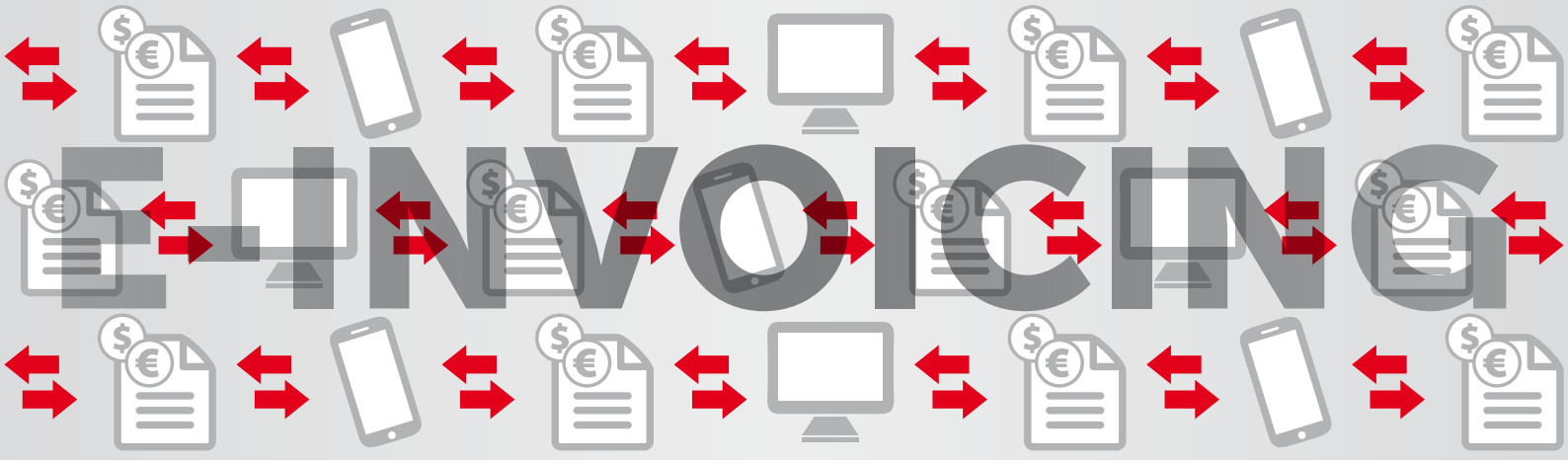

Results of the Study on the Acceptance Factors for Electronic Invoices

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ASSOCIATION OF THE INTERNET INDUSTRY

WE ARE SHAPING THE INTERNET.

YESTERDAY. TODAY. BEYOND TOMORROW.

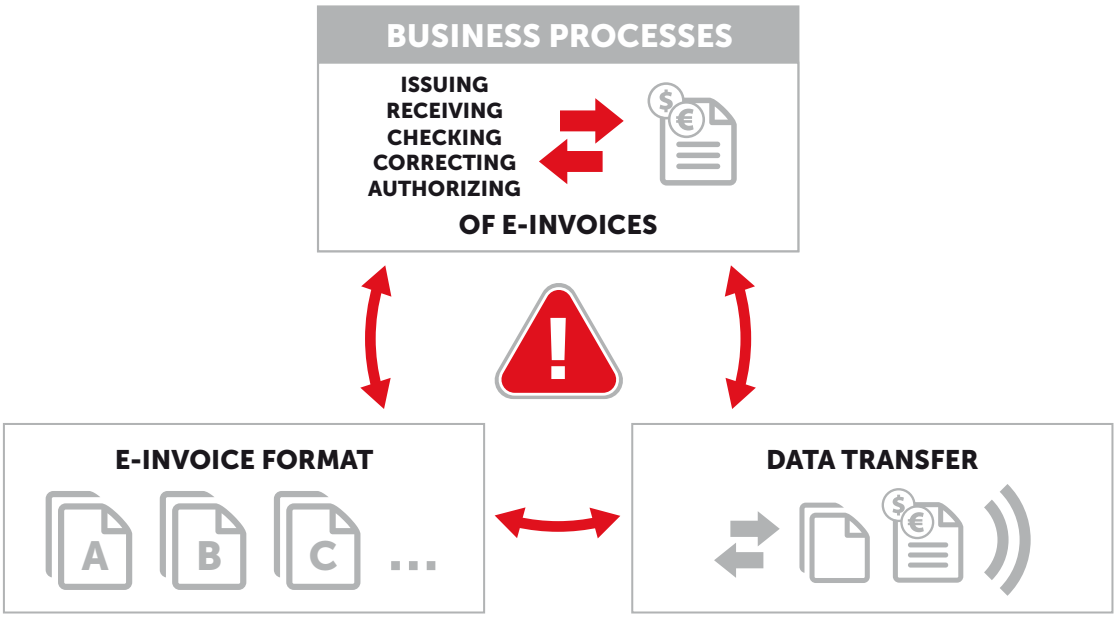


Image 1:
Successful interplay between an accepted invoice format, correct data transfer, and the realization of business processes is necessary for electronic invoices to be accepted.

At the end of 2016, eco – Association of the Internet Industry published a study on the acceptance factors for e-invoicing[1], which enjoyed a noteworthy reception in the German-speaking region. The authors of the study outline the key findings of the study for dotmagazine.

1. The electronic invoice as a central element of digital transformation

The electronic invoice is establishing itself as a central element of the further move towards digital transformation in industry and retailing in Germany and Europe. Associated processes like electronic payments (e-payments) are also increasing in economic significance.[2]

The technical development of the electronic invoice is based on three complementary areas. Firstly, the draft of an acceptable data format; secondly, the realization of the business processes related to the invoice; thirdly, the correct transfer of the invoice details. The acceptance of the electronic invoice is not only a question of the definition of an appropriate data format.

The replacement of paper-based invoicing processes by an electronic procedure is both very useful and results in considerable cost savings: The production and handling of paper invoice documents and the postage thereof are no longer required. There is also no need to transition between media types, reducing the potential for errors. Environmental aspects also enjoy increasing attention. In Germany alone, the Federal Government estimates that around 32 billion invoices are created and sent annually; around 90 percent of these are on paper. At one page per invoice, this means 144,000 tons of paper.[3]

Motivation behind the acceptance study

To try understand why invoices are still mainly sent in paper form, the Information Management Institute (IMI) at the Aschaffenburg University of Applied Sciences started to explore the acceptance of electronic invoicing.[4] Acceptance factors such as trust, liability, and reliability were identified as being crucial for electronic invoices.

1 https://e-commerce.eco.de/wp-content/blogs.dir/17/files/20171130_eco_akzeptanzstudie_e-invoicing.pdf
2 See "Internetpolitische Agenda – Kernforderungen des eco für eine moderne Netzpolitik" (2016) https://www.eco.de/wp-content/blogs.dir/eco_internetpolitische_agenda.pdf
3 See the draft bill of the German Federal Government of the 12 October 2016 on e-invoicing in public procurement: http://dip21.bundestag.de/dip21/btd/18/099/1809945.pdf (in German)
4 The term "electronic invoices" here refers to electronically transferred invoices as well as the associated processes of transferring and archiving, the technical, subject-specific, and financial checks and validation as well as payment by electronic means.

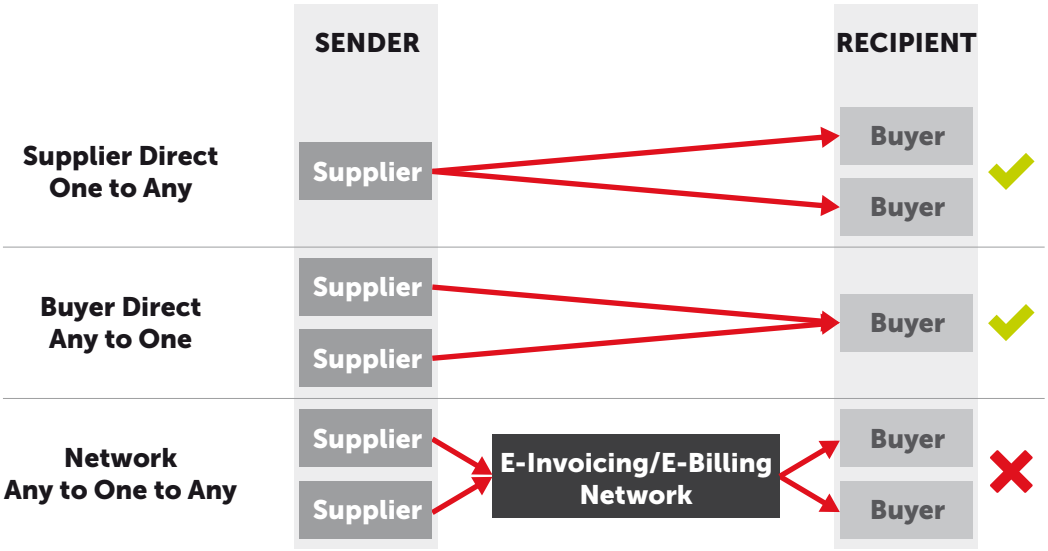


Image 2:
The three different scenarios and market models for the active acceptance of electronic invoices.[5]

5 Koch B (2016): E-Invoicing / E-Billing – Digitisation & Automation, Billentis, Will (CH)

Current acceptance scenarios for electronic invoices

The current contexts in which electronic invoices are actively accepted can be broken down into three different scenarios:

Scenario 1

Senders who send invoices periodically, or to a relatively stable group of customers, in relatively large numbers: These senders, such as energy companies, telecommunications providers or online retailers, offer their customers electronic invoices. Paper invoices are not offered, or incur an extra charge if sent.

Scenario 2

Supply Chain Managers who organize the supply chains for big buyers: The differing invoices of the various suppliers are converted into industry-specific standards. Or electronic invoices are only accepted from suppliers if they fulfill the standard required by the recipient. Usually, such industry solutions are based on a derivative of the international EDIFACT standard.

Scenario 3

Diverse groups of senders and recipients of electronic invoices, including small and medium-sized enterprises (SMEs), freelancers, and private individuals: These large groups would need a generally accepted data format for electronic invoices in order to orientate their business processes around the format.

In scenarios 1 and 2, the company shaping the market manages to pass on the costs to the disadvantage of their business partners. A corresponding "market structuring" is missing in the third scenario and there is not yet a standard from the official bodies (DIN, CEN, ISO) for a hybrid data format.[6] Each user is responsible for the formal correctness of the electronic invoice and the associated business processes, particularly in relation to the tax authorities. A transfer of liability is not (yet) possible.

Scenarios 1 and 2 are the two that are most technologically and organizationally developed, however, scenario 3 has by far the largest number of economic actors. Therefore, both the providers and users of the required infrastructure and systems – particularly in scenario 3 – lack investment safety.

Scenarios for increased future acceptance of electronic invoices

The following concrete scenarios for the – more developed – active acceptance of electronic invoices are possible.

› Invoices as PDFs in a portal or email

Sending invoices as a PDF is a relatively trivial solution, which is particularly useful for small and medium-sized enterprises, as there is a reasonable cost-benefit trade-off. PDF invoices already have great cost-saving potential: Not only are there no printing, postage or paper costs, but the transaction time is also reduced when transferring an electronic invoice.

6 The current discussion does not consider the earlier iconic specifications of the UNECE (e.g. http://tfig.unece.org/contents/unlk-recomm-1.htm).

The implementation costs for a PDF solution are significantly less than what it would cost to introduce structured or hybrid data formats. However, PDF invoices have disadvantages which cannot be overlooked and result from the lack of structured data. This means that the data cannot be automatically booked in an electronic bookkeeping system.

› Structured invoice data – EDIFACT

With the provision of structured invoice data in the form of EDIFACT, customers have the chance to feed the invoice data they receive directly into their ERP system and to then process it further. Due to the continual further development by UNECE, EDIFACT has become an established global standard. One downside to this scenario is that smaller customers which do not have an ERP system can only process the structured invoice data by using additional software.

› Hybrid invoices

It can be safely assumed that hybrid electronic invoices will receive special attention. With this format, the recipient can decide themselves which data – iconic or symbolic – is to be used. Hybrid electronic invoices structurally replace paper invoices pretty much one-to-one, from the perspective of business processes, thanks to the iconic components.

› Using various formats – format portfolio

The greatest utility for customers is when electronic invoices are sent in exactly the format which the recipients can process most efficiently.

Given the resulting implementation costs, it is not possible to offer an unlimited number of different formats, and a selection must be made. It would be possible to turn this concept around by offering customers varying levels of discounts when they use certain invoice formats as determined by the issuer. The option to continue to receive paper invoices should be the most expensive, given the cost. This is a way to convince customers of the financial benefit of the electronic alternatives.

What to do?– Recommendations – Navigating uncertain territory?

From the point of view of the Internet industry, using systems to create, send or receive, process, and archive electronic invoices is essential for the further development of the digital economy and digital transformation as a whole.

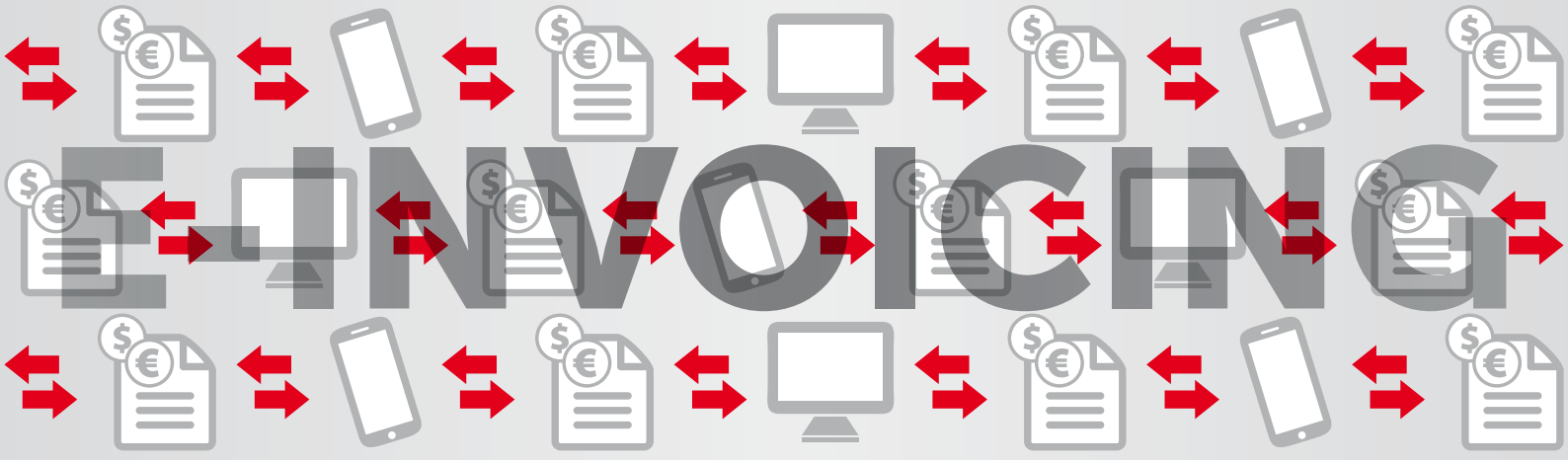
The well-known and crucial prerequisite for operating open technical systems is standardization and definition of the data formats, protocols, and processes by the relevant bodies DIN, CEN, and ISO. Only then can any investment be considered safe.

It is not clear how much sense it makes to continue to use national formats which may become obsolete, given European standardization of electronic invoicing with CEN/TC 434. To protect investments in the long term, users are recommended to clarify how to migrate a system to the future European standard, or to ensure that the makers or suppliers of the systems have done so.

Acceptance of systems and procedures presume the consumer's trust in the provider and their representatives.[7] [8] [9] Several trust-building mechanisms can be extrapolated from the results of previous studies carried out by the authors[10] on the acceptance of systems and processes, and these can be applied to the acceptance of electronic invoices and should be considered by the makers or suppliers of e-invoice systems. These mechanisms are in the areas of technology, reputation and organization and are aimed at building trust and reducing uncertainty.[11]

The further development of electronic invoices in Europe is uncertain. What is certain is that electronic invoices are a significant and central component of the digital transformation of industry and administration.

7 Tomasello (2010): Warum wir kooperieren. Suhrkamp, Frankfurt am Main.
8 Child, Möllering (2003): Contextual Confidence and Active Trust Development in the Chinese Business Environment – Organizational Science: INFORMS, 2003. – 1: Vol. 14. – pp. 69-80.
9 Diekmann (2007): Empirische Sozialforschung: Grundlagen, Methoden, Anwendungen, Reinbek, Rowohlt
10 See Schumacher, Hofmann (2016): Case-based Evidence – Grundlagen und Anwendung, Prognose und Verbesserung der Akzeptanz von Produkten und Projekten, Springer
11 http://www.eurocloud.de/wp-content/blogs.dir/5/files/eurocloudstudy-cloudacceptance2014.pdf



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