, reporting a variety of indices is necessary (Sarlis et al., 2009). Absolute fit indices provide measures that determine the extent the specified model fit the sample data. Consequently these measures provide the most fundamental indication of how well the proposed theory fits the data. The statistics of model fit reported here is the chi-square ( $\chi^2$ ), Goodness of Fit Index (GFI), Standardised Root Mean Square Residual (SRMR), Root Mean Square Error of Approximation (RMSEA). These criteria are based on the observed matrix and the model-implied (reproduced $\Sigma$ ) variance-covariance matrix (Schumacker and Lomax, 2004). Previous TR studies have also used these indices to assess model fit (Lin and Chang, 2011; Lin and Hsieh, 2006; Liljander et al., 2006).

#### **4.0 Analysis of Results**

A total of 133 responses were collected resulting in a 16% response rate which compares favourably to other B2B response rates. Results from t-tests of differences between response mechanism used (Internet or paper) and time of receipt (wave 1, 2 or 3) showed no significant differences at the 5% level. Tests of normality in relation to skewness and kurtosis were carried out and no significant issues were found.

Confirmatory factor analysis for the indicators of the measurement model was conducted and the items that performed well can be viewed in Appendix 2. The items are listed in accordance with their respective construct where each items'  $R^2$  and t-value statistic is reported. Items that performed poorly were removed due to unacceptable  $R^2$ 's and loadings, which indicate a lack of fit with the construct. Following uni-dimensional assessment of each sub construct and in keeping with the recommendations of Anderson and Gerbing (1988) the next stage of model assessment is to run the latent constructs as a second-order factor model. Second-order factor models are typically used in contexts where there are several related constructs measured by multiple manifest variables (Rindskopf and Rose, 1988). Theoretically this model is hypothesised to form a four factor structure with multiple indicators on each construct (Parasuraman, 2000). The model consists of four constructs relating to mental enablers and inhibitors that collectively determine an organisation's predisposition towards new technology.



Chi-Square = 64.05; df = 40; P-value = 0.00925; RMSEA = 0.067

Figure 1: Second-order factor model of Technology Readiness

The results of the second order model (Figure 1 and Appendix 3) show that each of the dimensions are indeed correlated and can thus be accounted for by a common higher order factor namely Technology Readiness. In addition the model also depicts that optimism and innovativeness are positively correlated, and discomfort and insecurity are negatively correlated, to technology readiness as would be expected. These findings substantiate the hypothesis that optimism and innovativeness are perceived as positive indicators and discomfort and insecurity as negative indicators of technology readiness. The fit indices showed a very good level of fit for the overall CFA model. The values for the GFI, and NFI were both .92, which anything greater than .85 is desirable (Hinkin, 1995). The SRMR has a score of .065 well below the acceptable level of .08 (Hu and Bentler, 1999). The  $\chi^2/df$  statistic shows that the model is plausible in the given population (Kline, 2005) and with an RMSEA score of .067 is a good indicator for an overall acceptable fitting model (Browne and Cudeck, 1993)

Finally, determining the validity and reliability of the measures in the model is essential. Validity reflects the extent to which an indicator actually measures what it is supposed to measure, while reliability refers to the consistency of measurement (Diamantopoulous and Sigaw, 2000). Average Variance Extracted and Composite Reliability (Fornell and Larcker, 1981) were analysed and the results of these tests are very encouraging (please refer to Appendix 3). Composite reliability was above the cut-off of 0.6 in all cases as recommended by Bagozzi and Yi (1988) and the AVE was above 0.5 for all factors (Diamantopoulous and Sigaw, 2000) indicating a good level of reliability. In conclusion the high reliabilities and consistent factor structure of the four dimensions provide support for the reduced scale's applicability in a B2B context.

## 5.0 Managerial Implications

What guidelines does this analysis offer organisations wishing to sell technology solutions to their portfolio of current and potential retail clients? Literature asserts that firms differ in their pace of innovation (Parasuramann, 2000). It is therefore worthwhile for these organisations to segment their client base or potential new clients on their Technology Readiness level or profile. This in turn will inform their sales and marketing approach. As Lin and Chang (2011) have suggested, differing customer segments with differing TR profiles vary significantly in terms of their technology behaviour. In this context marketers can target retailers where TR is likely to be higher and where such early adopters of new technologies (Iacavou et al., 1995) are more open to advice and expert assistance, and want to be at the cutting edge of new market technologies. Where TR is low and perceptions of discomfort and insecurity within firms is higher, these retailers may represent business accounts where return on investment for the company may be marginal.

As discomfort arises from feeling overwhelmed by technology and inhibits TR (Massey et al., 2007) technology oriented organisations must address this with clients and take proactive steps to manage and decrease levels of discomfort perceived by clients. This may involve emphasising and demonstrating ease of use and application of the technology, maintaining simple and easy to navigate user interfaces or simply avoiding technical jargon in client discussions. Clients may also experience discomfort due to a perceived lack of resources to manage the technology once implemented and in this context on-line supports and customer back up facilities as well as options to offer staff training and education to client companies in the initial project stages need to be highlighted by the vendor.

Risk perceptions of clients need to be managed by building trust between the parties. Clients can often experience insecurity due to a lack of regulations in the web sector (Pavlou, 2002). This may be addressed by the organisation through offering guarantees and showing membership of accredited industry associations (Palmer et al., 2012). Feelings of risk and insecurity can also be reduced by offering information rich data to clients, facilitating access to client testimonials and feedback, and providing case studies on projects implemented for previous client companies. Pilot or trial periods of the technology may be incorporated into the sales package in order to reduce the time for adoption. Vendors must put efforts into decreasing clients' anxiety and risk by building trust and emphasising their reputation to date and their credibility within the sector. Using TR as a variable on which to audit potential and existing clients should provide insights for organisations in terms of identifying attractive clients, resource allocation across accounts, and tailoring their approaches to new clients to maximum effect.

## 6.0 Conclusion and Future Research Directions

The results of this study suggest that the Technology Readiness Index (TRI) originally applied within a consumer context can be transferred to a business-to-business domain. The empirical data provides positive and important insights into the applicability of TRI in an online B2B retail context. An important implication of these results reveals that providers of products such as web services need to address the technology readiness of existing and potential clients to facilitate successful e-business solutions. From a public policy perspective, governments worldwide are trying to enhance the competitiveness of their economies. Knowing which organisations are more ready to adopt new technologies such as the internet would enable them to target supports to those organisations who will deliver real value.

Research has identified how consumer personality traits can pose significant challenges as well as unexpected opportunities to online service providers in identifying loyal customers online (Ranaweera et al., 2008). TR has also been positively linked with enhancing overall service quality and satisfaction in the acceptance of self service technologies (Chen and Chen, 2009; Lin and Hsieh, 2007; Sheng et al., 2011). Taking into consideration that business customers differ in their evaluation of professional business services and given that web solution services are high in credence qualities (Galetzka et al., 2006) increases the burden for retailers to effectively evaluate the suitability of these services in relation to their internet adoption needs. Given the significance of TR's empirical stance in influencing behavioural intentions from a consumer context and taking into consideration the rapid shift the retail sector is currently experiencing in the online arena provides fertile ground for investigating the influence TR has in relation to service quality and satisfaction in a B2B online context. Furthermore, calls for more detailed models focusing on the antecedents and consequences of TR have received relatively limited attention (Lin and Hsieh, 2007; Parasuraman 2000). The next stage of this research aims to fill this gap and explores the influence of TR on service quality and satisfaction. The antecedents explored relate to retailers past experience with web solution providers, trust perceptions of operating in the online industry, and the perceived costs of switching to an alternative service provider.

The current study is constrained by the sample size used and also the singular technology (web channel) and sector (retail) investigated. It would be interesting to investigate alternative technologies, such as RFID (radio frequency identification), to see if Technology Readiness remains an explanatory factor and to extend the sectors investigated to other service sectors. Another avenue of interest would be to look at the managerial characteristics of individual retailers to see for example if characteristics such as retail experience or education moderate the relationship with technology readiness. The TR Index developed could also be integrated as part of a larger Technology Adoption study to see if it moderates the relationships in extant studies. Longitudinal studies could also be conducted to ascertain whether the management suggestions above in relation to risk and anxiety reduction and managing levels of discomfort and insecurity would be effective.

## References:

- Agarwal, R. and Prasad, J. (1998) A conceptual and operational definition of personal innovativeness in the domain of information technology. *Information Systems Research*, Vol. 9, No. 2, pp. 204-215.
- Anderson, J. and D. Gerbing (1988), "Structural Equation Modelling in Practice. A Review and Recommended Two-Step Approach," *Psychological Bulletin*, Vol. 103, No. 3, pp. 411-23.
- Asare, A.K., Brashear Alejandro, T.G., Granot, E. and Kashyap, V. (2011) "The role of channel orientation in B2B technology adoption", *Journal of Business & Industrial Marketing*, Vol. 26, No. 3, pp. 193-201
- Bagozzi, R.P. and Yi, T. (1988) "On the evaluation of structural equation models", *Journal of the Academy of Marketing Science*, Vol. 16, No. 1, pp. 74-94
- Browne, M.W. and R. Cudeck (1993), *Alternative ways of assessing model fit*. In K. Bollen and R. Stine (Eds.), *Testing Structural Equation Models* pp. 136-162. Newbury Park: Sage.
- Chen, S. C. and Chen, H. H. (2009) The empirical study of customer satisfaction and continued behavioral intention towards self-service banking: technology readiness as antecedents. *International Journal of Electronic Finance*, 3, 64-76.
- Daniel, E., Myers, M. A. and Wilson, H. (2002) Adoption of e-commerce by SME's in the UK. *International Small Business Journal*, Vol. 20, No. 5, pp. 253-270.
- Davis, F.D., R.P. Bagozzi, and P.R. Warshaw (1989), "User acceptance of computer technology: A comparison of two theoretical models " *Management Science*, Vol. 35, No. 8, pp. 982-1003.
- Diamantopoulous, A. and Siguaw, J. (2000) *Introducing Lisrel: A Guide for the Uninitiated*, Sage Publications
- Doherty, N., and Ellis-Chadwick, F. (2009), "Exploring the drivers, scope and perceived success of e-commerce strategies in the UK retail sector", *European Journal of Marketing*, Vol. 43, No. 9/10., pp. 1246-1262.
- Doherty, N., and Ellis-Chadwick, F. (2010), "Internet Retailing: the past, the present and the future", *International Journal of Retail & Distribution Management*, Vol. 38, No. 11/12., pp. 943-965.
- Doherty, N., Ellis-Chadwick F. and Hart, C. (2003), "An analysis of the factors affecting the adoption of the internet in the UK retail sector", *Journal of Business Research*, Vol. 56, No., pp. 887-97.
- Doherty, N., Ellis-Chadwick, F. and Hart, C. (1999), "Cyber retailing in the UK: The potential of the internet as a retail channel", *International Journal of Retail & Distribution Management.*, Vol. 27, No. 1, pp. 22-36.
- Fornell, C. and Larcker, D. F. (1981), "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol. 18, No. 1, pp. 39-50.
- Galetzka, M., Verhoeven, J. W. M. and Pruyn, A. T. H. (2006) Service validity and service reliability of search, experience and credence services: A scenario study. *International Journal of Service Industry Management*, 17, 271-283.
- Gefen, D. and Straub, D. W. (2000), "The relative importance of perceived ease of use in is adoption: A study of e-commerce adoption", *Journal of Association of Information Systems*, Vol. 1, No. 8, pp. 1-28.
- Gefen, D. (2003), "TAM or just plain habit: A look at experienced online shoppers", *Journal of End User Computing*, Vol. 15, No., pp. 1-13.

- Heide, J. B., and Weiss A. M. (1995), "Vendor consideration and switching behaviour for buyers in high technology markets", *Journal of Marketing*, 59 (July), 30-43.
- Hinkin, T. R. (1995) A review of scale development practices in the study of organisations. *Journal of Management*, Vol. 21, No.5, pp. 967-988.
- Hu, L, T., and P.M. Bentler (1999), "Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria Versus New Alternatives," *Structural Equation Modeling*, Vol. 6, No. 1, pp. 1-55.
- Iacovou, C. I., Benbasat, I. and Dexter, A. S. (1995), "Electronic data interchange and small organizations: Adoption and impact of technology", *MIS Quarterly*, Vol. 19, No. 4, pp. 465-485.
- Jöreskog, K. G. and Sörbom, D. (1982) Recent Developments in Structural Equation Modeling. *Journal of Marketing Research* Vol. 19, No. 4, pp. 404-416.
- Jung-Yu, L and O. Chorng-Shyong (2010), "Assessing and managing employees for embracing change: A multiple-item scale to measure employee readiness for e-business", *Technovation*, Vol. 30, pp. 76-85.
- Kline, R.B (2005), *Principles and practice of structural equation modeling* (Second Edition ed.). New York - London: The Guilford Press
- Kuan, K. K. Y. and P. Y. K. Chau (2001), "A perception-based model for EDI adoption in small businesses using a technology-organization-environment framework", *Information & Management*, Vol. 38, No. 8, 507-21.
- Lai, J.-Y. and Ong, C.-S. (2010), "Assessing and managing employees for embracing change: A multiple item scale to measure employee readiness for e-business", *Technovation*, Vol. 30, pp. 76-81.
- Liljander, V., F. Gillberg, J. Gummerus, and A Van Riel (2006), "Technology readiness and the evaluation and adoption of self-service technologies," *Journal of Retailing and Consumer Services*, Vol. 13, pp. 177-91.
- Lin, C, J-S., and H-C. Chang (2011), "The role of technology readiness in self-service technology acceptance," *Managing Service Quality*, Vol. 21, No. 4, pp. 424-44.
- Lin, C. and J. S. Hsieh (2006), "The Role of Technology Readiness in Customers' Perception and Adoption of Self-Service Technologies," *International Journal of Service Industry Management*, Vol. 17, No. 5, 497-517.
- Lin, C. and P-L, Hsieh (2012) "Refinement of the Technology Readiness Scale: A replication and cross-validation in the self-service technology context", *Journal of Service Management*, Vol, 23, No. 1, forthcoming
- Massey, A. P., Khatri, V. and Weiss-Montoys, M. M. (2007) Usability of online services: The role of Technology Readiness and context. *Decision Sciences*, Vol. 38, No. 2, pp. 277-308.
- Matthing, J., Kristensson, P., Gustafsson, A. and Parasuraman, A. (2006) Developing successful technology-based services: the issue of identifying and involving innovative users. *Journal of Services Marketing*, Vol. 20, No. 5, pp. 288-297.
- Palmer, D.W., Ellinger, A.E., Allaway, A. and D'Sousa, G. (2012) "A longitudinal examination of internet-based consumer service system usage in small companies", *Journal of Business & Industrial Marketing*, Vol. 27, No. 1, pp. 29-40
- Parasuraman, A. (2000), "Technology readiness index (TRI): a multiple-item scale to measure readiness to embrace new technologies," *Journal of Service Research*, Vol. 2, No. 4, pp. 307-21.
- Pavlou, P. A. (2002), "Institution-based trust in interorganizational exchange relationships: The role of online B2B marketplaces on trust formation", *The Journal of Strategic Information Systems*, Vol. 11, No. 3-4, pp. 215-243.

- Pavlou, P. A. (2003), "Consumer acceptance of electronic commerce - integrating trust and risk in the technology acceptance model", *International Journal of Electronic Commerce*, Vol. 7, No. 3, pp. 69-102.
- Pavlou, P. A. and Gefen, D. (2004), "Building effective online marketplaces with institution-based trust", *Information Systems Research*, Vol. 15, No. 1, pp. 37-59.
- Ranaweera, C. G., Bansal, H. S. and McDougall, G. (2008) Website satisfaction and purchase intentions: impact of personality characteristics during initial website visit. *Marketing Theory*, 5, 51-74.
- Ratnasingam, P. (2005), "Trust in inter-organisational exchanges: A case study in business to business electronic commerce", *Decision Support Systems*, Vol. 39, pp. 525-44.
- Ratnasingam, P., Pavlou P. A. and Y., T. (2002) "The importance of technology trust for B2B electronic commerce", *Proceedings of the 15th Bled Electronic Commerce Conference*. Bled, Slovenia.
- Ray, A. W. & Ray, J. J. (2006), "Strategic benefits to SMEs from third party web services: An action research analysis", *The Journal of Strategic Information Systems*, Vol. 15, No. 4, pp. 273-291
- Rindskopf, D. and T. Rose (1988), "Some Theory and Applications of Confirmatory Second-Order Factor Analysis," *Multivariate Behavioral Research*, Vol. 23, No. 1, pp. 51-67
- Rogers, E. M. (2003), *Diffusion of Innovations* (Fifth ed.). USA: Free Press.
- Rogers, E. M. (2004) Networks, Firm Size and Innovation. *Small Business Economics*, Vol. 22, pp. 141-153.
- Saris, W. E., Satorra, A. and Van Der Veld, W. M. (2009) Testing Structural Equation Models or Detection of Misspecifications? *Structural Equation Modeling*, Vo. 16, No. 4, pp. 561-582.
- Schumacker, R.E. and R.G. Lomax (2004), *A Beginner's Guide to Structural Equation Modelling* (Second ed.). New Jersey: Lawrence Erlbaum Associates.
- Tornatzky, L. G. and Fleischer, M. (1990) *The Process of Technology Innovation*, Lexington, MA.
- Walczuch, R., A. Lemmink, and S. Streukens (2007), "The effect of service employees' technology readiness on technology acceptance," *Information and Management*, Vol. 44, pp.206-15.
- Weltevreden, J. W. J. and Boschma, R. A. (2008), "Internet strategies and performance of dutch retailers", *Journal of Retailing and Consumer Services*, Vol. 15, pp. 163-178.
- Weltevreden, J. W. J. Atzema O. A. L. C. and Boschma R. A. (2005), "The adoption of the internet by retailers: A new typology of strategies," *Journal of Urban Technology*, Vol. 12, No. 3, pp.59-87.
- White, A. and Daniel., M.E. (2004) The impact of e-marketplaces on dyadic buyer-supplier relationships: evidence from the healthcare sector. *The Journal of Enterprise Information Management*, Vol. 17, No. 6, pp. 441-53.

**Appendix 1: Technology Readiness sub-dimensions and adapted items from Parasuraman (2000)**

**Optimism:**

1. I prefer our WSSP\* to use the most advanced web technology available.
2. Web technology makes me feel more efficient in business.
3. I find I am doing more activities now with web technology than a couple of years ago.
4. I like doing business with web technology because I am not limited to regular business hours.
5. The benefits of web technologies are often grossly overstated.
6. I prefer to see the benefits of web technology solutions demonstrated before I purchase it.

**Innovativeness:**

1. It seems my competitors are learning more about the newest web technologies than I am.
2. In general, I am among the first of my competitors to acquire new web technology when it appears.
3. I keep up with the latest web technological developments in my area of interest.
4. I find I have fewer problems than my competitors in making web technology work for me.
5. There is no sense trying out new high-tech web products/services when what I have already is working fine.

**Discomfort:**

1. Sometimes, I think that web technology systems are not designed for use by ordinary people.
2. When I get technical support from our WSSP I sometimes feel as if I am being taken advantage of by someone who knows more than I do.
3. If I buy a high-tech web product or service, I prefer to have a basic model over one with a lot of extra features.
4. There should be caution in replacing important people-tasks with web technology because web technology can break down or get disconnected.
5. Web technology always seems to fail at the worst possible time.
6. With new web technology, I often risk paying a lot of money for something that is not worth much.
7. When I have a problem with web technology, I prefer to solve the problem on my own rather than get help from my WSSP.
8. The hassle of getting new web technology to work for me usually makes it not worthwhile.

**Insecurity**

1. I do not consider it safe to do any kind of financial business with my WSSP online.
2. I worry that information I send over the Internet will be seen by my competitors.
3. Any business transactions I do electronically with my WSSP should be confirmed later with something in writing.
4. It can be risky to switch to a revolutionary new web technology too quickly.

\*WSSP – Web Solution Service Provider

## Appendix 2: Final TRI items

Dimension	Technology Readiness Items	t-values	R <sup>2</sup>
<b>Optimism</b>	<b>OPT1:</b> Web technology makes me feel more efficient in business.	<b>8.82</b>	<b>.55</b>
	<b>OPT2:</b> I find I am doing more activities now with web technology than a couple of years ago.	<b>9.19</b>	<b>.56</b>
	<b>OPT3:</b> I like doing business with web technology because I am not limited to regular business hours.	<b>10.22</b>	<b>.67</b>
<b>Innovativeness</b>	<b>INV1:</b> In general, I am among the first of my competitors to acquire new web technology when it appears.	<b>9.24</b>	<b>.58</b>
	<b>INV2:</b> I keep up with the latest web technological developments in my area of interest.	<b>9.59</b>	<b>.62</b>
	<b>INV3:</b> I find I have fewer problems than my competitors in making web technology work for me.	<b>9.31</b>	<b>.59</b>
<b>Discomfort</b>	<b>DIS1:</b> When I get technical support from our WSSP I sometimes feel as if I am being taken advantage of by someone who knows more than I do.	<b>6.11</b>	<b>.33</b>
	<b>DIS2:</b> With new web technology, I often risk paying a lot of money for something that is not worth much.	<b>6.25</b>	<b>.35</b>
	<b>DIS3:</b> The hassle of getting new web technology to work for me usually makes it not worthwhile.	<b>8.84</b>	<b>.79</b>
<b>Insecurity</b>	<b>INS1:</b> I do not consider it safe to do any kind of financial business with my WSSP online.	<b>6.79</b>	<b>.50</b>
	<b>INS2:</b> I worry that information I send over the Internet will be seen by my competitors.	<b>7.32</b>	<b>.62</b>

### Appendix 3: Reliability and validity statistics of the second-order factor model of Technology Readiness.

Construct	Items	Standardised Loadings	Error Variance	T-Values	R <sup>2</sup>	CR	AVE
<b>OPTIMISM</b>	<b>OPT1:</b> Web technology makes me feel more efficient in business.	.74	.45		.55	<b>.812</b>	<b>.591</b>
	<b>OPT2:</b> I find I am doing more activities now with web technology than a couple of years ago.	.77	.41	7.87	.59		
	<b>OPT3:</b> I like doing business with web technology because I am not limited to regular business hours.	.80	.37	8.04	.63		
<b>INNOVATIVE</b>	<b>INV1:</b> In general I am among the first of my competitors to acquire new web technology when it appears	.71	.50		.50	<b>.808</b>	<b>.587</b>
	<b>INV2:</b> I keep up with the latest web technological developments in my area of interest	.87	.24	7.76	.76		
	<b>INV3:</b> I find I have fewer problems than my competitors in making web technology work for me	.71	.50	7.20	.50		
<b>DISCOMFORT</b>	<b>DIS1:</b> When I get technical support from our WSSP I sometimes feel as if I am being taken advantage of by someone who knows more than I do.	.55	.70		.30	<b>.953</b>	<b>.877</b>
	<b>DIS2:</b> With new web technology, I often risk paying a lot of money for something that is not worth much.	.56	.70	5.09	.31		
	<b>DIS3:</b> The hassle of getting new web technology work for n usually makes it not worthwhile.	.94	.69	.506	.89		
<b>INSECURITY</b>	<b>INS1:</b> I do not consider it safe to do any kind of financial business with my WSSP online.	.77	.41		.59	<b>.839</b>	<b>.745</b>
	<b>INS2:</b> I worry that information I send over the Internet will be seen by my competitors.	.72	.48	5.71	.52		

# **RETAILING INDUSTRY AND RETAILING RESEARCH IN TURKEY:**

## **AN OVERVIEW**

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**Purpose:** The purpose of this paper is based on attracting attention of academicians and practitioners focusing on emerging markets in retailing. Specifically, the paper examines Turkey as an emerging retail market and provides critical literature review outputs in order to highlight research gaps in retailing research held in Turkey.

**Design/Methodology/Approach:** The study implements critical literature review approach on the retailing research and emerging retail trends in Turkey. Hence, exploratory research questions which are “What type of retailing research is conducted in Turkey?” and “What are the potential research opportunities in Turkish retailing industry?”, are identified to reveal the current research tendency and literature gaps in retailing research in Turkey. In light of the determined literature gaps, a future agenda is provided as further research opportunities.

**Findings:** Although there are numerous studies on retailing industry in Turkey, this study uses a broader perspective to attract attention of the researchers that specialize in emerging retail markets. In order to validate the emerging retail market structure of Turkey, recent statistics from retailing industry is provided.

**Practical Implications:** From a practical perspective, the study aims to shed light for researchers focusing on emerging retail markets and for retailers operating in Turkish retail industry. Providing this, this study is likely to enhance possible Industry-University collaboration to figure out the current retail trends in an emerging market.

**Originality/Value:** The study provides critical literature review on retailing research in Turkey. On the other hand, both the researchers and retailers are likely to get the opportunity to examine and determine potential future research opportunities in an emerging retail market.

**Keywords:** retailing, emerging market, retailing research, Turkey

## **1. Introduction**

In today’s global business, there are some emerging industries such as retailing industry. The retailing industry is considered as an emerging industry while the diversification of products and services are increasing continually. Regarding the changing demographics and trends all over the world, the scope of retailing industry has also expanded. Before, it was considered as an industry that enables sale of goods to the consumer through retail shops, however today’s reality is different; retailing involves not only the sales of goods but also sales of services (Cox and Britain, 2004). Although there exists many definitions of retailing, one of the commonly cited one is the definition in Berman and Evan’s study (2001, p. 28): “Retailing is the business activities involved in selling goods and services to consumers for their personal, family or household use.”

Apart from the definition, the content of retailing research should also be discussed. Retailing research has been considered as marketing research within the retailing context (Cox and Brittain, 2004). The retailing has interfaces with marketing in terms of trade promotions, consumer promotions and store brands (Ailawadi, 2001). Cronin (1985) states that marketing

strategies are applied in retailing industry to enhance growth in sales volume and to increase market share accordingly. Additionally, marketing strategies encompass managerial decisions on market segmentation, targeting, positioning that are centric on product, price, distribution and promotion (Kotler and Armstrong, 2007; Jüttner et al., 2010). For retail industry, retail success can be defined as achieving high gross margins and customer service levels (i.e. being in-stock) with as little inventory as possible (Mattila et al., 2002). However, achieving retail success can change according to different market structures.

Recent research highlights emerging markets as Brazil, Russia, India, China, Mexico, Poland, South Korea and Turkey (Reinartz et al., 2011). Hence, country specific literature review on retailing research is beneficiary to determine the current needs of the industry in terms of research and practical implications. Regarding this, the paper identifies the following research questions: “What type of retailing research is conducted in Turkey?” and “What are the potential research opportunities in Turkish retailing industry?”. In order to find answer for these research questions, critical literature review is applied. In the following parts of the study, retailing industry in Turkey, emerging trends in Turkish retailing industry literature review on retailing research in Turkey, discussion and future research are provided.

## 2. Retailing Industry in Turkey

Retailing in Turkey has paced a long history to emerge. The world’s one of the oldest organized retail bazaar is located in Istanbul, the Grand Bazaar. Passages and bonchmarches opened in Beyoglu in the Ottoman Empire Period can be given as the first retail store examples (Cengiz and Ozden, 2003). During the last decades, with the investment of global retailers in Turkey, the retailing industry has emerged and considered as one of the most emerging markets. Today, nearly all retail formats have existence in Turkey. However, the share of organized retailers is still not in the desired condition. In order to provide more insight for the current status, some statistics are provided. Hence, firstly key macroeconomic data is displayed to highlight the importance of population and consumer spending on retail sales. Table 1 presents key macroeconomic data of Turkey between 2006-2010.

**Table 1** Key Macroeconomic Data of Turkey (2006-2010)

	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Inhabitants(mn)	68,133	68,894	69,659	70,431	71,213
GDP (USD mn)	525,322	642,921	727,392	604,908	680,438
GDP/capita (USD)	7,710	9,332	10,442	8,589	9,555
GDP (% real growth)	6,9	4,7	0,9	-6,5	3,7
Consumer price inflation (%)	9,6	8,8	10,4	6,2	6,8
Consumer spending (USD mn)	370,479	455,761	506,944	425,312	483,433
Consumer spending/capita (USD)	5,438	6,615	7,278	6,039	6,789
Retail sales, net (USD mn)	184,830	224,985	247,816	207,914	234,111
Retail sales, net/capita (USD)	2,713	3,266	3,558	2,952	3,287

Source: Planet Retail, GDP and other data presented in annual average exchange rates

As it can be observed from the above displayed table, regarding the increase in GDP, consumer spending and retail sales have increased dramatically. The consumer spending per capita has increased and this has positively impacted retail sales. Retail sales in a country are an important indicator to understand the market share of retailing industry in GDP. However, solely retail sales are not sufficient to assess the current market structure. Hence, discussing the

retail revenues based on conventional retailing and organized retailing share is critical. The following table provides data for retail revenues of Turkey according to different retail types.

**Table 2** Retail Revenues of Turkey (in dollars)

	TÜİK Revenue (2008)	Trade Data		TÜİK Trade Revenue Data + Unregistered Trade (2008)		
	Billion \$			Billion \$		
Total Revenue	161			190		
Conventional Retailing	94	58%		123	65%	
Organized Retailing	67	42%		67	35%	
Food Retailing	90	56%	100%	106	56%	100%
Conventional Food	61	38%	68%	77	41%	73%
Organized Food	29	18%	32%	29	15%	27%
Retailing (Non-Food)	71	44%	100%	84	44%	100%
Conventional (Non-Food Retailing)	33	20%	46%	46	24%	55%
Organized (Non-Food Retailing)	38	24%	54%	38	20%	45%

Source: TÜİK Trade Revenue Index, AMPD Revenue Index, Ministry of Finance

As it can be observed from the table, conventional retailing in Turkey has the highest market share. Although organized retailing has paced a long way, the share of it is still not in the desired level. The share of organized retailing is a key indicator to assess the role of national and global retailers operating as a chain. In Turkey, food retailing has the main dominance where non-food retailing has relatively lower market share. In food retailing, conventional food has higher share compared to organized food retailing.

Adversely, in non-food retailing, organized retailing has higher market share than conventional non-food retailing. Regarding these statistics, non-food retailing in Turkey has more organized retailers compared to food retailing. In Turkey, consumers prefer conventional food retailers for their food consumption. The main conventional food retailers are open bazaars that are placed on the particular regions in the city regularly. However, it is foreseen that this situation will alter in the following years. The regulations are likely to change and there will be restricting rules hindering open market bazaars. Increase in organized food retailers is possible through providing incentives and finding appropriate places. As a result of this possible increase, employment rates in retailing industry will also increase. In Turkey, the share of unregistered trade is still high. When the market value of unregistered trade in retailing industry is taken into account, the revenue of Turkish retailing industry is \$190 billion. Regarding to this calculation, the share of organized in entire retail industry, falls from 42% to 35% (AMPD, 2010).

Although retail revenues can provide some insight, the situation of the country in the global arena is also significant. With this regard, the rank of global retail opportunities is a useful benchmark value. For an emerging retail market, market's position in terms of global opportunities plays vital role. Although, Turkey has been considered as an emerging market, its position in global retail opportunities is still not in the desired rank. Table 3 displays the rank of global opportunities in 2007 and 2008.

**Table 3** Rank of Global Retail Opportunities

2008	2007	Country	Region	2008	2007	Country	Region
1	1	China	Asia-Pacific	16	10	Japan	Asia-Pacific
2	2	Russia	Eastern Europe	17	14	Spain	Western Europe
3	3	U.S.A	North America	18	11	Nigeria	Africa
4	6	India	Asia-Pacific	<b>19</b>	<b>12</b>	<b>TURKEY</b>	<b>Eastern Europe</b>
5	5	Malaysia	Asia-Pacific	20	19	Thailand	Asia-Pacific
6	7	South Africa	Africa	21	24	Belgium	Western Europe
7	4	UK	Western Europe	22	22	South Korea	Asia-Pacific
8	8	Australia	Asia-Pacific	23	29	The Netherlands	Western Europe
9	9	Canada	North America	24	26	Indonesia	Asia-Pacific
10	21	Brazil	South America	25	25	Mexico	North America
11	15	France	Western Europe	26	27	Switzerland	Western Europe
12	16	Vietnam	Asia-Pacific	27	18	Germany	Western Europe
13	13	The Philippines	Asia-Pacific	28	28	Taiwan	Asia-Pacific
14	17	Sweden	Western Europe	29	23	Poland	Eastern Europe
15	20	Argentina	South America	30	30	Italy	Western Europe

Source: Deloitte (2010)

As it can be observed from the table, global retail opportunities mainly exist in the regions of Asia Pacifica, North America, Western and Eastern Europe. In these regions, there are market expansion opportunities not only for global retailers but only for domestic players. Among 30 countries, Turkey was 12<sup>th</sup> in 2007 where it declined to 19<sup>th</sup> in 2008 (Deloitte, 2010). China, Russia, U.S.A., India, Malaysia, South Africa, UK, Australia, Canada, Brazil, France, Vietnam, The Philippines, Sweden, Argentina, Japan, Spain and Nigeria's rank is higher than Turkey. According to table, Turkey belongs to Eastern Europe region. Among 30 countries which are listed in the rank, Russia, Turkey and Poland belong to Eastern Europe region. In Eastern Europe region, Russia has the highest rank in terms of global retail opportunities where Turkey has a higher rank than Poland. In this sense, it can be inferred that Turkey is a promising country for providing retail opportunities. However, as a general strategy the related retailing institutions should examine the changing structure of other retail markets to increase the rank of Turkey in terms of global retail opportunities.

After examining Turkey's ranking in global retail opportunities, providing some statistics regarding to different retail types is beneficiary. Table 4 displays the market share of different retail types in 2008 and 2009.

**Table 4** Market Share of Different Retail Types in 2008 and 2009

<i>Sales Channels</i>	<i>Market Share (2008)</i>	<i>Market Share (2009)</i>	<i>Increase in Market Share (annual)</i>
Groceries, markets and open bazaars	40.2%	35.9%	-10.7%
Individual markets	15.33%	15.3%	-0.2%
Local chains	8.17%	9.6%	17.5%
Total conventional	57.0%	52.7%	-7.5%
Organized retailing	41.6%	41.7%	0.2%

Source: AMPD (2010)

In Turkey, groceries, markets and open bazaars have the highest market share. As it can be observed from the table, there is a sharp decrease in groceries, markets and open bazaars percentage (40.2% in 2008 and 35.9% in 2009). On the other hand, there is a high level of increase in local chains. As a result of this, the share of total conventional retailing decreased by 7.5%. This can be considered as a positive outcome for the expected increase in organized retailing.

Although percentages of different retail types are displayed, discussing these based on their retail sales can provide greater insight. Table 5 provides retail sales according to retail formats between 2003-2008.

**Table 5** Retail Sales according to Retail Formats (2003-2008)

<i>Million (TL)</i>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>
Store Based	132,673.2	139,182.1	144,183.3	155,766.6	173,079.1	189,812.6
Food	70,145.0	72,097.6	73,669.5	78,226.2	86,173.7	91,504.3
Hypermarkets	2,022.8	2,180.8	2,322.0	3,042.6	4,343.0	5,298.5
Supermarkets	15,163.2	16,101.5	16,861.9	19,020.2	22,824.2	25,061.0
Discount Stores	3,069.4	3,492.6	3,927.5	4,870.0	7,207.7	8,879.8
Small scale food retailers	32,242.0	32,527.8	32,850.2	33,247.3	33,626.4	33,929.0
Food/beverage/cigarette	17,647.5	17,795.0	17,908.0	18,046.0	18,172.3	18,335.9
Other food retailers	-	-	-	-	-	-
Non-Food	62,528.2	67,084.5	70,313.8	77,540.5	86,905.4	98,308.3
General Retailers	949.7	1,041.8	1,172.3	1,373.3	1,789.1	2,059.5
Health & Beauty	8,878.8	8,954.6	9,090.8	9,292.6	9,499.6	9,861.9
Clothes & Shoes	15,234.0	15,511.0	16,162.5	17,552.5	19,307.7	21,624.6
Home and Garden	13,295.2	13,989.2	14,650.8	15,965.3	17,469.8	19,106.2
Electronics & Equipments	13,558.7	15,586.1	15,714.9	16,659.4	17,764.6	19,949.7
Free time and personal care retailers	10,611.8	12,001.8	13,522.6	16,697.5	21,074.5	25,706.4

Source: AMPD (2010)

According to data presented in Table 5, store based retail sales has the highest sales level. It can be inferred the increase in retail sales of entire retail formats is prominent. Especially, the progress in terms of sales in clothes&shoes, hypermarket, supermarkets, discount stores, general retailers, home and garden and free time&personal care retailers is outstanding. The retail sales in different retail formats are figured out in terms of changing consumption patterns of the consumers. The increase in retail sales is correlated to the increase in GDP. The retail sales data can help for the retailers that are interested in Turkish retailing industry.

In Turkey, the market share of food retailers is higher than non-food retailers. Table 6 provides market share of leading food retailers with retailer names between 2004-2008.

**Table 6** Market Share of Organized Food Retailers (%)-(2004-2008)

	2004	2005	2006	2007	2008
Migros Ticaret A.Ş.	2.6	3.1	4.8	5.1	5.5
BİM Birleşik Mağazacılık A.Ş.	1.9	2.3	2.8	3.5	4.3
Carrefour SA Carrefour Sabancı Ticaret Merkezi A.Ş.	1.7	2.1	2.4	2.4	2.5
Tesco Kipa Kitle Pazarlama Ticaret ve Gıda Sanayi A.Ş.	0.5	0.6	0.8	1.1	1.4
Kiler Alışveriş Hizmetleri A.Ş.	0.3	0.4	0.7	0.7	0.8
Petrol Ofisi A.Ş.	1.2	0.8	0.8	0.7	0.7
Metro Group	0.5	0.5	0.5	0.5	0.5
Şeref Makromarket A.Ş.	0.1	0.1	0.2	0.4	0.4

Source: PWC (2010)

Among eight organized food retailers, three of them are local chains, one of them is a discount store, three of them are global retailers and one of them is the local chain of a famous oil station. It can be observed that the market share of BİM (which is a discount store) has increased dramatically. This is because of the increasing demand level to discount stores while the consumers tend to be more price sensitive. Another reason is the wide geographical dispersion of this low discount retailer. This has also led them increase their market share. Table 7 displays profile of the major retailers and restructuring in Turkey.

**Table 7** Profile of the Major Retailers and Restructuring in Turkey (2008)

<b>Company name and ownership</b>	<b>Information about firm</b>	<b>Number of store and type of outlet (2008)</b>	<b>Number of employees</b>	<b>Turnover (million \$)</b>
Migros (Turkish and UK)	It was established by a Turkish-Swiss partnership. The major share (50.8%) of Migros was taken over by British BC Partners in 2008.	241 (Migros), 672 (Sok) and 6 (5M Migros) (hypermarkets, supermarkets, discount stores (SOK) and e-trading)	15.500 (2008)	3.925 (2008)
BİM (Turkish, USA and Saudi Arabia)	It was established by five partnerships in 1995 as a hard-discount market format. Its business style is similar with the German ALDI format.	2.300 (discount stores)	13.700 (2008)	3.078 (2008)
CarrefourSA (Turkish and French)	It began business as a single store in Istanbul. It became a joint venture with Sabancı in 1996 and it was named CarrefourSA.	470 (discount stores, supermarkets, hypermarkets)	7.200 (2008)	1.770 (2008)
Metro (Germany)	Metro Group has been active in Turkey since 1990.	13 (Metro Cash&Carry), 11 (Real Hyper Market) and 8 (Media Market)	5.000 (2008)	2.155 (2008)
Tesco (UK)	Tesco entered the Turkish market in 2003 by acquiring the Kipa which was already founded in Izmir in 1995.	30 (Hyper) and 62 (Express) (discount stores, supermarkets, and hypermarkets)	7.500 (2008)	1.000 (2008)
Kiler (Turkish)	It was established as a grocery store in 1981 and	160 (supermarkets and	5.700 (2008)	1.000 (2008)

	named KILER in 1994.	hypermarkets)		
Makromarket (Turkish)	It was founded in 1991 in Ankara.	104 (supermarkets and hypermarkets)	3.500 (2008)	750 (2008)

Source: Koç et al. (2010)

Turkish retailing industry is still conquered by more than half a million small, independent shops throughout the country (Deloitte, 2011-Emerging Markets Report). In the food (hypermarket) category, foreign players such as Metro, Tesco and Carrefour dominate the market and mainly play vital role to serve to consumer requirements in the industry.

In an emerging market, research held in the industry is essential to highlight and determine the main trends and customers' reactions, requirements and changing demand patterns. In the following part, emerging trends in Turkish retailing industry are provided.

### 3. Emerging Trends in Turkish Retailing Industry

Trends are very likely to change in a short period of time. Based on the literature review and one of the recent reports published by Deloitte (2010), it can be inferred that the main emerging trends in Turkey are increasing number of different retail formats, more price sensitive consumers, increase in the number of discount retailers, raise in the number of shopping malls, decrease in consumer confidence compared to 2008, more dominance of global retailers and fierce competition in some retailer types such as electronic products retailers.

Hence, the number of discount stores and non-food retailing will likely to increase in the near future. Organized retailers invested \$ 100-120 million monthly in 2009 (AMPD Retail Index-Nielsen, 2009). Also in the same year, 26 shopping malls were opened. As a result of these new openings, the number of shopping malls in Turkey increased to 210. However, geographic dispersion of the shopping malls is not balanced. Among 210 shopping malls, 71 of them are located in Istanbul. Total rent area for retailing increased to 5.696.000 m<sup>2</sup> by the end of 2009 (AMPD, PWC Report 2010). It is foreseen that there will be new shopping malls in another regions of Turkey. As a result of this, the market share of retailing industry will develop and the shopping malls in other regions will likely to change consumption patterns of the consumers in those regions. In light of the emerging trends, it should also be noted that competition between retailers will be fiercer. After the discussion of retailing industry in Turkey and emerging trends in Turkish retailing industry, literature review on retailing research in Turkey is provided with critical literature review approach.

### 2. Literature Review on Retailing Research in Turkey

As mentioned in the first part of the study, it is aimed to find answers for two exploratory questions Critical literature review approach is applied to examine related literature on retailing research in Turkey. Firstly, databases of Ebsco Host, Science Direct, Emerald and Jstor are searched with the key words of "retailing" and "Turkey". Secondly, google scholar is used to examine the retailing literature in Turkey with Turkish key words. Based on these search results, most relevant studies in terms of our topic are discussed in the following part.

In the first sense, selected articles from the databases will be discussed. In Reinartz et al. (2011)'s study, it is discussed that the total population of emerging countries is advantageous for developed market based retailers and is stated that based on the distinguishing characteristics of these markets there will be responsiveness to the retailing innovations. It can be inferred that while Turkey is also in the group of emerging markets, retailing innovations will enhance customer demand and increase the market share of retailing industry in Turkey.

Tokatli and Boyaci (1998) emphasized the major changes in the retail industry that ended with the emergence and strengthening power of national and international retailers. Additionally, Tokatli and Boyaci (1998) studied to explore the alterations in Istanbul's commercial landscape in a certain period of time. In their study, they concentrated on the complex commercial function of Istanbul in the world economy and how internal commercial relations change in light of these alterations. It is revealed that the reallocation of resources and power in urban commerce, the need to new consumption landscapes and the reformation of urban form in relation to commerce were the necessary changes to place Istanbul as a promising retailing market. Ozcan (2000) used survey method to analyze the impact of large retailers on small retailers. It is founded that although the market share of large retailers increase in Turkey, there is still growth opportunities for small retailers in a highly disconnected and inaccessible geographical setting of the cities.

Another study by Dokmeci et al. (2006) analyzed the spatial distribution of periodic markets in certain locations between 1980 and 2002. They revealed that as in previous studies, income is the second most significant factor impacting periodic markets. The policies that impact main drivers in the retail industry are significant to understand the current structure of the market. With this regard, urbanization, changing life style, increasing per capita income and education level are the demand side factors on the growth of supermarket chains in Turkey whereas foreign direct investment and government policies compose of the supply side factors impacting retail industry.

There are some studies held to aid decision makers in retailing industry. For instance, Ozuduru and Varal (2011) used spatial auto regression (SAR) models and geographically weighted regression (GWR) to evaluate the relationship between trade area characteristics and shopping center characteristics. It is proved that the models are convenient for usage in location selection decisions of shopping centers. Apart from the location analysis of shopping centers, it is critical to understand how consumers differ from each other in terms of their visits to shopping centers. Erkip (2005) verified that the different attribute of users of a shopping mall in Ankara impact the time of their visits to shopping mall. Tokatli and Kizilgan (2004) investigated the transformation of Erak clothing. Erak clothing created Mavi Jeans brand in denims and spread to a high number of regions in the world. Tokatli and Kizilgan (2004) stated that Erak Clothing (the producer of Mavi Jeans – it is sold through Mavi retail stores) has paced a long way and become a global competitor.

As it can be observed, literature on retailing research in Turkey is quite diversified. In the second part of the literature review, most relevant search results with google scholar will be discussed. For instance, Yakin (2011) used survey method to examine the differences between online retailers and organized retailers. Results revealed that women are more likely to take into consideration the recommendation and experience of their friends and relatives. In the research, it is also founded that when consumers are dissatisfied with the online retailers, they tend to do more negative word-of-mouth marketing. In retailing industry while one of the main physical element is retail store, the store attributes are significant both for the consumers and retailers. In this sense, Külter (2011) investigated the effect of store attributes on retail brand

choice and found that price, atmosphere and location of the retailer impact brand choice of the consumers.

While it is discussed that in today's Turkish retailing industry, modern shopping centers have vital role, the impact of modern shopping centers on consumer behavior needs to be revealed. Akgün (2010) studied the effect of modern shopping centers on consumer behavior. It was revealed that fast food courts and product-service quality are more likely to impact consumer behavior compared to brand advertisement and promotional efforts. On the other hand, food-court areas, product-service quality and brand advertisement / promotional efforts change according to education level and age of the consumers. Azabagaoglu and Dursun (2008) analyzed the manners of the consumers against modern food retailers. It was found that consumers mostly prefer the retail stores that are in near location and mostly prefer to shop in chain markets or hypermarkets.

There are also some existing studies on distribution channels. For instance, Ozdemir (2005) examined the factors that motivated the dealers in distribution channels. The main factors that motivated the dealers are the quality understanding of the customer, marketing efforts, long term payment opportunities, participation in commercial fairs and customer relationship management. Gok and Turk (2011) studied on the retailers' environmental consciousness. In the research, it is revealed that environmental consciousness of the executives in retailers change according to their educational background.

Throughout the literature review, it is aimed to find out answers for the research questions which are "What type of retailing research is conducted in Turkey?" and "What are the potential research opportunities in Turkish retailing industry?". In the discussion and future research part, findings based on research questions will be discussed.

#### **4. Discussion and Future Research**

Based on the retailing industry statistics, emerging trends and literature review on retailing research in Turkey has provided some insight for the current condition of Turkish retailing industry. It is foreseen that entry of new brands will continue in the near future and leading to increase in sales. Like today, grocery retailing will have the leading position in the market where independent companies will continue to hold an important share of the market and retailing industry in Turkey will experience positive growth in the near future (<http://www.euromonitor.com/retailing-in-turkey/report>).

Regarding the findings on research questions, it can be interpreted that mainly consumer behavior research in Turkish retailing industry has an important role. Additionally, the changing structure of Turkish retailing industry has been the main topic in most of the studies. The factors that have led to this alteration have been examined by different researchers. In this sense, retailing research in Turkey is mainly exploratory. However, there exists some descriptive and causal research as well, like discussed in literature review part.

The other research question aimed to reveal the potential research opportunities in Turkish retailing industry. While there is limited number of interdisciplinary research conducted in Turkish retailing industry, this can be stated as one of the most important research opportunities. On the other hand, case studies applied in the industry are few as well. Research with case study approach will provide insight for the real business life practices. Additionally, the comparison of global retailers in terms of how they manage their retail operations in Turkey and in other regions of the world also lacks. There is a need for

benchmarking studies in Turkish retailing industry. Benchmarking studies are very useful to provide guide both for the national and international retailers. Moreover, the analysis of consumers' preferences should be more comprehensively analyzed to reveal the real expectations of the consumers. This type of research will enhance retail innovations and increase customer service level in the industry. From retailers' point of view, understanding the real role of local chains is significant to sustain competitive advantage. Hence, research on local retail chains and global retail chains will enable comparison of these retailers. In addition to these, applying SWOT analysis with academicians and practitioners to evaluate the real strengths, weaknesses, opportunities and threats in the industry will be leading to enhance research in the industry.

Like in other studies, this study has also some limitations. Providing general overview based on recent statistics and literature review can be one of the main limitations of this study. On the other hand, the emerging trends in Turkish retail industry can be revealed through a focus group study with the executives working in leading retailers. Hence, future research on this topic should aim to provide empirical evidence to support the thoughts in this study. Additionally, founding a research group working on emerging retail markets can provide better insight both for the practitioners and academicians to reveal the main dynamics in this emerging market.

## REFERENCES

Azabagaoglu, M.Ö. and Dursun, E. (2008). Tüketicilerin modern gıda perakendecilerine karşı davranışının analizi (in Turkish). *Tekirdağ Ziraat Fakültesi Dergisi*, 5(1), pp.1-12

Ailawadi K. L. (2001). The retail power-performance conundrum: What have we learned?. *Journal of Retailing*. 77( 3), pp. 299-318.

Akgun, V.O. (2010). Modern alışveriş merkezlerinin tüketici davranışları üzerindeki etkisi ve konya ilinde bir uygulama. *KMU Sosyal ve Ekonomik Araştırmalar Dergisi*. Vol.12, No.19, ISSN:1309-9132, pp.153-163

Berman, B. and Evans, J.R. (2001). *Retail management* (8th ed.), Upper Saddle River, NJ: Prentice Hall

Cengiz E. and Özden B., (2003). Perakendecilikte büyük alışveriş merkezleri ve tüketicilerin büyük alışveriş merkezleri ile ilgili tutumlarını tespit etmeye yönelik bir araştırma, *Ege Akademik Bakış*, Ege Üniversitesi İktisadi İdari Siyasal Bilimler Dergisi, Sayı: 3. [http://eab.ege.edu.tr/pdf/2\\_1/C2-S1-M6.pdf](http://eab.ege.edu.tr/pdf/2_1/C2-S1-M6.pdf)

Cox, R. and Brittain, P. (2004). *Retailing: an introduction*, 5th edition, Pearson, UK

Dokmeci, V., Yazgi, B. and Ozus, E. (2006). Informal retailing in a global age: the growth of periodic markets in Istanbul, 1980-2002, *Cities*, 23(1), pp.44-55

Erkip, F. (2005). The rise of the shopping mall in Turkey: the use and appeal of a mall in Ankara, *Cities*, 22(2), pp. 89-108

Gok, A. and Turk, M. (2011). A study on the retailers' environmental consciousness. Suleyman Demirel University, The Journal of Faculty of Economics and Administrative Sciences. 16 (2), pp. 125-152

Jüttner, U., Christopher, M. and Godsell, J. (2010). A strategic framework for integrating marketing and supply chain strategies. *The International Journal of Logistics Management*. 21(1), pp. 104-126

Ketchen D. J. and Hult, G. T. M. (2007). Bridging organization theory and supply chain management: The case of best value supply chains. *Journal of Operations Management*, 25(2), pp. 573-580.

Koc, A.A., Boluk, G., Kuveci, S. (2010). Concentration of food retailing and anti-competitive practices in Turkey. *Food Economics-Acra Agricult Scand C*, 7, pp.151-162

Kotler, P. and Armstrong, G. (2007). Principles of Marketing, 12th ed., Prentice Hall, New Jersey, NJ.

Kulter, B. (2011). The Effect of Store Attributes on Retail Brand Choice (in Turkish). ZKU Journal of Social Sciences, Vol.7, No. 14, pp. 163-182.

Martin, J. and Grbac, B. (2003). Using supply chain management to leverage a firm's market orientation. *Industrial Marketing Management*, 32(1), pp.25-38.

Mattila H., King, R. and Ojala, N. (2002). Retail performance measures for seasonal fashion. *Journal of Fashion Marketing and Management*, 6 (4), pp.340 – 351.

Ozcan, G.B. (2000). The transformation of Turkish retailing: survival strategies of small and medium sized retailers, *Journal of the Southern Europe and Balkans*, 2(1), pp. 105-120

Ozdemir, S. (2005). Dağıtım kanalında bayileri motive etmenin belirleyicileri: ampirik bir analiz. Kocaeli Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 9 (1), pp. 115-138

Ozuduru, B.H., Varol, C. (2011). Spatial statistics methods in retail location research: a case study of Ankara, Turkey, *Procedia Environmental Sciences*, 7, pp. 287-292

Reinartz, W., Dellaert, B., Kraft, M., Kumar, V. and Varadarajan, R. (2011). Retailing innovations in a globalizing retail market environment. *Journal of retailing*, 87(1), pp. 53-66.

Tokatli, N. and Boyaci, Y. (1998). The changing retail industry and retail landscapes- the case of post-1980 Turkey, *Cities*, 15(5), pp 345-359

Tokatli, N. and Boyaci, Y. (1999). The changing morphology of commercial activity in Istanbul, *Cities*, 6(3), pp. 181-193

Tokatli,, N. and Kizilgun, O. (2004). Upgrading in the global clothing industry: Mavi Jeans and the transformation of a Turkish firm full-package to brand name manufacturing and retailing, *Economic Geography*, 80(3), pp. 221-240

Tokman, M., Richey, G., Marino, L. and Weaver, M. (2007). Exploration, exploitation and satisfaction in supply chain portfolio strategy. *Journal of Business Logistics*. 28(1), pp.25-56

Yakin, V. (2011). İnternet Perakendeciliđi ve Ađızdan Ađıza Pazarlama İliřkisi: Tuđla Duvarlar Yıkılabilir Mi?. *Akademik Bakıř Dergisi*, 27(November-December), pp. 1-18

Yalcin, B. (2011). Kresel perakendeci zincirlerinin stratejik yayılımları: Antalya ili rneđi (in Turkish). *Organizasyon ve Ynetim Bilimleri Dergisi*, 3 (2), ISSN: 1309-8039 (Online)

<http://www.pr-inside.com/new-market-study-carrefour-turkey-r2649515.htm>

[http://www.deloitte.com/assets/DcomGlobal/Local%20Assets/Documents/dtt\\_cb\\_hiddenheroes0410.pdf](http://www.deloitte.com/assets/DcomGlobal/Local%20Assets/Documents/dtt_cb_hiddenheroes0410.pdf)

[http://www.deloitte.com/assets/DcomGlobal/Local%20Assets/Documents/Global%20Powers%20of%20Retailing\\_07%283%29.pdf](http://www.deloitte.com/assets/DcomGlobal/Local%20Assets/Documents/Global%20Powers%20of%20Retailing_07%283%29.pdf)

<http://www.ampd.org/> , Trade Council of Shopping Centers & Retailers, IMAD Global Retail Report (2010)

[http://www.imap.com/imap/media/resources/IMAPRetailReport8\\_23CB9AA9C6EBB.pdf](http://www.imap.com/imap/media/resources/IMAPRetailReport8_23CB9AA9C6EBB.pdf) , Leaving Home Global Powers of Retailing 2011, Deloitte

[http://www.deloitte.com/assets/DcomPortugal/Local%20Assets/Documents/CB/pt%28en%29\\_cb\\_gpr2011\\_17012011.pdf](http://www.deloitte.com/assets/DcomPortugal/Local%20Assets/Documents/CB/pt%28en%29_cb_gpr2011_17012011.pdf)

AMPD Perakende Endeksi by Nielsen, Temmuz 2009 Sonuları - Organize Perakende Ciroları, [http://www.dijimecmua.com/dagitim-kanali-dergisi/523/index/744572\\_ampd\\_perakendeendeksi-by-nielsen-temmuz-2009-sonuclari-organize-perakende-cirolari/](http://www.dijimecmua.com/dagitim-kanali-dergisi/523/index/744572_ampd_perakendeendeksi-by-nielsen-temmuz-2009-sonuclari-organize-perakende-cirolari/) , [http://download.pwc.com/ie/pubs/glimmers\\_amid\\_the\\_glooms.pdf](http://download.pwc.com/ie/pubs/glimmers_amid_the_glooms.pdf), Glimmers amid the gloom , the outlook for the retail and consumer products sector in emerging markets, PWC (2010)

Emerging from the downturn - global powers of retailing 2010, Deloitte

[http://www.deloitte.com/assets/DcomGlobal/Local%20Assets/Documents/Consumer%20Business/dtt\\_globalpowersofretailing2010.pdf](http://www.deloitte.com/assets/DcomGlobal/Local%20Assets/Documents/Consumer%20Business/dtt_globalpowersofretailing2010.pdf)

Deloitte hidden heroes-emerging retail markets beyond China report (2010), <http://www.deloitte.com/assets/DcomGreece/Local%20Assets/Documents/Attachments/gfsi/hiddenheroes2010.pdf>

<http://www.euromonitor.com/retailing-in-turkey/report>, Retailing in Turkey

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