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# Chapter 7

## Horse Entrepreneurs and Their Customers as Partners in Combating the Coronavirus Pandemic: A Preliminary Study of the Principal–Agent Relationship

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### **ABSTRACT**

*Customers can be important partners and a resource for entrepreneurs during a pandemic situation. In this study, the utilization of this resource was investigated from the perspective of horse entrepreneurs. Firstly, the communication activity of horse entrepreneurs in their social media platforms was inspected, and secondly, a risk assessment for each horse premise was performed. As a result, a variation of communication activity of horse entrepreneurs was found between the northern and southern parts of Finland, and different risk levels of horse premises can be shown. In Northern Finland, 25% and, in Southern Finland, 43% of horse entrepreneurs gave COVID instructions to their customers. Risk levels varied from moderate to unacceptable. Many factors affect the risk level of horse premises, and it is not always in the hands of a single horse entrepreneur to guarantee a healthy environment to customers. Rather, it needs an investigation of the hygiene behaviour of customers and partnership with customers.*

### **INTRODUCTION**

In spring 2020, when coronavirus COVID-19 epidemic had spread all over the world, also several entrepreneurs of equine industry had to rethink their everyday routine. Sport events were cancelled also

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in Finland and many entrepreneurs of sport and fitness field had to close their doors. Horseback riding is not a sport with close contact between humans, but COVID-19 restrictions have an effect on daily routines in horse premises including the decreased number of customers in same rooms at same time, avoiding human contacts between riders of a same horse and in general, taking care of the those at a highest risk. For instance, riding lessons of those with intellectual disabilities were cancelled because it is not sure if they can take care of themselves without close contact to their assistant. In addition, concerns about an illness of workers and the consequent concern for the welfare of horses together with decreased incomes had been emerged.

In Finland, equine industry has an effect on employment with its 15,000 employees (the Finnish Trotting and Breeding Association, 2019) and 3,000 full or part-time horse-related enterprises (Pussinen & Thuneberg, 2014). Equine-related activities, in general, are among the fastest growing and the most promising rural industries in both the European Union and the Finnish rural context (Hägglblom, Rantamäki-Lahtinen, & Vihinen, 2012; Leppälä, Lunner Kolstrup, Pinzke, Rautiainen, Saastamoinen, & Särkijärvi, 2015; Rantamäki-Lahtinen & Vihinen, 2004). In Finnish Trotting and Breeding Association's statistics in 2019, 160,000 Finnish people have a riding hobby in 225 riding schools or 147 other horse enterprises and 620,000 people participate in races of trotter horses.

In Finnish horse industry it was mainly concluded that the horse entrepreneurs continue their professional business but with some exceptions. Instead of closing the doors, control of coronavirus infections was done in collaboration with customers. It is the responsibility of every human in stable to take care of his or her own hand and general hygiene and leave home when symptoms of flu have been detected. Thus, the customers have a resource to prevent the spreading of COVID-19 in horse stable environment; a critical resource, which every horse entrepreneur can be utilized. Among rural veterinarians and infection control authorities, customers are an important group of people who have interests in the horse entrepreneur's ongoing business and therefore, in a pandemic situation, can be defined as a one important stakeholder.

Finnish New law in 2021: 76/2021 obliges that everyone who participates in investigating, handling, caring, transportation, euthanizing, slaughtering, hunting or percussion of the animal and has an observation or a suspicion of occurrence of an infectious animal disease has a duty to notify the veterinary authority. Thus, all the people who are involved in these animal-based activities are defined as stakeholders. Based on the European Parliament Directive of Zoonosis (2003/99/EY) fully implemented in Finland, Finnish authorities has a duty to monitor the occurrence of zoonotic, transmissible between humans and animals, diseases regularly. The Member States of EU must ensure co-operation related to zoonosis, foodborne outbreaks and antimicrobial resistance between veterinary, food safety, and healthcare authorities (Zoonosis Centre of Finland, 2020). On the other hand, in Finnish administration participation of the citizens in governmental processes is widely encouraged. Right of participation in governmental procedures is required by such laws as law on municipality, law on youth and some laws on health care. Nowadays it is taken granted that citizens are important stakeholder for the authorities in all levels of administration. Rather than only citizens or stakeholders, they are seen as customers of national administration.

Previously, real-time nonverbal communication style of Finnish authorities has been investigated (Wilkins, 2005). In the context of Finnish horse industry different stakeholders have been preliminary defined (Koskinen & Rusko, 2020; Leskinen, 2014, p. 5), and in the official Finnish animal disease prevention context stakeholder collaboration between authorities has been described (Koskinen, 2017, 2019) but the study about real operations between private sector actors has been almost completely

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ignored. It comes from legislation that in zoonotic disease outbreak situation in animal shelters customers of these premises must be informed. The aim of this study is to ask and show how Finnish horse entrepreneurs try to guarantee a healthy environment and prevent infections between people by guiding one stakeholder, their customers. At the framework of risk assessment, risk levels of different horse premises are also assessed and in the final calculations, the validity of one method as a risk assessment tool in Finnish horse industry is tested.

## **BACKGROUND**

Customers can be defined as a one important stakeholder to any business. Several stakeholder theories and their critiques have been published (Egels-Zanden & Sandberg, 2009; Jones, 1995, p. 406; Jones, Harrisson, & Felps, 2018; Key, 1999; Miles, 2017). In this chapter, attention is focused on hygiene practices in stakeholder relationships. Regarding hygiene issues in horse premises, chain of principal-agent relationships between horse entrepreneur (principal) and his or her stakeholders (agents) have been identified (Koskinen & Rusko, 2020). In a normal situation, a low-level communication activity of contagious diseases is seen between horse entrepreneurs and their customer stakeholder group (Koskinen & Rusko, 2020), but this activity level has been associated with infectious diseases of horses. Horses have coronavirus of their own, equine coronavirus ECoV, which does not infect people. Respectively, a new virus behind COVID-19 epidemic, SARS-CoV-2 does not infect equines and the concern of horse entrepreneur is not related to the illness of horses. Thus, now it is more about a question of human biosecurity in stable environment rather than biosecurity of horse premises in general.

Biosecurity is a technical procedure of preventing the spread of diseases. The goals of biosecurity are not only on the reduction or on prevention of the introduction of new diseases to farm from outside sources but the goals are also involved in the battle against antibiotic resistance (Baraitareanu & Vidu, 2020). Biosecurity is achieved by simple actions such as inspecting and testing animals, vaccination and quarantine (Baraitareanu & Vidu 2020) as a part of hard biosecurity (Sissonen, Kinnunen, Vakkuri, Poutiainen, Raijas, Salminen, & Nikkari, 2012). Respectively, biosafety, a soft biosecurity, is a part of occupational safety of humans in working places such as microbiological laboratories (Sissonen et al., 2012). In farm animal context the term biosecurity is normally used.

In the concept of biosecurity, risk assessment and concrete preventive operations are included. Risk is defined by Lindqvist, Sylven and Vagsholm (2002) as the probability of a hazardous event and the consequences of this event to adverse health. Simply, the outcome of risk assessment is an estimation of the magnitude of human health risk in terms of likelihood of exposure to a pathogenic microorganism, and the likelihood and impact of any adverse health effects after exposure (Lammerding, 1997). An exposure (E), respectively, can be calculated with the equation of the likelihood (L) and duration (D) of exposure to potentially infectious individuals ( $E = L \times D$ ) (Seitsema, Radonovic, Hearl, Fisher, Brosseau, Shaffer, & Koonin, 2019).

In Potential Problem Analysis (PPA), first described by Kepner and Tregoe (1965), risk assessment is based on the probability of an event and the severity of the impact (Mycoted, 2014; Richetti & Tregoe, 2001). More details for practical assessment are illustrated in Tables 1, 2 and 3 by combining previous presentations. This model has been adopted in several risk assessment process of equine contagious diseases such as equine infectious anemia, equine herpes virus disease, equine virus arteritis, equine

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influenza and African horse sickness (Faverjon, Leblond, Hendriks, Balenghien, de Vos, Fischer, & de Koeijer, 2015; Streng, 2017; de Voss, Hoek, & Nodelijk, 2011; Willeberg Consulting, 2013, pp. 173-186).

*Table 1. Assessment of severity scale*

Scales	Definition of Scales
0	No harm to people, material or operations.
1	Mild harm, mild damage, business interruption less than 1 week.
2	Serious harm for some people or several mild affected people, business interruption less than 1 month.
3	Serious harm for several people, business interruption less than 6 months.
4	One dead people, business interruption less than 1 year.
5	Several dead people, economic damage, business interruption more than 1 year or withdrawal from markets.

Source: (Slideserve and Power Point presentation of Xola 2020, slides 15-17; VTT, 2002, p.7)

*Table 2. Assessment of probability scale*

Scales	Definition of Scales
0	Not possible.
1	Very unlikely (once in 100 years or less).
2	Unlikely (once in 30 years).
3	Slightly likely, possible (once in 10 years).
4	Quite likely, probable (once in 3 years).
5	Very probable (once a year or more frequently).

Source: (Slideserve and Power Point presentation of Xola 2020, slide 14; VTT, 2002, p.7)

*Table 3. Potential problem analysis (probability x severity)*

Probability x Severity of the Event	Severity Not Present 0	Severity Very Low 1	Severity Low 2	Severity Adverse 3	Severity Serious 4	Severity Very Serious 5
<b>not possible 0</b>						
<b>very unlikely 1</b>						
<b>unlikely 2</b>			4 negligible risk	6 low risk	8 moderate risk	
<b>possible 3</b>			6 low risk	9 moderate risk	12 significant risk	
<b>probable 4</b>			8 moderate risk	12 significant risk	16 unacceptable risk	
<b>very probable 5</b>						

Source: (Streng, 2017, p.8, Table 5 with modifications from VTT, 2002 and Xola 2020)

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When livestock owners would like open their farms for visitors they should be familiar with practical biosecurity recommendations written by Kerr (2017) or national regional authorities. Risks ranges from low to moderate to high (Kerr, 2017; Mycoted, 2014) when all visitor-related factors, farm conditions, the presence of contagious diseases in the area, transport arrangements and cleaning and disinfection facilities are regarded. However, the biosecurity guide above is suitable for livestock farms, not horse business. For those horse entrepreneurs who organize horse races and shows may find it more helpful to read a business continuity plan for equine events (Colorado Department of Agriculture, found from internet in September 2020) or calculate an equine event risk by responding to questions of biosecurity risk calculator (University of Guelph, 2020).

Communication of risks is the other side of biosecurity. Risk communication helps people to see their own role as a part of a solution. The purpose of risk communication differs from technical communication because risk communication more often involves two-way communication and dialogue, not only dissemination of knowledge (Lundgren & McMakin, 2018). Nowadays it can be thought that social media is an effective source of information (Koskinen & Rusko, 2020; Kumar & Nanda, 2019) and computer technology can be used effectively in risk communication by involving groups or individuals in a decision-making process (Ayodeji & Kumar, 2019; Lundgren & McMakin, 2018). Especially Twitter is a useful resource to provide real-time updates to a larger audience (Lachlan, Spence, & Lin, 2018, p. 296). Unfortunately, stakeholders and companies show different information interests in their social media communication (Carrasco, Saorin, & Osma, 2019) and in social media it can be difficult to get people actively involved in the decision-making process (Johannessen, Sæbø, & Flak, 2016).

In good national preparedness plans of contagious diseases, communication plans are included. In these plans, the right communication channels during crisis are indicated. In Facebook, horse entrepreneurs or other horse enthusiasts have created several social media groups (those who like Finnish horses, those who have a riding lesson regularly in a certain stable etc) and some horse entrepreneurs use WhatsApp groups between their own customers, but in an exceptional situation like COVID-19 epidemic, these closed groups are not enough. Biosecurity issues like use of masks, maintain a physical distance at least 1-2 meter(s), hygiene coughing, avoiding crowds and hand washing strongly recommended by World Health Organization (WHO) (2021), must be communicated to a larger community.

## **FROM THEORY TO METHODOLOGY: DATA COLLECTION AND METHODS**

Usually, in their everyday routines horse entrepreneurs concentrate on prevention of equine diseases, not public health threats. Horse entrepreneurs have many different public and private stakeholders such as veterinary and other authorities, horse associations, other horse entrepreneurs, customers and service providers and every stakeholder group has its own unique interests. Many horse entrepreneurs do not see customers as partners of their business (excluding the cash flow they generate) and there is no need to take customers as a part of their holistic decision-making. On the other hand, from the public health and disease prevention viewpoint, a key point of this study, customers are a resource that should be better involved.

Principal-agent model, a theoretical model of this study, has a connection to normative (goal-oriented) stakeholder management (Benson & Davidson, 2010). In literature, however, all stakeholder theories are seen from value-maximization perspective, which is not a perspective of this study. In the framework of global crisis during COVID-19 pandemic, the goal is to maintain human health, not create new profits

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to companies. Health is a new value also in principal-agent relationship in which the principal (a horse entrepreneur) ensures that the agent (a customer) internalizes relevant biosecurity principles and really comply with them. Then the different interests of principals and agents are more alignable interests in their close agency relationship.

For further investigation, rather than traditional social media platform previously studied, such as Facebook or Twitter, an ICT system with purpose of information exchange between horse entrepreneur and customers was retrieved. In Finland, most riding schools use Hopoti.com system developed in Finland in 2015. This system has a universal character with over 100 enterprise users and 40 000-registered users in 25 countries nowadays. Hopoti.com is a service with easy management of operations of riding schools such as reservations and billing of riding lessons and it acts as an information channel in exceptional situations. It is not a general discussion platform for chatting, but facilitator of daily customer routines of horse entrepreneurs.

In this study, Hopoti.com system was included by using the COVID-19-based messages of horse entrepreneurs as a source of basic data. This data were collected by searching riding premises without registering to the system and by scrolling the recent messages available. This searching operation was done at 1st April 2020 by selecting premises from Southern Finland (high-risk area) and from Northern Finland (moderate or low-risk area). By searching with keywords “Rovaniemi” (a city of Northern Finland) and “Helsinki” (a city of Southern Finland) and by taking 100 kilometers around Helsinki area, 37 premises were involved. Because of only eight premises from Northern Finland were found in this search, 12 additional premises were obtained from the hevostalli.net system search (see this source from Koskinen & Rusko, 2020) and by Hopoti system six new premises with distance of 150 kilometers around Helsinki were included. Finnish Equestrian Association has an evaluation of 372 association’s member stables at the end of 2019 (<https://www.ratsastus.fi/srl/ratsastuksen-tunnuslukuja/>), so with a comparison to this estimate a percentage of 15% (55/372) of all recognized stables was achieved.

As background data, some statistics about magnitude of riding premises (and a magnitude of human contacts in these premises) were regarded. Secondly, an experience of horse entrepreneur (in years) was evaluated. Background data were collected from Hopoti.com system (the number of riding lessons today, during last week and last month, the number of staff, the number of horses) and from Fonecta finder system (year of establishment of the firm and recent turnover of the firm). For a risk assessment a risk number, unique to each premise, was calculated by using the scales of PPA (see Tables 1, 2 and 3 above). The severity of an event (virus infection) received a value of 4 in every premise (severity scale 0-5 in Table 1), but the probability of this infection event was evaluated according to risk factors typical for each premise (probability scale 0-5 in Table 2) and divided into final values of low, moderate or high (Table 3). In general, the more riding lessons and horses, the more customers and thus, the more risk and in a same way, the more people (customers and staff) the more risk is seen. Risk has increased in stables in Southern regions due to the higher prevalence of coronavirus infections in these regions. If there is no customer hygiene guidance in these high activity premises the risk is increased (even up to the value 4 in Table 2), and respectively, with low activity and comprehensive guidance, this risk is reduced (even value 2 in Table 2).

The original PPA risk assessment is based on descriptive data and its modifications to numerical scales. Risk factors are first collected in groups of employees (or those involved) by brainstorming method. Group processes between people can have an influence on subject experience of risk and its assessment by PPA (Leppäkynnäs, 2013, p. 36). Also an age, sex, education, level of incomes and mental sensitivity should be taken seriously in the assessment process (Ilmonen, Kallio, Koskinen, & Rajamäki,

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2010, pp. 87-88). Risk number of each premise in the current study was constructed by the author (one person with researcher qualifications) and by numeric data available because the importance of validity testing of a method. In the validity test of PPA the risk number of a premise (dependent variable) was statistically compared to independent variables (number of riding lessons, number of horses, number of staff, years of establishment and turnover), partly the same variables as in the subjective assessment of risk number. Then 43 riding premises with risk numbers of 8-16 were included for linear regression analysis (SPSS 25.0).

## **MAIN FINDINGS**

COVID-19 considerations have been almost completely ignored among horse entrepreneurs in Northern Finland. Only five premises (25%) had practical behavior and hygiene guidelines for customers. They were advices in which right or wrong behavior was emphasized by referring to instructions of authorities. In contrast, it was found that 43% of premises in Southern Finland had comprehensive to do or not to do lists and more bullet points per list (5-16, see a list below). In addition, in Southern premises the situation was continuously followed and informed by starting with milder restrictions (asking that customers follow the guidelines, reducing the number of riding lessons and customers) and in some situations by extending to radical operations (prohibitions and restrictions in 13 premises and totally closed doors in five premises). In general, the authorities were referred with or without internet links, and the responsibility of a horse entrepreneur was emphasized, although in only one premise the picture of proper hand washing technique was available.

### **Do and Not to Do List, an Example From Southern Finland**

- When you walk in the buildings in the area, remember keep a distance to other people.
- If you have symptoms of flu, you are not allowed to come to the stable or your riding lesson.
- The horse entrepreneur of this stable has organized an opportunity to hand washing in water box. Hands should be washed (about 30 seconds). Only one person can wash his or her hands at a time.
- Some equipment and waiting rooms are not in use.
- The equipment of the horses are waiting in front of the pen of the horse. After your riding lesson you can left them in the same place.
- Only one person can be with the horse in its pen excluding a close relative such as a mother of a child.
- The equipment does not need to be washed except the dredgers.
- Keep always gloves in hands in the stable. You can take them off only when you wash dredgers. Disposable gloves are available in the stable. Please put them to a wastebasket after use.
- You should not bring candies, cakes or other food to the stable.
- Riding lessons are held outdoors when weather is good. Only a close relative of a child can left waiting during a riding lesson.
- You can come to the stable only for good reason (riding, caring a horse). You cannot come to hang and spend time with your friends.
- You must cough in a right way - do not infect others.
- There are no assistants in riding lessons.

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Most commonly, the symptoms of flu were highlighted as a reason to stay home (11 premises from Southern and four premises from Northern Finland). Visits outside Finland were sometimes taken seriously (two premises in Southern Finland) and 14 days quarantine with link to authority's website was recommended in one premise in Southern part of the country. On the other hand, hand washing and distance between people (from 1 to 2 meters) were always mentioned. In one premise, rationality behind the orders were explained and those with unsuitable behavior were threatened with sanctions (concrete removal from the place).

*Social distance in stable environment benefits us all because we can all carry this virus even without symptoms. We have a right to remove those individuals who do not comply with these instructions. ... because it would be unfortunate if our staff became ill and spread the virus to other people or to other horse premises. We try to keep the situation as normal as possible based on these arguments... (Horse premise in Southern Finland, 2020)*

Risk numbers of horse premises varied between 8 and 16 (between moderate risk level and unacceptable risk level; severity 4 and probability 2 = 8 and severity 4 and probability 4 = 16, respectively) with varied number of riding lessons (0-218), horses (4-42) and staff (1-80). Linear regression analysis indicated that all of those variables included (number of riding lessons, horses, staff etc.) could in best model explain and predict 39% of risk number evaluated. In other words, one-variable model in which risk level was associated with all of those variables could be achieved.

Hopoti.com system can show that horse entrepreneurs in Southern Finland are seriously involved in preventing coronavirus by managing their customer relationships. Contrast to low equine diseases communication activity previously found (three percent of the horse entrepreneurs), public health recommendations of authorities are widely adopted and complied. Value of health is communicated among customer stakeholder group and health is emphasized over financial consequences. Recommendations and their changes are also monitored. The COVID-19 situation is less severe in Northern than in Southern Finland and thus, it is natural that a different preparedness level can be found in different parts of the country.

In study design, it was estimated that by using Hopoti.com system 15% of all Finnish Equestrian Association's member stables were involved. However, only those who have Hopoti system registration and enterprise profile were regarded. Observations were found among those who are active in the system and results cannot be extrapolated to outsiders. It is possible that more advice has been given outside the system by oral and written instructions. Because the severity of COVID-19 pandemic, ignorance of practical guidelines seen in the Hopoti system is certainly not the whole truth of this story. On the other hand, when comparing Finnish horse entrepreneurs' low internet communication activity against equine infectious diseases (Koskinen & Rusko, 2020) before COVID disease situation, it is not surprising that no initiatives are made towards customers. Among horse entrepreneurs, initiatives are made, but in a principal-agent relationships in which the roles of principal (authority) and agent (horse entrepreneur) have completely different than in normal business situation with customers.

Despite the harmonized instructions given by national authorities, different risk levels between premises were seen. Some horse entrepreneurs take instruction more literally (even with closed doors), whereas some see a risk differently. Risk seeing is a personal experience (Ilmonen et al., 2010; Lepäkynnäs, 2013). For a horse entrepreneur it is possible to have influence on number of customers and thus, number of contacts in his or her stable. Ability to influence is likely to increase a sense of security and respectively, reduces a sense of a risk. However, it can be a false sense of security, because linear

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regression analysis found that only 39% of risk level could be totally controlled by factors related to the readiness of horse entrepreneur.

Every horse entrepreneur had instructions of his or her own and thus, different level of guidance was available in different horse premises. Different instructions can reflect different relationships with the authorities and their disease prevention recommendations. It can be concluded that it is also worth of regard behavior of horse entrepreneurs, their attitudes to existing risks and relationships with authorities in principal-agent chain. In practical situations, horse entrepreneurs and their customers can be seen together, as a pair with dominant low, unequal low-high or dominant high-risk behavior (Table 4).

*Table 4. Behavior of horse entrepreneurs and behavior of their customers*

<b>Risk Behavior of Horse Entrepreneur x Risk Behavior of Customer</b>	<b>High Risk Behavior of Customer</b>	<b>Low Risk Behavior of Customer</b>
<b>High risk behavior of horse entrepreneur</b>	No hygiene instructions, no hand washing and general hygiene norms	No hygiene instructions, but customers who follow the situation and take care of hygiene issues
<b>Low risk behavior of horse entrepreneur</b>	Clear hygiene instructions, but no customers who comply with these instructions	Clear hygiene instructions and responsible customers who follow the situation and comply with recommendations.

**FUTURE RESEARCH DIRECTIONS**

Nowadays stakeholders are an important resource for success or failure of a company. In equine industry there are not only interorganizational relationships such as relationships with other horse entrepreneurs and administrators but also an intraorganizational network with own customers. It is a moral duty of every horse entrepreneur to utilize stakeholder strategies for reducing the impact of COVID-19 crisis although these strategies may be detrimental to the company’s finance at the same time. It can be seen that during COVID-19 times many horse entrepreneurs prefer human health. This finding challenges stakeholder theories with only value-maximization perspective and emphasizes the trend of more sustainable development.

Some horse entrepreneurs have realized that customers are a critical resource to prevent the spreading of coronavirus in horse stable environment. Based on the idea of partnership between horse entrepreneur and customers, more comprehensive risk analysis should also include factors from other party’s activity (number of hand washing activities, time spent in the area etc.). Exposure to coronavirus from surfaces may be assessed based on human behaviors such as hand hygiene and face touching (Zisook, Monnot, Parker, Gaffney, Dotson, & Unice, 2020) and the exposure to aerosol-transmissible infectious diseases can be calculated based on the likelihood and duration of exposure to potentially infectious individuals (Seitsema et al., 2019).

Due to the entry restrictions in horse stable environments, these calculations could not be obtained from real situations by the author, but these additional factors could have facilitated the determination of the final risk number defined in Tables 2 and 3. It may be true that PPA can be easily utilized in disease risk assessment process (Faverjon et al. 2015; Streng 2017; de Voss et al. 2011; Willeberg Consulting 2013, pp. 173-186), but PPA is not near its full potential in studies of disease control without mutual perspective. Linear regression analysis, for instance, found that 61% of risk levels could be explained

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by behavior of customers not seen as numbers among independent variables. Poor hand and general hygiene have also an increasing effect on the likelihood of exposure, and thus, have an influence on the probability of a disease event and a risk level as a part of PPA risk assessment.

Although the risk analysis with scales of PPA gave systematically the magnitude of risk to different premises, a horse entrepreneur did not perform the analysis himself or herself. From the researcher's perspective, all of those factors such as number of riding lessons (and indirect number of customers) are factors of possible changing over time and can be changed by a horse entrepreneur himself or herself. The finding that only 39% of a risk can be in the control of an individual horse entrepreneur can also mean that factors involved in the risk number (defined by the author) are not the right factors from the perspective of a responsible horse entrepreneur. In risk assessment process, horse entrepreneur is a stakeholder member who should be seen as a collaborative actor rather than a target of restrictive measures in the future.

The descriptive part of the study was based on observations of visible communication activity in information exchange ICT system. Without surveys, action research protocols or other comprehensive and longitudinal studies about horse entrepreneurs' concrete risk assessment techniques present in horse entrepreneurs' practical decision-making process, it is not possible to determine a general and best solution of the current situation. It can be only concluded that there is no single right solution suitable for every horse premises and thus, the new research efforts are needed. In these study designs, participation of horse entrepreneurs in planning and implementation of study process with the research group is highly recommended.

From an interactive perspective of the current study, it can be deduced that by these four categories seen in Table 4, preliminary conclusions of the risk levels of every premise can be simply communicated. It can be done without a standard method of risk assessment or complex quantitative calculation systems. Every horse entrepreneur can collect data for this SWOT-type (strengths, weaknesses, opportunities, threats) assessment and present the results to their customers. In literature, many types of scientific risk assessments have been described without thinking a key point, an assessment and its problem-recognizing nature itself. During COVID-19 times in horse premises, it is more important to do concrete risk assessment and communicate the results in practice than think scientific contributions of this assessment.

In the future, legislation on restrictive measures during disease outbreak will likely to change. In Finland, in law on contagious diseases restrictions and responsibilities of private sector actors will be determined with more detail. A new, forthcoming law on contagious diseases will increase the rights of authorities to close sport centers and leisure facilities privately owned. Although some of these measures are intended to be temporary in legislation, new principal-agent relationships between authorities and horse entrepreneurs can be seen immediately. Recommendations of current situation will become regulations of uncertain future and the death of the idea of co-creation of better reality with horse entrepreneur stakeholder. On the contrary, a power of authority will increase in citizen-authority and in entrepreneur-authority relationships.

From a global perspective, only minor restrictions have been introduced in Finland. In some countries, stables are totally closed. On the other hand, even during serious COVID-19 times not all countries have closed their equine sport arenas and pony clubs. In Sweden, equine industry has normally continued its business operations. Although Hopoti.com system has a universal character with users in 25 countries, it was unable to open access to social media platforms or other COVID-19 communication channels of Swedish riding schools. For comparison, it would be helpful to follow guidelines or recommendations

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of Swedish horse entrepreneurs in their customer relationships. Probably, legislation will change also in Sweden with new law on preparedness previously missing, and new everyday practices must be adapted.

## **CONCLUSION**

During COVID-19 times and in equine industry context, it is worth to see behavior of stakeholders and especially behavior of customers. In hygiene issues, everyone is a responsible actor and this fact must be emphasized. Despite this important finding of this study, little similar research has been published, although several COVID-based call for papers announcements and special issues can be found. Communication of disease threats would seem to be a new task for horse entrepreneurs in Finland traditionally considered a low-risk country. Compared to the previous communication activity about equine infectious diseases, the ways of communication have changed in the principal-agent relationships. Communication strategies vary between horse entrepreneurs, however, due to personal traits, attitudes and environmental facilities available. Among most horse entrepreneurs of this study, the health risk was identified. It would appear that for these horse entrepreneurs the risk of losing health due to illness or due to violation of the COVID instructions is a more serious risk than loss of profit of their business. These people understand the seriousness of the situation without a threat of official sanctions. As a final conclusion it can be suggested that public health is an important value and financial value-maximization with the stakeholders is not an only value in business carried out in the equine industry.

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## **KEY TERMS AND DEFINITIONS**

**Authority:** Organizations or representatives of these organizations that have power over citizens. This power was based on national or international legislation.

**Biosecurity:** The operations that are implemented towards entry and spreading of infectious agents (pathogens) in farms. Cleaning and disinfection are a central part of biosecurity.

**COVID-19:** An infectious disease mostly with respiratory symptoms. SARS-CoV-2 virus causes the symptoms of COVID-19 disease.

**Pandemic:** Disease outbreak that has spread worldwide. Another important pandemic in 2000s was swine influenza pandemic.

**Potential Problem Analysis:** A simply method for risk assessment based on the probability of an event and the severity of this event.

**Principal-Agent Relationship:** An arrangement in which one entity, e.g. legally (authority), appoints another to act on its behalf.

**Risk Communication:** Communication about real-time facts in crisis situation. Communication can be dissemination of expert knowledge or two-way communication between all involved.

**Social Media:** Media with more opportunities to share a common understanding in communities compared to traditional one-way information transmission media.

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**Stakeholder:** Anyone who has interests of organizational business issues (owners, sponsors, customers, contractors, authorities). Interests can be financial, legal or value-based.

**Zoonosis:** A disease, which can be transmitted from animal to human or vice versa. Important and widely known examples are swine and avian influenza and rabies.

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### **APPENDIX**

#### **Finnish Equestrian Association Encourages: Reduce the Risk of the Coronavirus Spreading by Your Own Actions**

**Step 1:** Download coronavirus application (“koronavilkku”) to your phone. The application will inform you if you have unknowingly been exposed during your journey.

**Step 2:** Remember hand and cough hygiene practices.

**Step 3:** Use the mask on public transport vehicles and public indoor spaces if you cannot maintain social distance.

**Step 4:** if you have symptoms typical for coronavirus go to the test.

**Step 5:** Do not go to the stable or horse event if you have any, even mild symptoms.

**Step 6:** Follow the hygiene instructions given by the horse entrepreneurs or event organizers.

**Recommendations of the Finnish Equestrian Association to limit the spread of coronavirus:** At stables and events in everyday practical solutions, the formation of close contacts should be avoided, especially by minimizing contacts in narrow places such as equipment rooms. Riding is not a sport with close contact between individuals, group sizes in riding lessons are small and distances can be maintained during riding because of horses and safety issues with horse caring. However, there is a good idea to consider arrangements to reduce the risks. The number of participants in meetings should be limited regionally when necessary.

**Guidelines for horse races and competitions:** Finnish Equestrian Association recommends that no sport events be held before 2021.