

# Electronic invoicing means more efficient and greener payments

3 November 2008

Efficient, electronic and standardised payment transmission can boost productivity in the economy. Already since the 1980s, electronic banking services have been bringing the benefits of automation not only to banks, but also to their customers. These benefits could be further enhanced by the widespread use of electronic invoicing.

Technology does not present an obstacle to the widespread implementation of electronic invoicing. There is, however, room for improvement in cooperation between invoicers, invoicees and invoice operators, if this service, which is unanimously recognised as a good thing, is to be effectively utilised. In an ageing society, we need to take advantage of all opportunities to boost output.

At present, the greatest need is for standardisation of the form and functionality of electronic invoices so as to

enable both consumers and businesses to use electronic invoicing for more efficient management of their finances. There are currently several different standards in use, which has discouraged small and medium-sized enterprises, in particular, from adopting electronic invoicing.

## Electronic invoicing offers clear benefits to both consumers and businesses

Electronic invoicing dispenses with the need to manually key in account and reference numbers before payment. When a consumer or business adopts the receipt of strictly formatted, automated invoice data, the manual errors that typically occur in handling paper invoices are reduced and the invoice and payment process becomes faster.

Compared with paper invoicing, the electronic invoice offers either the same or more flexible opportunities



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## What is an electronic invoice and how does it work?

- In electronic invoicing, the payer receives the same information as is contained in a paper invoice sent through the post, but in digital form using data interchange connections. Digital information can be processed automatically in both the invoicer's invoicing and ledger system and the invoicee's ledger and payment system. Electronic invoicing does away with the need to type in information when paying an invoice.
- Electronic invoices can be sent either directly from the invoicer to the payer in a manner mutually agreed between the two parties, or sent via various operators. Banks and numerous other service providers such as Basware, Itella and TietoEnator provide invoice intermediation services.
- Consumers can have electronic invoices sent directly to their online bank. Banks offer the choice of automatic payment, as currently with a direct debit, or after approval by the customer in his online bank.

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for payment. The great advantage of electronic invoicing is that allows the invoice to be integrated with companies' and other organisations' financial management systems. In Finland, it is possible to arrange for electronic invoices to be sent straight to a financial management system or online bank.

Finnish consumers receive up to 300 million invoices annually, and businesses an estimated 180 million. There are currently a number of national projects and campaigns<sup>1</sup> being conducted with the aim of reaching a situation in the next few years in which the majority of paper invoices in Finland will be replaced by electronic ones. If, for example, Finnish consumers were to begin using electronic invoices, this could save as many as 2 million trees a year plus considerable quantities of water and fuel.<sup>2</sup>

When electronic invoicing is accompanied by electronic archiving, the need to save paper invoices and related documents will eventually disappear altogether. The storage of electronic invoices in an electronic archive would help in, for example, checking the period of validity of various types of guarantees and tax-related issues.

Studies of business-to-business invoicing show that it is the invoicee that benefits most from electronic invoicing. At European level,

estimates based on the number of payments and companies' costs for processing invoices indicate that a switch to electronic invoicing could bring businesses annual savings in the range of EUR 100–240 billion. The greatest savings could be achieved by full automation of the invoice and payment process.

### Seeking a common standard

Business transactions between large corporations have long been based on standardised data interchange, and their financial management is largely automated. Such corporations also have the expertise to further develop their electronic processes. The step to electronic invoicing has been easy to take.

There are, however, too many different standards currently available for electronic invoicing. The sectoral and even in-house invoice data requirements of companies operating on different types of resource base, together with the many different standards, have made it difficult particularly for small and medium-sized enterprises to switch over to electronic invoicing. With the introduction of the single euro payments area (SEPA) meaning the adoption in payments traffic of ISO standards and the XML format<sup>3</sup> familiar from data network applications, this would also appear to be a natural direction for electronic invoicing to develop in.

<sup>1</sup> For more detail see [www.finvoice.info/](http://www.finvoice.info/).

<sup>2</sup> Estimate based on information available from PayItGreen. For more details see [www.payitgreen.org/](http://www.payitgreen.org/).

<sup>3</sup> See eg <http://en.wikipedia.org/wiki/XML>.

A breakthrough is most strongly expected in electronic business-to-consumer invoicing. Many estimates indicate that consumers in other Nordic countries receive more electronic invoices than in Finland.<sup>4</sup> Change has been slow in Finland because the availability of general information on the different service formats has been poor and it has been impossible to bring the different types of invoice together into a single channel such as online banking. There is little work involved nowadays in catering to the payment needs of ordinary Finnish consumers, as the majority of Finns are used to paying their bills either through their bank's online banking facility or via direct debit. Against this backdrop, the campaign to convince consumers of the benefits of electronic invoicing has had to be planned very carefully.

### **Banks are working to promote electronic invoicing**

In October 2008, an extensive e-invoicing campaign was launched under the leadership of the Federation of Finnish Financial Services. The campaign has led banks to harmonise their operating practices, with the result that consumers now find it easier to receive electronic invoices via a single channel. The service has been developed in order to ensure reliability, and the campaign has

<sup>4</sup> Bruno Koch, Billentis, see [http://akseli.tekes.fi/opencms/opencms/OhjelmaPortaali/ohjelmat/INTO/fi/Dokumenttiarkisto/Viestinta\\_ja\\_aktivointi/Seminaarit/RTEsummit/Bruno\\_Koch\\_Billentis.pdf](http://akseli.tekes.fi/opencms/opencms/OhjelmaPortaali/ohjelmat/INTO/fi/Dokumenttiarkisto/Viestinta_ja_aktivointi/Seminaarit/RTEsummit/Bruno_Koch_Billentis.pdf); and Itella Information, see footnote 5.

made it easy to start using it, with a cartoon character called Bill Virtanen guiding users into the world of electronic invoicing. The technology is presented to consumers in a careful and interesting manner.

Finnish banks have made it easy for their online customers to adopt the use of electronic invoices: instead of a direct debit, customers can choose either an automatically approved electronic invoice or an electronic invoice subject to separate approval before execution of payment. There is, however, still a need for more invoicers willing to issue their invoices electronically.

When a consumer becomes convinced of the benefits of the electronic invoice, it is vital to immediately supply a comprehensive service, ie an electronic invoice from as many invoicers as possible. According to a recent survey by Itella, the average member of the public in Finland receives 7–8 invoices per month,<sup>5</sup> so if only 1–2 of these are electronic, this is simply not enough. For this reason, and in addition to major invoicers such as electricity and telephone companies, it is particularly important to bring middle-sized invoicers, such as providers of a variety of everyday services, into the e-invoice project targeting consumers.

Some banks give advance warning of electronic invoices. Other banks, invoicers and electronic

<sup>5</sup> For more detail see [http://www.itella.fi/english/current/2008/20080910\\_e-invoicing.html](http://www.itella.fi/english/current/2008/20080910_e-invoicing.html).

*Everyone should demand their invoices electronically.*

invoicing invoice operator providers will need to decide fairly promptly who will be responsible for providing payment reminders for electronic invoices. To forget is human, and from the perspective of consumers an advance warning, for example directly to their mobile phone, would be a useful service. Payment could then be approved or rejected by pressing an approve or reject button, as is the practice at present in online banking. Would it be possible for someone to develop an identifier for this purpose? Such a service would undoubtedly be widely welcomed.

Besides reminders, other key support services include clearing up mistakes and electronic archiving. Questions and complaints will need to be at least as easy to take care of as it is at present to sort out problems with paper invoices. Archiving practices, meanwhile, are still somewhat heterogeneous and require further development. For example, it is still undecided who will provide archiving, whether the availability and storage periods will meet the requirements of authorities such as the tax authorities, and if archives will be independent of the electronic invoice operator, so they will still be available even if a customer changes bank or invoice operator.

Banks, as payment processors, are advantageously placed in regard to electronic invoicing, which gives them a key role in achieving the breakthrough. In the pioneers of electronic invoicing,

such as Norway and Denmark, the breakthrough for consumers has been based on a single channel. Besides the services provided by participants in the banks' campaign, however, consumers are also still being offered a range of different electronic invoicing services, operating models and transmission channels, which can cause confusion. It would, therefore, be good if the various different projects could come closer together.

Transparent pricing is an effective way to influence service usage, and some invoicers have already begun to use their pricing structure to guide their customers. Consumers are hardly likely to want to pay more for the use of payment services than they do at present, but an additional charge for a paper invoice may well be justified if the invoicee requires a paper invoice through the post even when the alternative of electronic invoicing is readily available. On the other hand, it would also be justified to expect companies to pass on to their invoicees some of the savings from the rationalisation of their operations. A small discount on electronic invoices could be both effective and more efficient than punitive pricing in guiding consumers to switch from their current payment habits to the use of electronic invoicing.

### **Electronic business-to-business invoicing**

In many of the countries that have been pioneering the use of electronic invoices,

it has been shown that the attitude of invoicees is of central importance to the advance of the new service. When invoicees demand their invoices electronically, invoicers, too, are compelled to enter the age of electronic invoicing. Businesses can achieve extensive benefits by automating their entire invoice reception process. Meanwhile, small companies that have, for example, outsourced their financial management and accounting can already gain considerable benefits if their service provider decides to accept invoices electronically.

Companies' differing requirements regarding the presentation and information content of invoices must be taken into account, but the goal

should nevertheless be to harmonise the different types of invoice.

Achieving widespread use of electronic invoicing will require teamwork, and if necessary will also require concessions from the different types of company. This can only be achieved through compatibility between existing invoice formats or the centralisation of formats. This should be a priority, as businesses must be able to trust the continuity of invoice formats in a changing operating environment.

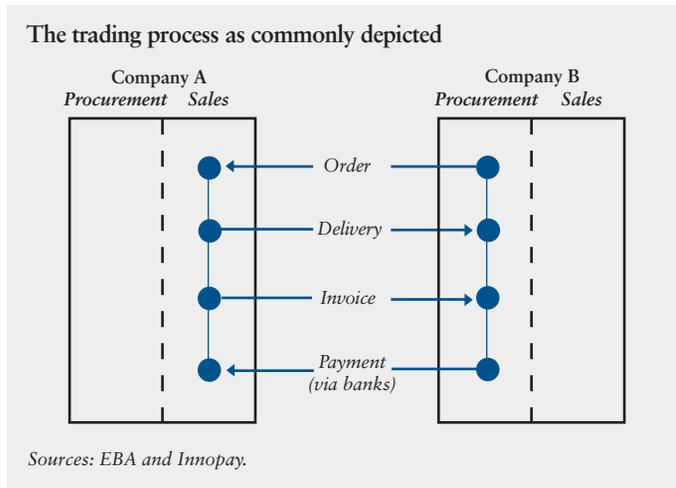
It is also important to closely follow progress in international projects (see Table). As the European Commission has designated electronic invoicing as one of the most

*Common standards can be achieved despite different requirements.*

Table.

The most important current projects	
Global projects	<p><i>United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT)</i></p> <ul style="list-style-type: none"> <li>– Fosters uniform exchange of data between private and public sectors. Developed, among other things, an international, cross-industry invoice. The new version of the basic invoice currently being developed is intended to bring international standardisation projects closer together.</li> </ul>
EU-level projects	<p><i>Expert Group on European Electronic Invoicing (EEI)</i></p> <ul style="list-style-type: none"> <li>– The objective of the EEI is to establish a European Electronic Invoicing Framework (EEIF) to foster the emergence of open and interoperable electronic invoicing services in Europe.</li> </ul>
Finnish projects	<p><i>A number of concrete projects to foster electronic invoicing</i></p> <ul style="list-style-type: none"> <li>– Projects figureheaded by the Federation of Finnish Financial Services and the banks; the Finnish Information Society Development Centre, TIEKE and large corporations; and service providers such as Basware, Itella and TietoEnator. A breakthrough in electronic invoicing in Finland requires the bringing together of these separate projects.</li> </ul>

Chart.



important development projects for boosting European competitiveness, electronic invoicing in Finland will need to be developed in the long term as part of the European project.

The processes of different types of company can be successfully connected to electronic payments if we set the goal of an international generic invoice that is open and interoperable in both form and structure. This would allow companies to select the invoice content best suited to their own business needs. The invoice process is very closely interlinked with a company's other business processes (see Chart).

In Finland, in response to an initiative by large corporations, the emphasis is currently on improving operating models for sending and receiving invoices.<sup>6</sup> The goal is for the project to make it easier for small and

<sup>6</sup> For more details see [http://www.tieke.fi/in\\_english/\\_ebusiness/einvoice/](http://www.tieke.fi/in_english/_ebusiness/einvoice/).

medium-sized enterprises – that can serve as subcontractors to large corporations – to also switch to using electronic invoices.

The aforementioned project is solidly based, as work is progressing in the direction of XML-based invoice formats, such as Finvoice and TEAPSSXML. These can be considered sustainable solutions of similar type to that which the European Commission's expert group on the harmonisation of electronic invoicing is also seeking. European payments are also going over to XML format.

It is essential that projects by non-financial corporations are coordinated with the projects of banks and the public sector. By committing itself to the common invoice format of the business sector, the public sector could be a genuine pioneer in the large-scale adoption of electronic invoicing. This will require central government, both as invoicer and invoicee, to make its possible special needs known in good time, thereby enabling official requirements to be incorporated into the data content of electronic invoices from the outset and allowing the public sector to directly utilise the electronic invoice formats that are in general public use. The local government sector, as a significant invoice processor, should then quickly follow this example.

Thus, the first requirement for achieving a model for an electronic

invoice that is independent of the size of a company and the industry it operates in is an appropriate solution for the issues of data content. In practice, this means agreeing to move from the present situation, where there are many different standards in use at the same time, to a situation where there are just a few standards for general use – the data content of which could vary as needed – and strict instructions for their application. Electronic invoices will also need to be incorporated as a standard feature of invoicing programs.

There are clearly only a few obstacles still to be overcome on the path to electronic invoicing in the business-to-business field. The strategic resources for development and cooperation already exist. The question remains: who should take responsibility for achieving the breakthrough in practice?

The Finnish Information Society Development Centre, TIEKE has been taking a leading role in developing solutions that are compatible both technically and in terms of data content. The ‘Ubiquitous information society’ project included in the Government Programme of the present Finnish government has its own working group for promoting electronic invoicing, which is seeking a breakthrough in the use of electronic invoices in the public sector. Success in developing common standards would benefit all ongoing

projects and considerably ease the progress of electronic invoicing as a whole.

Even so, all available assistance is essential if Finnish small and medium-sized enterprises are going to reach their target of being able to send and receive most of their invoices in electronic format within the next 2–3 years. It is therefore important to get systems suppliers, who provide support to the companies they supply, and outside contractors, who handle payments traffic and provide accounting services to corporate clients, involved in electronic invoicing projects. Such involvement enhances their knowledge base and potential influence, while also lowering the threshold for adoption of electronic invoicing.

#### **Data security is fundamental to electronic invoicing**

Advanced data security solutions are an obvious component of payment services and electronic invoicing. However, it is possible to take electronic invoicing forward in ways other than via the security and data security solutions essential to payment services, if this is necessary for the usability of the service. Customer identification is one component of data security arrangements. A service is felt to be trustworthy only if sufficient attention is paid in the electronic transmission of invoices and in all

support services to establishing the authenticity of origin and integrity of data content. Data security issues must be taken into account in designing the operating models for electronic invoicing both within Finland and as part of SEPA.

In the TIEKE project there has also been discussion of arrangements for the certification of electronic invoicing software and intermediaries. The use of certified service providers will allow companies to be certain the electronic invoicing they use has sufficiently high-quality data security.

The European Central Bank has required banks to commit themselves to creating and observing sound principles of data security in SEPA. This makes data security a part of the European electronic invoicing project. In addition to this, there is also a need to raise end users' – above all consumers' – awareness of data security and increase the available related support services.

#### **Electronic invoicing boosts efficiency**

All the prerequisites for an electronic invoicing breakthrough in Finland are now in place. What is now required is the desire on all sides to actually send and receive invoices electronically. Successful progress will require the various different projects to come closer together.

The introduction of electronic invoicing provides an opportunity to re-design the processes of both

invoicers and invoicees. By looking at invoicing in a new light, it will be possible to achieve significant benefits. But even small changes can allow participants to share some benefits. The final outcome will be that electronic invoicing will facilitate a higher standard of service at a lower cost.

A unified national view on developments will make it easier to also contribute to international forums such as the European electronic invoicing project.

*Keywords: e-invoice, payments, electronic invoice, Internet invoice*