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Electronic invoicing experience and good practices for small and medium enterprises

Activity 2
SME Adoption

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Executive Summary

The European Commission Multi-stakeholder Forum on e-Invoicing (EMSF) brings together representatives of E-invoicing National Fora as well as European organisations and associations. It provides a unique platform to exchange experiences and best practices which can pave the way to the broad-scale adoption of e-invoicing at both national and EU level. The Forum is designed to monitor the uptake of e-invoicing in all Member States¹. It also aims to help the Commission in identifying further measures to facilitate the mass adoption of e-invoicing across borders.

The European Commission defines electronic invoicing (e-invoicing) as the “electronic transfer of invoicing information (billing and payment)² between business partners (supplier and buyer). It is an essential part of an efficient financial supply chain and it links the internal processes of enterprises to the payment systems” (European Commission, 2013). Within the e-invoicing industry, service providers define these machine-to-machine connections as ‘integration’ and it is only when there are no manual interventions in the transfer of electronic data that integrated e-invoicing is achieved.

The intention is for the Activity 2 group to investigate experience and good practice relating to European market adoption models that are or could be successful in driving e-invoicing adoption³. Sub-groups were created and each sub-group assigned an area of focus, with sub-group 2 assigned to make proposals for the inclusion of European Small and Medium Enterprises (SMEs) in e-invoicing adoption.

This document outlines the findings of the sub-group investigating small and medium enterprise (SME) adoption of electronic invoicing. In particular it focuses on how service providers, cloud-based IT solutions, the accountancy profession, industry associations, government and banks can support the development of good practices and adoption by SMEs. It also examines the current good practise that promotes the use of e-Invoicing by SMEs today. The objectives of the sub-group were to:

- Acquire detail on specific e-invoicing experience and good practice
- Solicit opinions from experts
- Identify scope for further improvements in current practices

The emphasis was placed on the use of existing and forthcoming survey results, published research outputs, and conference materials⁴. Activity 2 Members agreed to examine existing good practices with a solution and industry neutrality.

For clarity this document primarily discusses the large ‘buyer driven’ scenario where suppliers issue invoices to their larger customers. The scenarios where buyer SMEs receive invoices from large suppliers and where SMEs issue/receive invoices from other SMEs are discussed but not at length. This is based on the primary e-invoicing market being focused on the larger buyer scenario and

¹ Commission Communication on "Reaping the Benefits of E-invoicing for Europe" <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52010DC0712:EN:NOT>

² In the context of this document invoice information is constrained to invoices and supporting supply chain finance information, up to the point of payment. Ancillary data such as associated purchase orders, advanced shipping notices and remittance advice are potentially part of the process, but not germane to e-invoicing per se. Electronic payment is considered a separate area entirely.

³ Not in focus are practices for VAT or legal compliance or practices pertaining to internal project management for e-invoicing implementation within enterprises.

⁴ The majority of materials available were from French & UK sources influencing the best practises cited in this report.

because the public sector can only be construed as such. However as the argument progresses, the document explores how by solving the first problem the second two can also be resolved.

The term 'e-business' is used frequently, this term can also be interpreted as 'e-commerce' by some parties so in the context of this document both terms describe "electronic transactions for the sale or purchase of goods or services, conducted over computer networks by methods specifically designed for the purpose of receiving or placing of orders."

This document outlines the roles of service providers, banks, government and SME influencers take in this market and offers suggestions on how SMEs can overcome these obstacles. It also examines what options are available to ensure e-invoicing reaches its 'tipping point' (Gladwell, 2000) and propel critical mass by becoming a viable and cost-effective option for companies of all sizes.

High Level Findings

SMEs play a key role in the European economy but are often challenged when compared to their larger customers and suppliers, they lack access to capital or credit and have restricted time and financial resources when addressing new technologies and innovation. This disadvantaged ecosystem has manifested itself in electronic invoicing where, even with many economic drivers to do so and based on the Eurostat and national statistics⁵, the adoption of e-invoicing among European SMEs is classified as 'early majority' (Moore, 1991) and not yet mass market.

It is apparent that the heterogeneous groups of SMEs define electronic invoicing differently and the majority who engage in e-invoicing have done so by emailing a PDF invoice to their customers. The optimal scenario is that SMEs engage in integrated e-invoicing where data⁶ is exchanged between the SME and their customers and consequently there are no manual touch points. SMEs are faced with a diverse landscape when wishing to engage in e-invoicing, they must actively seek out information or solution providers. The optimal scenario for mass-market adoption must be that e-invoicing should be part of an SME's normal day-to-day financial processes and inclusive of other messages across the order-to-cash process. As an example of this, e-invoicing embedded into a customer relationship management or accounting solution, where sales orders can be received, processed and electronic invoices can be issued to any buyer across a European interoperable network.

Education is described as an issue, both at academic and industry level. There is a need to ensure young entrepreneurs graduating through the academic system enter the market fully equipped for e-business so that the next generation considers the automation of their businesses physical and financial processes 'the norm'. Existing SMEs also lack education and are only just being made aware of e-invoicing at national and international level.

There are still many challenges around standards, connectivity, tax compliance, data protection, cultural and language issues both at domestic and European level. This has been a perpetual problem and while there are national and EU level initiatives⁷ designed to address this, there is a need to 'embrace the complexity' in the short term, and to align different national and EU initiatives to halt the 'proliferation of complexity' in the long term.

⁵ See section 1, SME Market Challenges

⁶ And a human-readable representation of the invoice, usually PDF.

⁷ Commission Communication on "Reaping the Benefits of E-invoicing for Europe" <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52010DC0712:EN:NOT>

With many SMEs issuing e-invoices as PDFs there is a clear need to address this specific model within the new tax rules⁸. It appears that SMEs have no real awareness of tax compliance rules and they remain the concern of large enterprises with teams of auditors to address the challenge. There is a need to ensure SMEs are compliant, whether they know it or not.

With all this complexity, and no short-term indicators that it will go away soon, there is a need for varied services and solutions to remove the complexity from SMEs with an understanding that no one solution meets the needs of different sized companies across varied industry sectors. The adoption of PDF e-invoicing within the European SME community is a clear indicator that if e-invoicing is a simple business practise and cost effective, it will be adopted by SMEs and become de-facto.

High Level Recommendations

Publicly available statistics suggest that adoption of both non-structured (PDF) and structured (integrated) e-invoicing⁹ is clearly higher in those countries that have issued public sector legislation (e-invoicing mandate). In this scenario any company doing business with national government administrations has to issue invoices electronically. With at least 10% of market invoice volume and 45-65% of national businesses as suppliers, the public sector has an obvious and vital role in adoption. **It is recommended that the European Commission mandate e-invoicing across the whole public sector**, setting a clear definition of what e-invoicing is, and defining deadlines for adoption.

At the time of publishing this document, the European Commission has now adopted a proposal (European Commission, 2013) which aims to digitalise another phase of the procurement process: invoicing. This proposal aims to achieve a transition towards mandatory acceptance of e-invoices by all public buyers within a deadline linked closely to mandatory e-procurement.

A suggestion would be that the national forums set up by for the European Commission Multi-stakeholder forum extend their remit. The forums should engage with SME stakeholders and industry associations working to promote e-invoicing. Where there is a mix of government, private sector, public sector, banking and interest groups, there appears to be an effective collaboration for educating and influencing central and local government departments, and the SMEs who supply them.

In terms of education the **forums should work with their government sponsors** and promote the need for e-business within national curriculums. The mechanics and benefits of e-invoicing should be included in academic, business and accounting courses. Accountancy professional bodies also need to help educate and promote e-invoicing to their SME members, particularly those Accountants who are practicing in Small and Medium Size Practices (SMPs).

Accounting software providers provide solutions mainly aimed at SMEs. The provision of e-invoicing within these solutions as a standard offering will be key to driving adoption of e-invoicing as it then becomes 'a simple business practise'. National forums should actively seek out these companies as members to engage in the discussion.

National, sectorial and EU initiatives aimed at addressing e-invoicing complexity in the long-term should first review existing work on semantic standards. A global standard for invoicing including a

⁸ 2010/45/EU

⁹ Pages 8/9 of this document show adoption statistics

semantic data model has been created by UN/CEFACT and this standard already incorporates the needs of many industries and government. There is also the development of a guide for a European core invoice data model with UN/CEFACT CII implementation guidelines financed by the European Commission and the group recommends that any new initiative under the proposed directive (European Commission, 2013) should take this existing work into account before embarking on a new initiative¹⁰.

To address the short-term complexity there is a need to remove it from the equation. This can only be achieved by hiding the complexity from the SME so that if they use an 'off the shelf' solution they can be assured that it is simple to use and tax compliant both domestically and internationally. The creation of simple solutions for SMEs is already occurring and can be construed as the market meeting demand, however there is a need for a 'quality mark' that will enhance the reputation of e-invoicing software and give certainty in tax matters to SMEs. The creation of a quality mark scheme can be instigated by the private sector, national government or the EU.

With the majority of SMEs issuing PDF invoices attached to emails there is a pressing need for member state tax authorities to confirm if, and exactly how this method is tax compliant. While this may not be relevant to the SME issuer as they have little knowledge in this area, it is certainly relevant to the receiver who may be audited by the tax authorities. The legality of this method needs to be confirmed at a national level so that SMEs are 'compliant by default'.

¹⁰ Activity group 4 of the European Commission Multi-stakeholder Forum on e-Invoicing is focused on standards

Introduction: SME Market Challenges

Support for SMEs is one of the European Commission's priorities for economic growth, job creation and economic and social cohesion. SMEs are a major source of entrepreneurial skills, innovation and employment. Within the European Union some 23 million SMEs provide around 75 million jobs and represent 99% of all enterprises. However, they are often confronted with market imperfections. SMEs frequently have difficulties in obtaining capital or credit, particularly in the early start-up phase. Their restricted resources may also reduce access to new technologies or innovation.

According to the Commission¹¹, the definition of micro, small and medium-sized enterprises is as follows:

Category	Employees	Turnover	(or) Balance Sheet
Medium	< 250	≤ € 50 m	≤ € 43 m
Small	< 50	≤ € 10 m	≤ € 10 m
Micro	< 10	≤ € 2 m	≤ € 2 m

Adoption of e-Invoicing Among SMEs: The European Situation

Electronic invoicing (e-invoicing) offers many benefits to SMEs from reduced printing and postage costs, improved customer relations and increased visibility on payment dates, to earlier payment through supply chain finance¹² or dynamic discounting options. However any SME wanting to initiate electronic invoicing (e-invoicing) in Europe is faced with challenges.

The research firm Billentis (Billentis, 2013) suggests "the vast majority of suppliers and customers are SMEs with a highly fragmented IT landscape and limited capability for import/export of structured invoice content and electronic archiving. In addition, these counterparties can be located in various countries with different legal constraints regarding tax compliant invoices, archiving, language and cultural behaviour."

This results in lower adoption rates for SMEs in comparison with large enterprises across the EU 27 Member States as shown in the table¹³ below:

	% of enterprises receiving e-invoices in a standard structure suitable for automatic processing ¹⁴	% of enterprises sending e-invoices in a standard structure suitable for automatic processing ¹⁵

¹¹ Commission Recommendation of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:124:0036:0041:EN:PDF>)

¹² This also benefits large buyers/suppliers as the discount gained outweighs the net benefit of increased days payable, and should be achievable without affecting the larger company's weighted average cost of capital.

¹³ According to the EUROSTAT survey on "ICT usage in enterprises", there are invoices in paper form and electronic form. Invoices in electronic form are of two types: 1) e-Invoices in a standard structure suitable for automated processing.(E.g. EDI, UBL, XML). They are exchanged either directly or via service operators or via an electronic banking system. 2) Invoices in electronic form not suitable for automated processing.(e.g. e-mails, e-mail attachment as pdf, images in TIF, JPEG or other format).

¹⁴ Respondents were asked: "In January 2011, did your enterprise receive e-invoices in a standard structure suitable for automatic processing? (e.g. EDI, UBL, XML, and national examples)?"

¹⁵ Integrated e-invoicing

Large enterprises (250 persons employed or more)	31,46%	29,97%
Medium enterprises (50-249 persons employed)	20,13%	13,94%
SMEs (10-249 persons employed)	16,95%	7,34%

EUROSTAT (survey year: 2011)¹⁶ Adoption of E-invoicing among SMEs: Country-specific situation:

	% of SMES receiving e-invoices in a standard structure suitable for automatic processing ¹⁷	% of SMES sending e-invoices not suitable for automatic processing ¹⁸	% of SMES sending e-invoices in a standard structure suitable for automatic processing ¹⁹
Belgium	38,35%	32,03%	9,17%
Bulgaria	27,02%	21,56%	6,07%
Czech Republic	17,99%	44,99%	7,71%
Denmark	22,81%	52,24%	44,63%
Germany	14,81%	22,94%	5,97%
Estonia	22,98%	74,56%	22,53%
Ireland	13,29%	19,55%	7,32%
Greece	24,17%	14,39%	4,66%
Spain	19,80%	38,94%	6,00%
France	19,66%	33,68%	8,69%
Croatia	21,32%	46,68%	10,90%
Italy	12,41%	60,14%	4,65%
Cyprus	7,74%	35,52%	4,56%
Latvia	34,36%	56,84%	16,83%
Lithuania	44,52%	48,74%	15,53%
Luxembourg	20,67%	35,98%	5,57%
Hungary	1,24%	1,24%	1,24%
Malta	17,23%	54,84%	11,47%
Netherlands	21,58%	27,95%	9,88%
Austria	19,21%	30,72%	6,82%
Poland	15,59%	18,42%	3,46%
Portugal	23,20%	26,46%	6,67%
Romania	10,75%	22,95%	5,38%
Slovenia	9,92%	29,20%	5,10%
Slovakia	30,26%	35,67%	10,92%
Finland	46,07%	37,90%	47,79%

¹⁶ <http://epp.eurostat.ec.europa.eu/tgm/refreshTableAction.do?tab=table&pcode=tin00114&language=en>

¹⁷ SMEs (10-249 persons employed), without financial sector

¹⁸ Respondents were asked "In January 2011, did your enterprise send electronic invoices? a) e-invoices in a standard structure suitable for automatic processing? (e.g. EDI, UBL, XML, and national examples) b) Electronic invoices not suitable for automatic processing e.g. emails, email attachment in PDF format

¹⁹ Integrated e-invoicing

Sweden	16,02%	31,63%	17,44%
United Kingdom	9,32%	49,64%	5,29%

EUROSTAT (survey year: 2011²⁰)

The annual Sage France survey ‘SMEs and e-invoicing’ (Sage France, 2013) revealed that 28% of SME respondents operating within the French B2B (business-to business) sector are currently issuing e-Invoices, but 83% of these are doing so by using a simple PDF document sent by e-mail and only 5% are using some form of ‘electronic data interchange’. In Italy the ‘Use of e-invoicing between Italian SMEs’ report (Politecnico Milano, 2013) states that while 56% of SME companies engage in e-invoicing only 3% exchange documents across the order-to-pay cycle using EDI (a standard structure suitable for automatic processing). In Spain the annual ‘ICT usage and electronic commerce’ survey (Instituto Nacional de Estadística, 2013)²¹ shows that for e-invoices in a non-structured format micro enterprises send 28.2%, small enterprises send 54.9% and medium enterprises send 63.5%. While for e-invoices in a structured format micro enterprises send 0.7%, small enterprises send 5.2% and medium enterprises send 18.1%.

The UK SME Finance Monitor report (BDRC, 2012) is based on a slightly different demographic (than Eurostat) and is inclusive of SMEs with less than 10 employees and sole traders. This survey revealed that when asked if their (UK) company was submitting “invoices to customers electronically over the internet in a format that can be processed electronically... XML, EDI, PDF or other similar formats” 29% of respondents replied they were (this would be approximately 37% using the Eurostat methodology).

Inductive analysis²² of the SME Finance Monitor findings revealed that the businesses most likely to use e-invoicing were those most used to sharing significant information with their customers, best at drawing up and following internal policies and most experienced in trading across international supply chains. By predicting the likelihood that individual enterprises would use e-invoicing, and exploiting a natural break in its distribution, this analysis was able to classify approximately 2.8% of all UK SMEs as likely users of integrated e-invoicing. The total volume of their invoices (electronic and otherwise) represented approximately 8.1% of UK SME turnover (£124bn).

These statistics suggests that a good number of SMEs across Europe recognise the benefits to their business and are engaging in electronic invoicing. Indeed the ‘SME and e-invoicing’ (Sage France, 2013) survey showed that nearly half the respondents cited the principal benefits of e-invoicing as simplicity, traceability and productivity. However, it appears that the majority of SMEs surveyed are e-invoicing using simple PDFs sent by e-mail and their perception on the definition of e-invoicing varies.

The other reports cited here indicate that why the SME adoption for fully integrated e-invoicing is very low, a greater percentage of SMEs have engaged in e-invoicing of some kind. These reports originate from reputable sources but are measured using different methodologies and therefore cannot be compared to the Eurostat tables. However, they do provide an alternative perspective on SME adoption across EU countries and a wider population of national statistics is required.

²⁰ <http://epp.eurostat.ec.europa.eu/tgm/refreshTableAction.do?tab=table&pcode=tin00114&language=en>

²¹ Micro enterprises of less than 10 employees, Small enterprises (from 10 to 49 employees), Medium enterprises (from 50 to 249 employees).

²² Chi-Squared Automatic Interaction Detection analysis is a method of exploring the interactions between variables.

Country	SMEs e-Invoicing ²³	Fully Integrated ²⁴
Finland (Finanssialan Keskusliitto, 2012)	67.2%	N/A
France (Sage France, 2013)	28%	4.76%
Denmark (Danmarks Statistik, 2012)	60%	27%
Italy (Politecnico Milano, 2013)	56%	3%
United Kingdom (BDRC, 2012)	37%	2.8%
<i>(Average across national reports cited)</i>	<i>(47.05%)</i>	<i>(3.52%)</i>
<i>EU Average (27) Countries (Eurostat, 2010)²⁵</i>	<i>31%</i>	<i>21%</i>

Compilation of available national statistics on e-Invoicing adoption²⁶

Further statistical analysis shows 'steady growth' in electronic invoicing adoption. In their annual report²⁷ (Billentis, 2013) estimates that only 13% of Europe's estimated 16bn invoices were electronic, up from 12% in 2012, while the Celent report 'Top Trends in Corporate Banking' (Celent, 2013) estimates only 8.3% penetration for 2013. These adoption figures suggest that while e-invoicing is becoming a mainstream practise for some, there is still further to go for mass adoption within the SME community.

Economic Conditions

The Eurostat statistical data showing SME e-invoicing adoption as low is surprising considering the current economic conditions and pressures European small and medium businesses are under. The research report on Payment Culture (Forum of Private Business, 2012) found that close to 266,000 SME businesses in the United Kingdom (23% of respondents) claimed late payment to be a major problem. The same report highlighted that 16% of respondents also claimed their company was almost put out of business and 41% were forced to pay their own suppliers late due to their customers paying late. A similar report on late payment (Federation of Small Businesses, 2011) revealed that 73% of small (micro) businesses claimed they had been paid late and 43% had written off invoices as bad debt due to non-payment.²⁸ This is ironic as late payment practises have a negative effect for the payers' Accounts Payable departments as the majority of SME respondents (29%) cited 'regular/continuous calling' as the most effective method to minimise late payment (Forum of Private Business, 2012). The annual European Payment Index survey (Intrum Justitia, 2013) showed that bad debt losses incurred by European companies reached an unprecedented high of €350bn due directly to late and non-payment behaviour, a year-on-year increase of 7%.

Lack of access to credit and cash flow continues to challenge SMEs. The Forum of Private Business report (Forum of Private Business, 2012) also revealed that 40% of businesses with late payment issues claimed a lack of access to affordable finance and 22% had been refused additional finance (compared to 7% without late payment issues). The 'Boosting Finance Options for Business' report (Department of Business, Innovation & Skills, 2012) revealed that 33% of UK SMEs applying for loans

²³ Sending e-invoices in an unstructured format (e.g. PDF)

²⁴ Sending e-invoices in a standard structure suitable for automatic processing (e.g. EDI, UBL or XML)

²⁵ Statistics on enterprises sending/receiving e-invoices in a structured format were measured from 2011 only

²⁶ Each survey was conducted under different criteria and therefore the average can only be seen as an indicator

²⁷ This report classifies e-invoicing as without manual intervention or the creation of paper at any stage in the process.

²⁸ Incidentally the public sector fares better, the 'English Authority Benchmarking' report (Forum of Private Business, 2012) revealed that 93% of English public sector authorities paid within 30 days and 51% paid in 10 days or less. However, this is contrasted by the 'Late Payment' report (Federation of Small Businesses, 2011) that revealed 18% of respondents had been paid late by the UK public sector.

had been rejected and this is supported by the SME Finance Monitor (BDRC, 2012) which stated that loan rejection rates were higher than historical norms.

The last 'Access to Finance for SMEs' report (European Central Bank, 2013) between October 2012 and March 2013 revealed that while Euro area SMEs reported an increased need for external financing there is also reported deterioration in the availability of bank loans²⁹. A small percentage (16%) of SMEs also reported access to finance as their main business challenge. Overall the survey results suggest that financing conditions for SMEs continue to differ significantly across euro area countries and are in general more difficult than those of larger companies.

These SME issues are compounded by the rise in the number of their customers extending their payment terms. By far the majority, 65% of respondents (Forum of Private Business, 2012) saw their customers extend payment terms without notice or consultation, while 27% saw unilateral changes to payment terms and 12% experienced a withdrawal of credit by their (larger) suppliers.

Tax Compliance

The European VAT legislation³⁰ regarding electronic invoicing rules has provided a level of clarity for fully electronic tax compliant invoice transactions. As an example, companies using EDI in the past would also store paper copies of invoices for tax audits. The EC VAT legislation clarified this situation so that companies sending/receiving invoices over an EDI network no longer needed to archive paper and adopt a fully electronic process.

The original VAT e-invoicing rules established provisions for legal certainty across the EU for all businesses. However the number of options within the directive granted to Member States led to a non-uniform application of the regulations. Some member states executed the strictest options while others treated e-invoicing liberally by giving it the same equality as paper.

The new Invoicing Directive adopted by the EU Council in 2010 and implemented by Member States from 2013 aims to ensure a level playing field across the EU by treating e-invoicing equally with paper invoices and ensuring a uniform application of the e-invoicing rules. As the new rules are only in place since 2013 there is only limited information at hand of the practical experience of SMEs implementing the new regulations.

Data	Minimum data required for an invoice including mandatory country-specific fields
Authenticity & Integrity	Guarantees the identity of the sender and the integrity of the invoice data
Archiving & Audit	Invoices are archived for an appropriate period according to country-specific tax authority rules and must allow access for tax authorities

Key elements of European e-invoicing tax compliance

A report compiling expert opinions (French National e-Invoicing Forum, 2013) on the French e-invoicing market suggests that tax compliance rules on digital certificates are too complex for SMEs

²⁹ However, the survey results also point to lower rejection rates for euro area SMEs when applying for a loan (11%, down from 15%).

³⁰ COUNCIL DIRECTIVE 2010/45/EU of 13 July 2010 amending Directive 2006/112/EC on the common system of value added tax as regards the rules on invoicing
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:2006L0112:20110101:EN:PDF>

to interpret and that archiving invoices electronically for some customers, and paper for others proves difficult. The new 2010 e-invoicing rules are expected to provide legal certainty and create a more e-invoicing friendly environment across the EU. Key to the further adoption of e-invoicing is Member States ensuring uniform application of the new e-invoicing rules to provide full legal certainty across the EU for large, small and medium businesses alike.

Standards

A common question asked across e-business and the electronic invoicing market is whether the adoption of a single standard will increase adoption. This is difficult to quantify in terms of achieving SME mass adoption as these companies have little experience of the technical nature of integrating electronically with their customers and suppliers (unless involved in an EDI supply chain). In reality it is far easier for small and micro SMEs to create PDF documents and email so it is likely that these SMEs do this ignorant of the integration issues they cause their customers.

This is in some way confirmed by the French expert report (French National e-Invoicing Forum, 2013) which indicates that SMEs in France create PDFs because it is easier than creating many EDI formats for each large customer, a problem compounded by these customers having different e-Invoicing service providers implying the SME need connect to many portals and therefore making e-Invoicing too expensive to deploy.

The process of e-business for supply chains remains complex. The integration of business applications for e-invoicing combines multiple systems, standards, networks and tax compliance legislation across many industry different specific processes. With few SMEs understanding the technical nature of standards and perhaps not even caring, there is a requirement for this complexity to be removed or hidden from the equation.

Education

The European e-invoicing adoption statistics implies that there is a lack of awareness amongst SMEs of the benefits of e-invoicing and financial process automation generally. By not adopting modern electronic business practises across procurement and finance, SMEs continue the traditional model of increasing administrative staff and complex manual control processes in line with growth in their business activity. Making changes to staffing arrangements, established processes and systems can be much more difficult, if only done when the business has reached significant volumes.

It is not clear if the new generation of (SME) entrepreneurs today understand the benefits of business-to-business³¹ e-business at the start of opening a business. Existing SMEs have little in the way of education outside of service provider marketing, information provided by interest groups and government information material. Adopting electronic business-to-business solutions can have a significant impact on how a small business grows and optimises the ability to keep the operation lean by minimising cost and complexity.

If the benefits of financial process automation were clearly understood we will theoretically see more start-up and existing SMEs adopting e-business capable financial solutions.

Current State

³¹ In contrast to consumer e-commerce

There are some indicators that contradict the 'steady growth' outlook, the recent 'Global E-invoicing Market 2012-2016' report (Research and Markets, 2013) estimates the global e-invoicing market will grow at a CAGR³² of 24.2% from 2012 to 2016. This report cites that the e-invoicing market has been witnessing the increasing adoption of e-invoicing by SMEs.

The French expert report (French National e-Invoicing Forum, 2013) suggested that there is currently no sense of urgency for e-invoicing amongst SMEs asking "why integrate when the company has other business challenges/priorities and cost savings can be made elsewhere?" This report also asked whether companies that had invested in an ERP/Accounting solution would question why they should pay more for e-invoicing, and that the market was still in an 'early adopter' (Moore, 1991) stage suggesting a lack of role models adopting across government and industry to propel adoption.

"In terms of volume (both electronic or paper), 35% of SMEs send between 1-5,000 invoices annually and 30% send between 100 and 1,000. The volume of invoices received is slightly higher: 41% of SMEs reported receiving 100 to 1,000 annually and 37% reported between 1-5,000 received."

Typical invoice volumes processed: SMEs and e-invoicing (Sage France, 2013).

While it is apparent there are still a number of 'barriers' that are stalling mass adoption, there are a number of private and public sector initiatives underway that aim address these challenges.

- SMEs adoption of e-invoicing is reasonable but has not penetrated the mass-market while there are many business reasons and economic drivers to do so.
- Some SMEs may have business reasons not to invoice electronically.
- SMEs face a fragmented landscape when considering integrated e-invoicing leading to limited adoption of import/export of structured invoice data.
- Most electronic invoices are simple PDFs sent by e-mail due to simple and immediate cost savings being obvious to SMEs – the challenge is that integrated e-invoicing must also be this simple and cost effective.
- Counterparties located in various Member States have different legal constraints regarding tax compliance, archiving, language and cultural behaviour. Tax compliance on the common PDF attached to e-mail method is also unclear across Member States.
- The process of B2B e-business supply chains remains complex. Most SMEs don't need or presumably want to understand the technical nature of standards or tax compliance – therefore complexity needs to be removed from the equation (either completely or by an intermediate).
- E-Invoicing information resources are limited – resources are required so that e-invoicing/e-business is part of the academic agenda and influencers can educate existing SMEs.

³² Compound Annual Growth Rate (CAGR).

Existing SME Solutions

SME companies require a solution that meets their particular requirements. Medium size supply chain companies can justify investment into fully integrated EDI solutions and typically do so if there is customer demand. Medium size companies that have lower volumes of invoices (services based companies or in-direct materials) and smaller mid-sized companies require a quasi-integrated system that either works within their accounting software or provides a seamless transmission of e-invoices as part of a current process (printing for example). Small and micro companies can submit e-Invoices adequately through web-forms and often benefit from the extra functionality provided. This solution landscape is consistent with a recent survey (Sage France, 2013) that highlights the penetration of accounting systems by company size;

	[0-1[[1-10[[10-20[[20-100[[100-500[[500-2000[Total
Volume of companies	1 621 212	906 203	101 305	76 863	14 313	2 784	2 722 680
	60%	33%	3,7%	2,8%	0,5%	0,01%	
Equipped with an accounting solution	322 621	316 265	66 557	63 105	13 325	2 639	784 513
	20%	35%	66%	82%	93%	95%	29%
Equipped with a billing solution	189 682	210 239	45 689	47 963	10 491	2 010	506 073
	12%	23%	45%	62%	73%	72%	19%

Source : barometer LH2 – Sage France

Yet for all the different options available the available statistics suggest that e-invoicing has not achieved mass penetration within the SME market in Europe. If it is accepted that no-one wants to pay for software, especially upfront then SMEs are likely to be reluctant and more objectively constrained. A consistent question has been whether SMEs have enough choices for electronic invoicing.

SME Choices: Past to Present

To understand the choices an SME has today when considering e-invoicing we need to examine a short history of B2B electronic business. In the late 1980's and early 90's, if a company wanted to send/receive an electronic business document with trading partners, electronic data interchange (EDI) within a value-added network (VAN) was the only option.

This method of e-business was spurred by different factors; first, new telecommunications technologies became available that made EDI affordable to certain companies and second, new enterprise resource planning (ERP) solutions enabled multi-national companies to co-ordinate their

business processes efficiently and third, globalisation³³ saw large multi-nationals divest their direct-material³⁴ supply chains to their trading partners (suppliers) increasingly in low-cost countries.

Corporates required more efficient ways to manage their direct-material order-to-cash processes globally and EDI networks grew with customer demand to co-ordinate across multiple tiers of trading partners and increasingly complex supply chains. At this time however, the technology was still expensive and beyond the means of smaller suppliers and therefore the domain of larger trading partners³⁵. Consequently smaller companies were not considered strategic enough to justify investment in an EDI connection, but later the flexibility of internet based technologies would offer cost-effective options.

The advent of the internet provided a single global network for companies to connect. This revolution was driven by the theory of the 'information economy' where all companies will trade electronically over internet-enabled technologies such as point-to-point³⁶ communications and marketplace 'web' portals for electronic procurement (e-procurement) and e-invoicing. Due to the communication medium already being in place (the internet) the theory was that these technologies would make B2B and business-to-government (B2G) e-Commerce affordable and easy. This led to many analysts in the early 2000's claiming "EDI is dead".

The growth of e-procurement and e-invoicing portals (e-Marketplaces), along with the commoditisation of EDI (which did not 'die' and continues to process vast volumes) has had the biggest impact on the number of SMEs adopting electronic business practises. e-Marketplaces became successful by concentrating on areas where EDI was not prevalent, specifically indirect-material spend³⁷ and low-volume SMEs. Reacting to the market demand, EDI companies also developed cost-effective SME connectivity options.

However, far from creating the impetus for mass adoption both EDI and e-Marketplace solutions remain buyer-centric. This method has propelled e-invoicing adoption so far, but for e-Invoicing to be truly able to 'cross the chasm' (Moore, 1991) a greater focus on the needs of SMEs is required. The last 2-3 years has seen new solution providers enter the market with such a focus, offering simple integrated solutions, capturing data directly from (modern) PDFs or providing wider business value within 'socially connected' communities.

1) Web Solutions

If the SME is a micro with significantly low volumes then a web form solution is perfectly adequate, and sometime beneficial. The supplier is provided with an account from a service provider and simply logs in and enters each invoice's detail for each customer, or in another scenario a purchase order is

³³ Platform companies are those that involve not only one company's technology or service but also an ecosystem of complements to it that are usually produced by a variety of businesses. As a result, becoming a platform leader requires different business and technology strategies than those needed to launch a successful stand-alone product.

³⁴ Direct materials are the goods required to manufacture a company's products that they ultimately sell to their customers.

³⁵ EDI became very successful in supply chain industries such as manufacturing, retail, consumer packaged goods (CPG), automotive, pharmaceutical and financial services.

³⁶ Point-to-point communications are perhaps misleading within the context of this document, as their purpose was to replace EDI over VANs (lead by Walmart in the United States), and the burden of complexity was placed on suppliers. This did not lead to an increase in SME adoption as it simply replaced one technology with another within an existing demographic.

³⁷ Indirect materials are the goods and services required to ensure the day-to-day running of a business, such as desks, computers, phones and utilities.

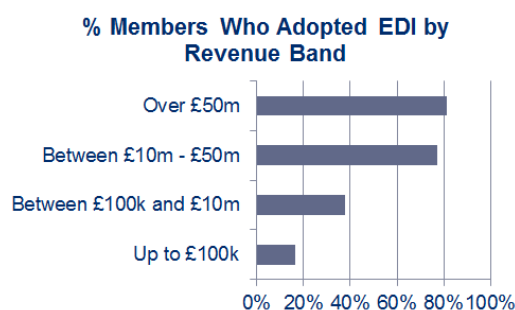
presented to the SME supplier (through the solution) who then ‘flips’ the order into an invoice at the press of a button. This may seem repetitive, but the supplier is also able to download the invoice in a data format (typically XML or CSV, with a PDF copy) which they can import into their accounting software/spread-sheet.

Again these solutions have been typically buyer driven in the past but there has been an emergence of ‘social network’ focused solutions aimed at the SME market. The general intention³⁸ of this type of solution is to build a large community of suppliers and provide a range of SME solutions (inclusive of web forms and quasi-integrated applications) to receive and send B2B documents. Once critical mass in terms of SME adoption is achieved within the network there is an opportunity to provide wider business value to the community³⁹. While there is market momentum for this model it should be noted that (large) buyer involvement is usually required⁴⁰.

2) Integrated Solutions

Why is it that SMEs have not been more pro-active in adopting integrated methods? One thought is that SMEs lack the in-house IT capability to build interfaces for processing invoices. Mid-size companies (larger SMEs) are actively engaged in EDI, the annual ‘UK EDI Adoption Survey’ (GS1 UK, 2012) determines that the greatest adopters (just over 80%) are companies just above the EC definition of SME, however this is very closely followed (just under 80%) by mid-sized companies with revenues between GBP 10-50m.

EDI Adoption by Revenue



GS1 UK 2012 Annual Edi Adoption Survey

Typically these companies have the budget, but not the dedicated resource to meet the demands of integration and will turn to service providers to help implement an appropriate solution. How these integrated solutions work varies by service provider, but what is consistent is price: at low-end anything between GBP 100-3,000 and up to GBP 50,000 at high-end.

The price range will vary dependant on the complexity of the EDI process that must be integrated, however the choice for the SME will always be based on a return on investment and therefore the service providers must show value to be selected.

³⁸ This is a simplified explanation. Refer to the ‘Role of Service Providers’ section.

³⁹ This model is often cited as ‘Facebook for businesses’.

⁴⁰ Either selecting the solution provider or through network interoperation with buyer-driven service provider networks.

Typically the larger trading partner⁴¹ is not primarily driven by the business efficiencies that integrated solutions provide, particularly across supply chains. Recent research (Stanford Global Supply Chain Management Forum, 2013) revealed the primary and secondary drivers of EDI as “the desire to improve customer experience⁴² and improve business process efficiency” respectively⁴³.

The ‘UK EDI Adoption Survey’ (GS1 UK, 2012) shows that integrated solution adoption begins to tail off below revenues of GBP 10m. It is not clear as to why but an assumption is that an integrated EDI option does not provide a return on investment (ROI) for the SME. This has led to a gap in the market where the SME who appears to have little appetite for the technical vagaries of standards and connectivity requires a ‘simple integrated solution’ with a clear ROI. In this scenario the SME has less invoice volume than justifies integrated EDI, but still too much to use web forms effectively (which increases the SMEs accounts receivables process).

3) Quasi-Integrated Solutions

There has been a rise in the number of service provider ‘quasi-integrated’ solutions designed to address this ‘mass-middle’ market. Technologies described as ‘print driver utilities’ are easily installed and allow the SME to issue e-Invoices directly from its (usual) print run. What does this mean? Instead of printing to paper, the SME prints to PDF – which is then transported either over the internet (web services) or via email to a service provider, who is then tasked with extracting the data from the PDF document (modern PDFs have an underlying semi-structured XML schema). In a similar vein, an SME can issue a scanned image of an invoice, which is then scanned and data captured from the image by the service provider using Optical Character Recognition (OCR). However, with data capture rates below 100%, OCR does require some kind of manual intervention (data completion) and some print driver technologies send structured data instead.

SME accounting solution providers have also recognised this gap in the market and are beginning to offer embedded options. These engrained e-invoicing solutions are attractive as they do not affect a company’s receivables process compared to using external web portals for example, which can repeat the invoicing process. Embedded solutions in fact are complementary to the process and offer a cheaper alternative to paper invoices via (manual) mail.

4) SME In-House Solutions

SMEs do build their own e-invoicing solutions. Those that have the technical competence do build integrated solutions around EDI or the internet, and manage their own complexity, those that do not have the technical resource engage in perhaps the most simple form of e-invoicing – issuing a PDF attached to an email.

The ‘SMEs and e-invoicing’ (Sage France, 2013) and (UK) SME Finance Monitor (BDRC, 2012) reports and the Eurostat survey results strongly suggest that PDF is the common SME method for e-invoicing in Europe. However a PDF attached to an email has challenges in terms of lack of clarity on tax compliance and for the receiver, if they lack the ability to capture data from a PDF⁴⁴. If it is

⁴¹ It is thought that typically integrated e-invoicing solutions such as EDI are buyer driven programs imposed upon suppliers. However, it should be noted that in certain industries this situation is reversed, such as retail for example where the larger supplier is able to dictate (amongst smaller customers) trading terms and processes.

⁴² Both large, medium and small companies constantly work to improve their customer experience across the supply chain.

⁴³ Another high-scoring driver for EDI was cited as “supporting global expansion into new (international) markets”.

⁴⁴ In this scenario the receiver is typically quoted as printing the PDF to paper.

established that this is the primary method of e-invoicing for SMEs then it is logical that there is a market demand for service providers to resolve these issues.

While it may be optimal for the SME to issue simple PDF documents via email their customers must then process the data and this can be in large volumes. OCR systems can be used in this instance, but the limitations⁴⁵ of these systems apply and the investment must be made by the receiver. There are also emerging quasi-integrated technologies that process 'semi-structured PDF' documents where there is an underlying semi-structured XML data structure, but these systems are relatively new and again, require investment by the receiver.

The issue of tax compliance also challenges this method. At this time there is no consistent guidance from EU tax authorities as to whether simple PDFs sent by e-mail guarantee 'authenticity and integrity' under the business controls and clear audit trail method. SMEs typically have little awareness or visibility into the tax rules for e-invoicing in their country and are perhaps unaware of the problems they cause their customers, who are typically burdened with proving this method if audited.

Under the explanation of the current rules (across most European member states), the clearest explanation of tax compliance for the PDF method is to have a digital signature applied, and until there is further clarification on 2010/45/EU this will remain the case. SMEs that want to build their own solutions require guidance and case studies on the most appropriate tax compliant methods.

5) Publicly Supported Solutions

Nemhandel⁴⁶ (Easy Trade) in Denmark and PEPPOL⁴⁷ are the commonly cited publicly supported projects. Both are similar in terms of their open approach and their ambition to bring business-to-government e-invoicing to the SME market.

Nemhandel	PEPPOL
NemHandel Registry	PEPPOL SML/SMP
A web service profile of standards	PEPPOL START
An open Source software toolkit	PEPPOL Software Reference Libraries
An open source reference implementation of software client	PEPPOL Software Reference Implementation and Demonstrator Client
A legal framework: allowing many to many transactions	The PEPPOL Transport Infrastructure Agreements

A Comparison of NemHandel and PEPPOL

PEPPOL's success depends on a number of governments, service providers and other organisations adopting its specifications to expand the network and enable business-to-government (B2G) transactions across e-procurement and e-invoicing.

⁴⁵ OCR technology continues to improve its data capture rates.

⁴⁶ <http://www.nemhandel.dk/#/forside>

⁴⁷ Pan-European Public Procurement Online – see 'The Role of Government' section for a detailed explanation.

The Role of Service Providers

One of the biggest complaints about B2B and perhaps true in the early days is that this method is too expensive for small and medium companies, and that these programs are all driven by larger companies who essentially 'force' their trading partners into a B2B program. This is a mixed picture and not 100% accurate.

Any new technology (product) passes through a maturity lifecycle (Vernon, 1966). The first stage is 'market development' where a new product is first brought to market before there is a proven demand. The technology requires a significant investment up-front and sales are slow relying on early adopters. The second stage is 'market growth' where demand begins to accelerate and the size of the total market expands rapidly. The transition from first to second stage is often where most products fail and this is reflected by products 'crossing the chasm' (Moore, 1991) into mainstream adoption. A variation of the technology adoption lifecycle (Bohlen, Beal and Rogers, 1957), the 'chasm' is between the first two adopter groups 'innovators/early adopters' and the 'early majority'.

Therefore the cost of a product is significantly affected at the earliest point in its lifecycle⁴⁸ but when a product approaches mass adoption and crosses the chasm, the combination of economies of scale and (typically) competitors offering a similar solution commoditises the technology and drives price down⁴⁹. Under free market principles products only become successful if they meet a demand, or to put another way, provide value. E-invoicing service providers have offered services and solutions that have been attractive to both buyers and suppliers for many years. The following is a summary of typical offerings and their value proposition;

- Removing Paper – Cost savings
- Process efficiencies – Cost savings, customer/supplier satisfaction
- Reduced complexity (standards, tax compliance, geography) – Focus on core business
- Improved visibility – Financial planning & reporting
- Business partner collaboration – Corporate social responsibility, customer/supplier satisfaction
- Value-add – Solving business problems
- Industry innovation – Meeting market demand
- Industry connectivity – 'Network effect'
- Cash management – Early payment
- Improved reconciliation – Remittance data

The first EDI solutions brokered by service providers were expensive, as they implemented the cutting edge technology of the day, and only the largest suppliers and buyers participated⁵⁰. The interaction of B2B Service providers working with larger companies has implicitly brought SME solutions to market. Even though the first programs were driven by buyers the principle of 'who pays' (the larger or smaller trading partner) was given little consideration and typically, the costs passed to the smaller business partner. However, as the B2B market has matured and e-invoicing has become somewhat commoditised service providers and buyers are driven by market demand to

⁴⁸ Alternative pricing strategies underwrite the initial investment and aim for a long-term return

⁴⁹ The only exception to these circumstances is government intervention altering the market state.

⁵⁰ Often overlooked is that within the EDI market, many EDI programs were initiated by large suppliers from an order-to-cash perspective (Becker, 2012) as suppliers met the evolving dynamics of their customers' supply chains driven by globalisation.

provide ever more competitive solutions to small and medium companies. The different business models are discussed later in this section (the network effect) but the basic premise of an SME solution is that sending an e-invoice should be cheaper than the price of a stamp.

Driving Adoption

Supplier enrolment is driven by the principle of the 'short head' and 'long tail'. This is essentially a paradigm of Pareto's law (Juran, 1947), where 80% of value can be driven by 20% of the trading community. While Pareto's law is cited as best practise in ensuring optimal program adoption, it can also be seen as a reason why e-invoicing has not penetrated the SME market.

To implement electronic invoicing effectively the large buyer outsources the 'on-boarding' of suppliers to their service provider who is tasked with ensuring maximum adoption within the supplier community. Some buyers insist that their suppliers must use a single, preferred service provider through a mandate, but others offer a range of service providers for the SME to choose.

In many cases the buyer insists on supplier adoption and will penalise non-compliance under certain circumstances. This can be seen as draconian and is perhaps recognised by other buyers, who as an alternative approach offer either a range of low-cost (or free) SME solutions, or in some cases rewards suppliers who adopt integration with earlier payment.

Adoption of e-invoicing has thus far been driven by large companies imposing on their suppliers but this does not mean that all big companies and all their trading partners are now adopters. The 'B2B Integration/Managed Services: Business Value & Adoption Trends' report (Stanford Global Supply Chain Management Forum, 2013) showed that close to half the large companies surveyed currently exchange transactions electronically with less than 20% of their customers, suppliers or other business partners and only between 7-10% of companies exchange transactions electronically with 81-100% of their business partners.

The research firm Billentis (Billentis, 2013) suggests "In most cases, SME projects have been initiated by large trading partners having pushed them to do so... even large organisations did not achieve satisfactory electronic volumes with their large trading partners." So while it is suggested that not all large companies have adopted electronic business communications fully there is still a significant shift in the market that is moving toward SME adoption, particularly aimed at the 'mass-middle'. Billentis go on to say "That is why we are now in the next evolutionary step: Addressing the SMEs. However, there is a limited but sharply increasing number of SMEs issuing and receiving electronic invoices." Billentis recommend success factors for greater SME adoption;

- No fee or discount prices up to a certain invoice volume.
- Providing an invoice portal as an entry point before full integration into accounting software is done.
- Due to limited IT expertise, SMEs demand very easy-to-use solutions, tutorial videos and self-care functionality. It should be ensured that the solution/service can be used within minutes. Instruction video clips are useful guidance for new subscribers for setup, to the point where the first electronic invoice is exchanged.
- Intelligent PDF invoices (PDF/A-3 images plus embedded XML data) are often more suitable for SMEs than just pure XML data; Appropriate solutions are able to generate such invoice formats on the invoice issuer side to extract and import data on the recipient side.

The Network Effect

Investment in telecommunications networks is based on economics. The laws for return on investment for networks altered with the growth of the internet in the 1980's as there was no clear 'owner' of the infrastructure. However this has not deterred private companies from continuing to build their own networks aiming for a return on their investment based certain economic 'laws'⁵¹.

Metcalfe's law (Metcalfe, 1980) states the value of a telecommunications network is proportional to the square of the number of connected users. For example a single mobile device⁵² (smart phone) has little value, but the value of every mobile device increases with the total number of mobile devices in the network. This is due to the total number of users with whom other users may connect with increases, and consequently within social networks the greater number of users, the more valuable the service becomes to the community.

An alternative to Metcalfe is Beckstrom's law (Beckstrom, 2008) which states the value of a network equals the net value added to each user's transactions conducted through that network, summed over all users. Essentially, the law proposes that one way of contemplating the value of a network is to estimate the implications of the network suddenly not existing.

Reed's law (Reed, 2001) states the value of a social network scales exponentially. Expanding on Metcalfe's law where value is created either proportional to network size or proportional to the square of network size, Reed asserts that inclusion of sub-groups of network participants (peer groups) creates greater value. Peer groups directly enable and support affiliations such as interest groups, clubs, meetings and communities among subsets of its user base and the increasing scale of group membership creates exponential returns that can dominate the overall economics of the network.

A network costs money to provide and thus can never be truly 'free', however it can be free at the point of use because of some kind of cross-subsidy. From a whole-market point of view, the network pays for itself through increased tax revenue for government, savings and improved financial management, better access to finance and cash-flow outcomes, and enhanced business opportunities. Each commercial e-invoicing network community has been researched, designed, developed and taken to market by private companies. With each network requiring a level of investment they therefore require a return on that investment. There are number of examples of e-invoicing networks;

VAN: Originally described as 'value added networks' (VAN) where an infrastructure and management systems are implemented to support an EDI network. Before the internet all B2B communications were transacted across VANs however B2B has adapted to meet modern business requirements. VANs are often perceived as 'legacy' but a modern EDI network is now in the cloud and is defined as a combination of 'infrastructure, platform and application as a service'.

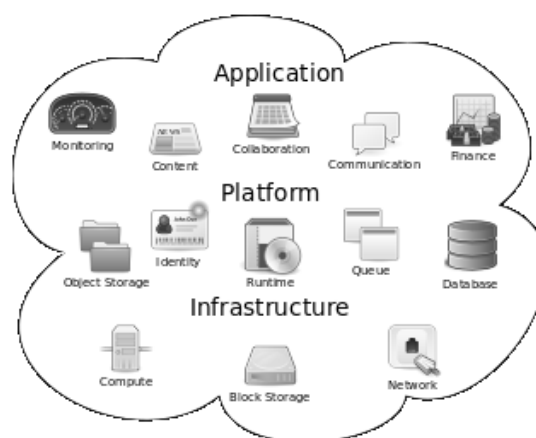
e-Marketplaces: Started to appear as the internet grew internationally, e-marketplaces (such as e-procurement and e-invoicing) created business networks that could transact using the world wide web but also moved beyond transactions by creating applications that solved business problems. The infrastructure investment required to create an e-marketplace was significantly less compared to an EDI network, however supply chain complexity and connectivity issues increased rather than

⁵¹ The accuracy of Metcalfe's law, Reed's law and Beckstrom's law are widely debated.

⁵² Email is another good example.

decreased and in some ways e-marketplaces have ‘devolved’ to try and address these challenges in the same way B2B networks do.

Social: As an extension to e-marketplaces social networks are designed to capitalise on Reed’s law by providing added value to communities of users. Again, social (community) e-invoicing networks must address supply chain complexity and connectivity issues and early indications are this is being achieved by a mix of the old (EDI style connections) and the new (through innovation). Beyond this, these networks aim to create added value in the same way e-marketplaces do, with more innovation around community participation. A particular differentiation of these networks is they monetise their return on investment in different ways. For example, some offer free e-invoicing to SMEs under a ‘freemium’ (Fred Wilson, 2006) business model, a free basic service with an optional upgrade to premium services, some offer a ‘free’ business model where all services are free to SMEs, monetising through advertising and data sharing, and others offer a combination thereof.



Cloud computing – Infrastructure, Platform and Application as a Service

Each SME that joins an e-Invoicing network shares in the value of being connected to many hundreds of thousands of trading partners, not just for e-invoicing but for any business activity across the procure-to-pay lifecycle.

Interoperation

It is estimated that there are over 500 e-Invoicing service providers in Europe alone (Billentis, 2013). While each approaches e-invoicing from different perspectives many have invested in the ‘network effect’ building out large communities of hundreds of thousands of buyers and suppliers. For an SME doing business within a particular sector they could be faced with multiple customers who have selected different networks and they are then subject to the pricing and connectivity models of these disparate networks.

Within Europe once networks reach a certain size there is precedence of regulation⁵³ and the creation of an interoperable framework, therefore to avoid unnecessary legislation electronic invoicing service providers are beginning to interoperate on an industry scale. While EDI networks have interoperated (interconnected) for many years the main difference with e-Invoicing

⁵³ For example payments in the banking industry or mobile phone network roaming.

interoperability is tax compliance. With different regulations, standards and systems for e-invoicing across member states technical interoperation is a challenge and with a varied tax compliance landscape added to the equation, e-Invoicing interoperation requires extra diligence.

To meet this challenge and to provide maximum value for their large and SME customers, e-invoicing service providers across Europe have interoperated domestically and cross-border. The German Invoice Alliance⁵⁴ (VeR) combines the expertise of solution providers, consulting firms and other interested parties. The VeR is an association that provides a forum for discussing e-invoicing in Germany and also produces specifications, requirements and guidelines for interoperating. Entities connect and transmit structured data in a (new) German standard and/or digitally signed PDFs.

The VeR is both a national and international lobby with the intention of representing and promoting e-invoicing in Germany and Europe. The association wishes to increase acceptance of e-invoicing through standardisation, simplification and definition of compliant standards.

In the Netherlands a group of 14 leading Dutch and Finnish e-invoicing and accounting providers started 'Simpler Invoicing', a network of cooperating service providers. This initiative, while at an early stage, aims to improve the interoperation of e-invoices so that mass adoption can be achieved by leveraging an existing government infrastructure (Digipoort) where organizations and businesses already exchange data. 'Simpler Invoicing' is based on an inclusive paradigm for businesses of all sizes and industries, including micro-SME, SMEs, corporates and governments.

The 'Simpler Invoicing' initiative has its own specifications, requirements and guidelines and each trading party signs a single multi-lateral interoperability agreement. All entities are connected to a central hub called 'Digipoort' in a 4-corner model and transmit structured data in UBL 2.0 modified for the Dutch market. Aware that this technical method may not suit SMEs, 'Simpler Invoicing' also allows the sending of PDFs via email.

Recognising the need for industry-wide cooperation the e-Invoicing service providers came together in 2011 and formed the European e-Invoicing Service Providers Association⁵⁵ (EESPA). The primary objective of this association was to establish how all members could interoperate on a bilateral basis eventually deciding on a pragmatic approach of three modes that met the three commonly cited methods of tax compliance for e-Invoicing within Europe.

These three initiatives⁵⁶ are examples of service providers reducing the barriers of SME adoption. Where previously a small company was driven by their larger customer/supplier to join a network, with full European-wide interoperation an SME can join any network to reach all their business partners.

Criticisms of Service Providers

e-Invoicing service providers are not without their critics. The typical complaints made are;

- SMEs are 'forced' to issue e-invoices.
 - It is true that buyer driven programs often use a mandate to force a particular e-invoicing service provider on their suppliers. This is because mandates are proven to ensure the highest adoption rates and even European governments have recognised this by

⁵⁴ http://e-invoice-alliance.com/index.aspx?culture=en_EN

⁵⁵ <http://www.eespa.eu/>

⁵⁶ There are further service provider initiatives for national e-invoicing interoperation across Europe.

mandating themselves. To redress this imbalance, service providers are focused on solutions and interoperation to make e-invoicing a compelling choice for SMEs.

- Service providers are expensive shouldn't e-invoicing be free?
 - Each service provider is looking for a return on their investment and therefore charge fees. However, new service providers are looking to monetise in creative ways through 'free' invoicing within social networks. The concept of 'free' can be construed as misleading as any company subscribing to a service will be subject to the provider's business model, for example both Facebook and Google offer free services but the consumer subscribes to providing information that is sold to 3rd parties. Government funded solutions are to be considered as "free" from a user perspective; however they are funded by public budget⁵⁷. Whichever model works is yet to be decided, what is certain is each will be subject to market forces.
- Service providers confuse the market with tax compliance.
 - There have been complaints that service providers use 'scare tactics' to drive adoption of their tax compliance service. In reality, the service providers are reacting to government legislation and providing certainty in tax matters. They help to reduce the complexity of European tax compliance and charge for the service.
- Service providers do not interoperate
 - EESPA recently published the 'Model Interoperability Agreement'⁵⁸ based on the work of the European Committee for Standardization. The intention is that all members of EESPA will interoperate with each other.
- Service providers should use a single standard.
 - It is often said that "the great thing about standards is there are so many of them". The creation and use of B2B standards, inclusive of all B2B messages, is a complex and fluid scenario. The service providers do not create standards, they use them. Where possible single standards are used, particularly around interoperation. However with varied standards across technologies, industries, governments and standards bodies, service providers react to market requirements. With customers across many industries using many different standards and some proprietary, service providers mask the complexity of B2B communications.
- There are no SME to SME solutions available.
 - There are solutions that allow the issue of PDF invoices amongst SMEs, but the creation of SME focused networks is new. There is an opportunity in this market for the banking sector and accounting software providers to expand their services for businesses into e-invoicing.

Market Confusion

Segmentation of the European e-invoicing market is highly complex. Consider the different types of service providers and their history in this space; e-marketplaces, EDI networks, banks, supply chain finance and governments. Across this spectrum of providers the market dynamics that have driven the evolution of solutions must be overlaid; the internet, globalisation, ERP, direct materials (supply chain), in-direct materials and government procurement. Finally consider the industries that e-

⁵⁷ Government has a duty to stimulate innovation.

⁵⁸ <http://www.eespa.eu/content/interoperability>

invoicing applies to; Retail, consumer packaged goods, grocery, automotive, manufacturing, banking, services, hi-tech and many others.

There is also confusion around technical infrastructures, standards and tax compliance. For an SME it is difficult to understand the differences between an EDI network, an e-marketplace or a social network and the different standards used across all the different market sectors. Tax compliance also provides a challenge as the SME has to be sure that their chosen service provider meets the legal compliance rules for e-invoicing as defined by their domestic tax authorities.

When initiating an e-invoicing project a large corporate will insist on a pre-audit or a 'quality check' to ensure the service provider is delivering a tax compliant solution for each country. The corporate ensures its auditors engage with the service provider and reviews the specifications of the new system for legality. However SMEs do not have the resources for a pre-audit quality check and some other form of tax compliance assurance is required.

GS1 has provided a program in France⁵⁹ for some years that certifies service providers (operating in France) for tax compliant invoicing across digital signatures and EDI. The program provides exact specifications that service providers must meet to be able to send and receive tax compliant invoices on behalf of their customers. While e-invoicing is still typically driven by big buyers in France, this program has gone some way to assure both the larger company and their SME suppliers.

In May 2013 Sure Foundation Online was created in the Netherlands. The aim of this new Foundation is to develop and manage a 'quality mark' for reliable and secure administrative cloud solutions. A quality mark is issued on the basis of the advice of a team of independent and qualified auditors, in close consultation a council of registrars and board of trustees.

When addressing mass adoption a mass-market approach is required. Solutions must be simple a comprehensive and in the case of e-invoicing, including tax compliance. It is possible a 'quality check' can help drive adoption as it ensures certainty in tax matters in line with the mass-market approach. Quality marks make it possible for businesses of all sizes to capture the benefits of e-invoicing while in control of the legal risks and means the company is in a strong position if in dispute with the tax authorities.

However at this time there is no European 'e-invoicing quality mark' for service providers. The creation of a European certification program will make the selection of an e-invoicing solution simpler for SMEs, while they will choose a service provider on their market presence and product strengths, the addition of a certification removes tax compliance from the selection process.

⁵⁹ <http://www.institutionnel.gs1.fr/Archives-des-conferences/Atelier-Facture-Electronique>

The Role of Banks

In terms of SME electronic invoicing, banks are essentially service providers offering e-invoicing solutions that complement existing payment and on-line banking solutions. All SMEs have business accounts with banks and the majority will manage their affairs through on-line banking solutions, the ability to issue e-Invoices through these accounts could be an appealing, simple to use solution. This cross-pollination of pre-connected SMEs has the potential to provide an instant 'network effect'

Banks also have relationships with larger corporate clients, but these are less simplistic. The integration between bank and corporate is more complex to achieve. Typically, a large corporate will have relationships with multiple banks, and manage transactions with these relationships either through a treasury software solution or through services. Ultimately, this means that transactional banking relationships with larger corporate clients are 'loosely coupled'. For a bank to issue invoices on behalf of their SME customers, they can provide a three-corner model where they act as an intermediary between both SME supplier and buyer, and have a commercial agreement with both parties. If the buyer has an existing e-invoicing service provider the bank will have to interoperate within a four-corner model.

The volume of invoices between small and medium companies should not be overlooked. In their 2011 annual report, Billentis estimated that close to 52% of all B2B invoices flowed between companies of this category. With an established footprint in SME banking, banks have a clear opportunity to enable this SME to SME market.

Existing infrastructure also adds to the value proposition for banks. Within the United Kingdom the Bankers Automated Clearing Services (Bacs) is an established infrastructure for payment related services, and within Europe there is the new Single Euro Payments Area (SEPA) payment clearing scheme(s) across the Electronic Banking Internet Communication Standard (EBICS). Both of these infrastructures have been widely touted by banking experts as possible mediums for transacting electronic invoices. This is not without merit but does raise the question if these infrastructures, which are designed for simple payment messages, are robust enough to handle 'richer' supply chain data.

The re-use of existing banking infrastructure remains a possibility if the integration between the two trading counterparties (buyer and supplier – irrespective of company size) remains simple. If the transactions are subject to complex supply chain processes, the integrators (banks) will have to customise their solution to meet their customer demand. This negates economies of scale as what was intended to be an 'off the shelf' solution becomes customised to adapt to complex processes, multiple standards and differing legislation.

However if banks can produce a simple, integrated solution embedded within on-line banking, that leverages a 'single standard' across existing infrastructure and also provides the 'network effect' then they have the power to increase adoption of e-invoicing within the SME community. Add to this the re-use of banking authentication security, and the interconnectivity of European banks – and the banking industry has a major role to play in the SME space.

Supply Chain Finance

Outside of transactional banking, banks have a much larger role to play in financing SMEs. This document will not attempt to describe in detail the different supply chain finance (SCF) models, for a

comprehensive definition of SCF the reader is referred to the 'Supply Chain Finance EBA European Market Guide' (Euro Banking Association, 2013). Simply, SCF is the use of financial instruments, practises and technologies to optimise the management of working capital and liquidity tied up in the supply chain processes of trading counterparties.

The EBA report cites automation through electronic invoicing as the 'game changer' that moves SCF into the mass-market. By accelerating (payables and receivables) cycle times different process events trigger SCF interventions. These 'triggers' are exposed as data passes across the 'information supply chain', the data that underlies the physical and financial supply chain processes.

Currently these programs are aimed at the supply chains of large, investment grade (BBB and above) corporates. This is because the bank leverages the credit rating of the larger corporate, combined with the relevant supply chain data (typically approved invoices) to mitigate risk and offer finance.

There is a range of platforms and networks that enable SCF based on this model, and the EBA report suggests that this number is increasing. However, again the ability to offer finance to SMEs relies on the 'network effect'. To be eligible for SCF an SME must be part of an existing network, or will be enrolled into a new one.

The introduction of this report cited the current market challenges SMEs face: late payment, lack of access to credit and extended payment terms. Electronic invoicing combined with supply chain finance, can go some way to alleviate each of these challenges and also allow banks to make more informed lending decisions.

Purchasing Cards

An emerging enabler for e-invoicing is the use of purchasing cards (p-cards). The UK public sector provides electronic payment through the Government Purchasing Card which is integrated into the Government e-Marketplace. Public sector buyers search, order and pay for products and services online ensuring purchase control and optimised transaction efficiency. Once the purchase is fulfilled the supplier is paid electronically and transaction detail is captured at line item level to support VAT reclaim. By combining electronic settlement and central government's e-commerce network the UK public sector buyer is in control of procurement and payables.

Comparing Banks to Service Providers

Banks and dedicated e-invoicing service providers share the same objectives, but approach these with different methodologies. How do bank services compare to dedicated e-invoicing service providers?

Current banking e-invoicing solutions follow the same pattern that the majority of dedicated service providers subscribe to in that they provide solutions for larger buyers who impose the solution to their SME suppliers. While this model attracts criticism due to the fairness of 'mandates', it is the only proven model of guaranteeing adoption. Typically these bank e-Invoicing solutions also extend their value proposition to include SCF.

In this sense, the banks directly compete with dedicated service providers. This will include supplier enrolment capabilities, understanding of supply chain processes and standards, VAT compliance, social business interaction tools and simple to use integration capabilities. In order to provide the most value to their prospective customers, banks must also work to the 'network effect' and work to achieve a critical mass of trading counterparties across their network. When evaluating these

solutions, the large buyer must evaluate the comparative strengths and weaknesses of banks compared to dedicated service providers who have been working in the B2B space for many years.

There is a clear financial opportunity for banks to invest in electronic invoicing, either through their own solutions or working in partnership with B2B service providers. Therefore it is unsurprising that the banking community is involved in many European-wide initiatives such as the European e-Invoicing Service Providers Association, the European Commission Multi-Stakeholder Forum on e-invoicing, the European Committee for Standardization and various other domestic programs. By engaging industry-wide, banks are ensuring they are part of the debate and that they have an active role to play in electronic business-to-business communications.

The Role of Government

Many European Member States and public sector organisations have, or are considering mandating electronic invoicing in the context of public procurement procedures. Globally, governments have different objectives. Within Europe the aim is to capture efficiencies and cost savings but for example Latin America, where tax collection is an issue, the objective is to provide transparency and capture tax revenues.

How government bodies influence electronic invoicing generally is a political debate. Depending on which side of the political spectrum the reader sits dictates their perspective on 'big or small' government. However government have precedence of issuing regulation⁶⁰ that is in their nations, or indeed multiple nations' interests. With the payments industry being a relevant case in hand should government take a heavy or light touch approach to e-invoicing?

The Case for Big Government

There is little doubt from results in countries where governments are role models that e-invoicing, adoption is significantly higher. In Italy it is estimated (Politecnico Milano, 2013) under the new government decree mandating e-invoicing for the public administration that within the next 2 years an approximate 2 million (SME) suppliers will be engaged in structured format e-invoicing. Denmark and Finland are regularly cited by industry analysts as European e-invoicing leaders due to their public sector mandates and the Eurostat figures support this with these countries achieving the highest levels of SME integrated e-invoicing. Looking beyond Europe, Mexico and Brazil are recognised for their compulsory e-invoicing mandates.

The significant adoption rates these countries claim is attributed in no uncertain terms to government regulation. While most governments are reluctant to impose mandates they also have a responsibility to spend taxpayers' money in the most efficient and transparent way possible, driven by austerity many European governments are seriously considering mandatory e-invoicing when dealing with the public sector.

Member state public sector authorities have invested in their own e-invoicing and e-procurement networks, however these public sector systems are implemented varies from country to country and typically (as in the B2B world) each country's program brings a brand new standard to use. Within Europe, the European Commission and a syndicate of member state governments funded PEPPOL⁶¹, a large scale pilot⁶² (LSP) network as part of the "Competitiveness and Innovation Programme"⁶³. Five LSPs⁶⁴ are co-funded by European programmes and are designed to harmonise cross-border digital public services.

Under the 'enabling EU-wide public e-Procurement' initiative⁶⁵, the original intention of PEPPOL was to align business processes for electronic procurement across all governments within Europe, aiming

⁶⁰ The European approach is in direct contrast to the United States which prefers a 'let the market decide' approach. For example within the US, B2B electronic payments are struggling to replace cheque payments, even on price.

⁶¹ Pan-European Public Procurement Online.

⁶² <https://ec.europa.eu/digital-agenda/en/cross-border-pilots>

⁶³ <https://ec.europa.eu/digital-agenda/node/25>

⁶⁴ Five Large Scale Pilots (LSPs) were developed and run under the Information and Communication Technology Policy Support Programme, in five main areas; eID (STORK), eProcurement (PEPPOL), eBusiness (SPOCS), eHealth (epSOS) and eJustice (e-CODEX).

⁶⁵ CIP-ICT-PSP-2007.1.1

to expand market connectivity and interoperability between (existing public sector) e-procurement communities. However the scope of PEPPOL⁶⁶ expanded into electronic invoicing for the public sector, and had a stated aim of allowing B2B transactions.

PEPPOL's success depends on a number of service providers and other organisations adopting its specifications to expand the network⁶⁷. Outside of meeting the membership obligations⁶⁸ of the network and monetising transactions, service providers have the opportunity to provide value to their customers (both large and SME). The PEPPOL network model scaled to a sufficient size will create the 'network effect'. The PEPPOL project was completed in 2012 and turned into a stand-alone initiative, operating without Commission support as 'OpenPEPPOL'.

Governments must also ensure parity if deciding to issue mandates for e-procurement or e-invoicing. Spanish authorities recognize that electronic invoicing is beneficial for large companies as well as for the government and a move to mandatory e-invoicing in public procurement is due. Nevertheless, mandatory electronic invoicing will alter the Spanish market and there is a worry that a captive demand may lead to inflated prices and disruption especially for SMEs. By helping the weakest link (Small and microenterprises) with measures such as free software and educational web portals, Spanish authorities believe they may create a fair e-invoicing ecosystem that benefits all sides involved.

The Case for Small Government

One of the positive side-effects of the European Commission Multi-stakeholder Forum on e-Invoicing has been the creation of national forums. The construct of these forums varies within each member state, but where there is a mix of private sector, public sector, banking and interest groups there appears to be an effective collaboration for educating and influencing government.

In the United Kingdom this mix is essential to the effectiveness of the national forum. The UK Forum has deliberately sought out membership from disparate domestic entities including affiliations with other interest groups such as the Forum of Private Business, the Institute of Credit Management and The Association of Certified Chartered Accountants, whose members can benefit from e-Invoicing. By providing an open forum for discussion all stakeholders are able to provide their unique perspectives on the domestic and European situations ensuring an optimal outcome. Electronic invoicing is also aligned with UK government initiatives across procurement, shared services, late payment and access to finance for SMEs and due to the forum's work electronic invoicing was recently referenced in a recent BIS Information Economy strategy paper⁶⁹ as an essential component of government being 'easy to do business with'.

In the Netherlands 'Simpler Invoicing' was originally conceived within the national forum and the Dutch Ministry of Economic Affairs sponsors the initiative. Simpler Invoicing is an example of the private and public sectors working together to build a pragmatic solution that incorporates the needs of all stakeholders. The result is a public/private infrastructure where companies and government can send and receive e-invoices through various means such as software, ERP or e-mail. In Sweden the Natverket for Elektronika Affarer (NEA) association promotes e-business. Members include

⁶⁶ The EC and government support for PEPPOL continued after the initial large scale pilot as the association OpenPEPPOL.

⁶⁷ PEPPOL could stand alone, but recognises the value of service provider enablement.

⁶⁸ Either certification programs or joining OpenPEPPOL.

⁶⁹ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/206944/13-901-information-economy-strategy.pdf

software providers, service providers, end users and the Swedish public sector. When the Commission asked for member states to create national forums, the NEA was asked to organize the Swedish national forum including their own members and others that wanted to contribute. The Swedish forum then created 4 sub-groups to mirror the European forum.

At a time where engagement with business is critical to long-term economic growth, government is prepared to listen to all viewpoints to determine policy. Working with their domestic public sector administration, national forums are able to raise the profile of domestic and European electronic invoicing to ministerial level. By also engaging with interest groups such as chartered accountants, financial advisors and industry bodies, each national forum has an opportunity to influence policy and encourage widespread promotion of SME e-Invoicing.

The Role of Other Stakeholders

Can SME influencers such as government bodies and other SME stakeholders help educate owner-managers of SMEs to adopt electronic invoicing? Industry associations have a voice that reaches the SME community and often educate on best practise. For example, within the United Kingdom groups such as the Forum of Private Business, the Institute of Credit Management, Federation of Small Businesses, the British Chambers of Commerce and the Institute of Directors all have an SME audience. Additionally, at the EU level there are bodies such as UEAPME, the European Savings Banks, European Co-Operative Banks and the European Federation of Accountants and Auditors who are representative bodies for their member organisations in EU jurisdictions. These latter bodies are in a strong position to promote e-invoicing practice as a effective and economic solution indirectly through their member organisations on a European basis.

There is strong evidence to support the view that accountants are the most frequently used source of business advice by SMEs⁷⁰. This accountant advice to SME customers extends to areas of assistance outside the traditional accountancy provision such as preparation of financial reports, taxation returns and audits. These wider-ranging advice services include IT solutions, HR and Employment Law issues and advice when their clients embark on internationalisation ventures⁷¹

The evidence also indicates that the majority of accountants representing SMEs are themselves small and medium size accounting practices (SMPs). Within the EU these accounting practices are in a strong position to educate and promote e-invoicing to their SME clients. The professional accounting bodies can also play an important role in encouraging and providing technical advice on e-invoicing to their members who own and work in these SMPs.

Government also has a role, the UK government's Department of Business, Innovation and Skills regularly provides education resources for SMEs, works closely with industry influencers and also provides funding that helps small businesses to get started.

Does dependence on a set of manual controls that have been adopted and maintained historically imply complacency amongst the SME community, or is it they have yet to be fully educated on electronic invoicing? If service providers worked with these SME educators, or participated within their associations, they could help bring the electronic invoicing 'message' to a wider SME community.

When working with industry associations, neutrality is key. The integrity of these organisations is through providing best practise and services to their community and consequently joint ventures with individual private companies are unlikely. One example of co-operation between industry associations, government and e-invoicing service providers is within the UK's National e-invoicing Forum. The forum invited different industry associations to attend meetings and become members, inviting them to become involved in the discussion. Over the course of discussions it became

⁷⁰ Including 'Accountants as Sources of Business Advice for Small Firms' (Gooderham, Tobiassen, Doving & Nordhaug, 2004), 'Business Advice to SMEs: Professional Competence, Trust and Ethics' (Blackburn, Carey & Tanewski, 2010), 'The Role of Small and Medium Practices In Providing Business Support to Small and Medium-Sized Enterprises' (Blackburn & Jarvis, 2010) and 'Small and Medium Practices Information Paper' (International Federation of Accountants, 2012).

⁷¹ Including 'The Use of External Business Advice by SMEs in Britain' (Bennett & Robson, 2000) and 'The Provision of Human Resources and Employment Advice to Small and Medium Sized Enterprises: The Role of Small and Medium Sized Practices of Accountants' (Jarvis & Rigby, 2012).

apparent that the associations had embarked on different initiatives within their SME and educator communities where e-invoicing could be reference and add value.

The 'Prompt Payment Code'⁷² was set up by the Institute of Credit Management (ICM) on behalf of the Department of Business, Innovation and Skills. Signatories of the code undertake to pay suppliers on time within the terms agreed at the outset of the contract, without attempting to change payment terms retrospectively and without changing practice on length of payment for smaller companies on unreasonable grounds. The UK forum recognised that e-invoicing could enable prompt payment and support the intentions of the code, working with the ICM the forum produced joint articles, blogs and tweets that highlighted this efficiency. This was supported by references to the UK Forum's website where many case studies on SME e-invoicing are located.

The national forums, created to meet the requirement of the European Commission's Multi-Stakeholder Forum have the potential to exceed their mandate and pro-actively promote electronic invoicing to SMEs. By engaging with the appropriate stakeholders and by leveraging government influence, the national forums are well placed to initiate these activities.

Industry Associations

National associations with an SME interest play an important role in facilitating the uptake of electronic invoicing both at national and European level. There are many national business associations that communicate frequently with their country's SMEs and government, such as Mouvement des Entreprises de France, Bundesverband der Deutschen Industrie e.V., Confederazione Generale dell' Industria Italiana, The Confederation of British Industry, The confederation of Danish Industry or Swedish Enterprise. These trusted advisors can bring these national experiences to European Commission level through associations such as BUSINESSEUROPE.

Chambers of Commerce are high-profile and independent business networks with a presence at local, national and international level. Local Chambers sit at the heart of the community, working with businesses of all sizes and representing all sectors. By sharing opportunities, knowledge and expertise Chambers help SMEs grow business and can help disseminate the e-invoicing 'message'. The International Chamber of Commerce provides insight and influence on a range of international trade and investment issues. They are the global network of Chambers, with offices and affiliates in over 120 countries and with influence in telecoms, creative industries, pharmaceuticals, extractives, financial services and consumer goods and they will have a role in the international expansion of electronic invoicing.

Industry associations also have an important role to play. The European e-Invoicing Service Providers Association has a responsibility in educating and enabling SMEs. Not only is this within their own interests but with many large buyers on existing established networks the service providers must ensure the wider SME community has access to them. Other industries have already come together in pro-active organisations, Edifice⁷³ in the hi-tech industry and Odette⁷⁴ in the automotive industry have led the way in automating their industries. The SME industry associations such as The Association of Certified Chartered Accountants, the Institute of Credit Management can benefit from

⁷² <http://www.promptpaymentcode.org.uk/>

⁷³ <http://www.edifice.org/>

⁷⁴ <http://www.odette.org/html/home.htm>

this experience and provide a platform for SME education and sharing best practises across supply chain and financial processes.

Chambers of Commerce, national, European and industry associations reach out to SME's across Europe to help them grow and to and become financially efficient, e-invoicing and new models to access finance are natural extensions of these financial topics. Providing these national and industry associations with good examples of financial process best practices, so that it is easier and more efficient to manage a company is the optimal way of reaching out to the SME community in Europe.

Industry organisations also have a significant role to engage with their respective governments. A number of challenges have been identified in Activity 3 of the European Commission Multi-stakeholder Forum, regarding Value Added Tax. It is the task of industry associations, governments and other stakeholders should find ways to overcome or eliminate these challenges.

Information Providers

Industry analysts and experts also play a role in e-invoicing awareness. Either working for a large analyst firm or as a privately funded individual, these experts provide insight, analysis and thought leadership to a wide audience. Research firms such as Billentis and Gartner, through to information providers such as the E-Invoicing Platform⁷⁵ and Shared Services Link⁷⁶ provide valuable points of reference for any company wishing to engage in electronic invoicing.

Expert Opinions

Experts across industry associations and advisory firms were asked a single question:

“What one thing has prevented mass adoption of e-invoicing by SMEs in Europe so far, and what needs to be done to ensure this is reversed and that e-invoicing becomes a mainstream activity?”

Forum of Private Business, United Kingdom

“Linking e-invoicing to current credit control procedures and other software is the most frequently cited barrier by Forum of Private Business members. These figures are higher than other comparable research due to the fact that members have more formalised processes than most SMEs. To support more to adopt e-invoicing – and encouragingly 47% of members reported they would be using e-invoicing for at least some of their customers by the end of 2013 – the flexibility of services is essential to ensure they can successfully work with current procedures, or at the very least require little change to current processes.”

Official Spokesperson

Institute of Credit Management (ICM), United Kingdom

“Ignorance is the big issue preventing mass adoption of invoicing by SMEs. Too many are not fully aware of what is involved in e-invoicing or what they would have to do to adopt it. Their perception

⁷⁵ <http://eeiplatform.com/>

⁷⁶ <http://www.sharedserviceslink.com/>

is that adoption would involve them in implementing systems that would carry increased time, money and complexity. As a consequence they avoid it and say they are happy with the status quo.

Businesses, government, business organisations, and banks need to promote a common and consistent message setting out the benefits of e-invoicing and counteracting common misconceptions. The message needs to set out how easily adoption can be achieved and outline the tangible benefits that accrue in terms that SMEs will recognise and understand.”

Philip King, Chief Executive

Billentis – An e-Invoicing Research & Advisory Firm, Switzerland

“Working groups or industry forums need to improve their e-invoicing market communication toward SMEs. The ‘pull’ marketing method, passive offering of complicated information on a website is still more dominant than the ‘push’ method, active and steady forwarding of the information to the mass market. Providing the best framework or standard is meaningless if the message to the mass-market is ambiguous and does not reach the target group.

If the responsible person within an SME reads any information about e-Invoicing, they should find e-Invoicing as very attractive after reading the 10 first lines. If the information includes 5 or more pages it probably will not be read and the reader is unlikely to launch the next steps for e-invoicing.

Market promoters are often not aware about the persons within SMEs they should communicate with and who the main influencers really are. In many countries, 35-45 percent of SMEs have outsourced the invoice processing to trustees and professional accountants. Often these 3rd parties are the main influencers for their clients to go paperless.

If e-invoicing working groups and multi-stakeholder fora do not have a marketing focus they will not improve communication to SMEs. As an example, the payment card industry does not explain the insides of the payment scheme, the connections and data standards – they focus on the benefits.

Country specific industry portals for e-invoicing could be very useful if more than 50% of SMEs in the market would be aware of them and if these portal ‘profiled’ the enquirer’s business size, transaction volumes and technically capability to suggest an appropriate SME solution. Otherwise the SME will find the extensive information confusing and will be discouraged.

If SMEs are to adopt, should they be enabled to ‘e-invoice in 10 minutes’;

- I. Find within 10 minutes appropriate information (in language relevant to their company size)
- II. Install a client software or register on a website within 5 minutes.
- III. Send or receive the first electronic invoice after a further 5 minutes.

The benchmark for SMEs is exchanging PDF invoices by email and the ‘integrated’ alternatives should be as easy to understand and use as PDFs are.”

Bruno Koch, Owner.

Aite Group - An Independent Research and Advisory Firm Focused on Business, Technology, and Regulatory issues for the Financial Services Industry

“The main reason is in that e-invoicing has been presented as a solution for efficiency (i.e., less manual operations), less paperwork (i.e., less costs), and improved visibility. These benefits are valuable for a large buyer that has to handle thousands of invoices from its suppliers (in a B2B model) or send thousands of bills to users (in B2C). A SME, on the contrary, handles very few invoices per client/ month so the benefits of replacing manual invoice presentation with e-invoicing is minimal. I would also say that- paradoxically- e-invoice adds one layer of complexity because the SME hasn't to handle yet a new channel beyond the traditional manual traditionally used.

To become mainstream among SMEs I believe e-invoicing must carry the value of enabling faster payments and widening the window of opportunity for a SME to decide whether to discount the receivables or not.”

Enrico Camerinelli, Sr. Analyst.

Purchasing Insight, United Kingdom

“It's two issues that amount to the same thing: cost and complexity or put it another way, no perceived commercial benefit and unfamiliarity. For small and medium sized businesses, they already have enough concerns simply trying to stay in business and that situation is of course worse now than at any other time in most business people's living memory. So asking them to take on a new challenge which would, ironically, be seen as 'more bureaucracy' and more cost would not be met with enthusiasm. The challenges are to sell e-invoicing in terms of the benefits to the SME and to ensure that the cost, in financial as well as effort terms, is less than or equal to zero. Governments have many ways of incentivising business to do the 'right thing' whether that is through tax breaks, grants or by waving the big stick of legislation to mandate particular behaviours.”

Peter Loughlin, Managing Editor.

The Association of Certified Chartered Accountants, United Kingdom

“Most SMEs in the UK and further afield are standards-takers; their use of most standards and reporting conventions is dictated by government regulation or large customers and/or supply chains they sell to. Moreover, small business owners are typically reluctant to invest in systems that aren't guaranteed to be compliant and compatible with those of other organisations, especially their customers and the tax authorities.

This situation creates two routes for adoption; a top-down⁷⁷ approach based on the supply chains of government and large corporates, and a bottom-up⁷⁸ approach that relies on network effects among

⁷⁷ The Top-Down method of adoption relies on major corporates perceiving a strong economic case for e-invoicing, but also being able to bring on board a substantial share of the 'long tail' of SME suppliers. The latter issue is not always simple. Service providers have a substantial role to play in driving top-down adoption by demonstrating the economic case to corporates and helping on-board smaller suppliers, while government can help primarily by mandating e-invoicing in public procurement.

⁷⁸ Each country has, over time, developed its own business and government infrastructure that SMEs cannot help but interact with and therefore have grown to rely on – the Post Office, ISPs, banks, tax authorities, ERP/financial software providers. For a bottom-up approach to work, e-invoicing solutions aimed at SMEs need to work through this infrastructure. To ensure bottom-up adoption, SMEs need to be able to access e-invoicing through more than one of the established routes mentioned above, under a single overarching kitemark, regardless of which customer they are invoicing. Multiple points of access are important. The example of online banking is indicative: to ensure uptake, banks provide in-

the providers of essential business infrastructure. These are complementary, not competitive. Very importantly, and as documented by ACCA's report to the Commission⁷⁹, making the commercial case for e-invoicing to SMEs tends to have no effect in the absence of pressure from the two routes discussed above.

Finally, a word of caution: statistics on adoption need to be weighted by turnover or value added to truly reflect e-invoicing penetration. Most SMEs are informal one-man/woman bands lacking financial systems beyond the rudimentary. For them, the distinction between e-invoicing and traditional invoicing over email collapses and the potential benefit from adoption is minimal. (That said the experience of organisations mostly in the media industry which employ large numbers of freelancers would be enlightening).

Additionally, behavioural barriers exist – the quality of management in SMEs is not uniform, nor is their ability to embed new business processes and policies. This lack of internal capacity tends to slow down adoption even in the presence of substantial incentives from the supply chain, and ACCA's recent report to the UK Department for Business on adoption among UK SMEs demonstrates this clearly⁸⁰. While this is likely to remain the main obstacle to adoption for the near future, it's likely to be common to all EU countries and indeed a common driver of everything SMEs should be doing but aren't."

Official Spokesperson

Paystream Advisors, United States

According to PayStream's studies of small and medium sized businesses, they don't like change. Unlike enterprises, small and medium sized businesses do not make changes based on business cases and ROI assessments. In general, transaction automation which impacts a minority of staff do not garner interest from owners and finance decision makers at SME's. When they make changes to their finance processes, they change because it is timely and compelling to the Sr. Management, or if pushed by a large customer.

SME's are generally resource constrained, thus managers and owners of these businesses focus more on revenue and customer centric changes. Electronic invoicing in its current form offers little value to small businesses and is an irritant requiring extra staff effort with little reward. In order to succeed, electronic invoicing must bring together elements that SME's do care about. The challenge is that they have a diverse set of drivers – from electronic payment, cash forecasting, and working capital – and are difficult to categorize in a single persona based on size or even within an industry. Service providers need to develop tools, applications, and solutions which solve problems for the diverse needs of the user community. We see bright spots in emerging mobile applications, electronic payment tools, biller centric collection solutions and a host of other tools to make the finance process easier and more transparent.

Henry Ijams, Managing Director.

branch facilities, telephone and online facilities as well as mobile apps, not to mention financial incentives for using online-only accounts. In the UK at least, this bottom-up element of adoption is much weaker than elsewhere in Europe, and this weakness is a significant barrier to adoption by SMEs.

⁷⁹ <http://www.accaglobal.com/content/dam/acca/global/PDF-technical/technology-publications/pol-tp-gpta.pdf>

⁸⁰ <http://www.accaglobal.co.uk/content/dam/acca/global/PDF-technical/technology-publications/pol-tp-uoei.pdf>

Recommendations

The European Commission Multi-Stakeholder forum Activity 2 sub-group offers the following recommendations to increase SME adoption of electronic invoicing:

The European Commission to mandate the use of electronic invoicing for European public sector administrations: Mandates for electronic invoicing are proven to increase participation across both the private and public sectors. By leading by example and issuing a mandate for public sector e-invoicing through terms, governments have an opportunity to drive widespread SME adoption. However stating/infering a preferred infrastructure or organisation within legislation is not recommended, ensuring free market principles apply.

At the time of publishing this document, the European Commission has now adopted a proposal (European Commission, 2013)⁸¹ which aims to digitalise another phase of the procurement process: invoicing. This proposal aims to achieve a transition towards mandatory acceptance of e-invoices by all public buyers within a deadline linked closely to mandatory e-procurement. The Commission aims to make e-invoicing the standard invoicing mode for public procurement by creating a new “semantic data model of the core electronic invoice” and by making it obligatory for Member State administrations to accept e-invoices complying with this new European standard.

Inclusion of different stakeholders within national e-invoicing Forums: The membership of the national forums varies within each member state. Where there is a mix of government, private sector, public sector, banking and interest groups, there appears to be an effective collaboration for educating and influencing the market.

Central government administrations that work with business⁸² have a key role to play in educating the SME market. By using their influence, and working with the national e-invoicing forums, they can engage with SME stakeholders and industry associations and work to promote e-invoicing. The inclusion of interest groups that focus on SME, financial advisor and accountancy issues is highly recommended.

National Forums to Promote e-Invoicing Education to Government: One of the reasons the case for e-invoicing for SMEs fails is the reciprocal benefits of adoption are not shown clearly to new businesses and the entrepreneurs who start them.

The mechanics and benefits of e-business and e-invoicing in particular should be included in the curriculum of all standard academic business and accounting courses. National Forums should work with their respective governments to push e-business onto the academic agenda.

Accountancy professional bodies also need to help educate and promote e-invoicing to their SME members, particularly those Accountants who are practicing in Small and Medium Size Practices (SMPs). This should include publications, access to technical advice and events supporting e-invoicing. National associations and chambers of commerce should be actively sought out as members of the national forums to engage in the discussion.

Accounting software providers provide solutions mainly aimed at SMEs. The provision of e-invoicing within these solutions as a standard offering will be key to driving adoption of e-invoicing as it then

⁸¹ http://ec.europa.eu/internal_market/publicprocurement/e-procurement/e-invoicing/index_en.htm

⁸² Such as the Department for Business, Innovation & Skills in the UK.

becomes 'a simple business practise'. National forums should actively seek out these companies as members to engage in the discussion.

CEN Working group on the semantic data model to evaluate existing standards first: The proposed directive aims to create a 'semantic data model' for Europe. It should be an assumption that Member States are increasing trade with countries outside Europe and when creating the new European standard data model the European Committee for Standardisation (CEN) should evaluate converging with existing international 'semantic' standards. A global standard for invoicing including a semantic data model has been created by UN/CEFACT and this standard already incorporates the needs of many industries and government. There is also the development of a guide for a European core invoice data model with UN/CEFACT CII implementation guidelines financed by the European Commission and the group recommends that any new initiative under the proposed directive (European Commission, 2013) should take this existing work into account before embarking on a new initiative.

Service providers to adopt the EESPA model interoperability agreement or become members of OpenPEPPOL: To fully capitalise on the 'network effect' and encourage SME adoption e-invoicing service providers must interoperate. The European e-Invoicing Service Providers Association's model interoperability agreement was developed by key service provider stakeholders within the industry, reflects the 3 common modes and should be recognised as the optimal form of tax compliant e-invoicing interoperability within Europe. Another area for service providers to interoperate is by becoming members of OpenPEPPOL and adopting open standards and connectivity.

European Commission to clarify the 'business controls' and 'audit trail' method of e-invoicing tax compliance: While the issuing of e-invoices to customers by attaching a PDF to an email remains the most popular method for SMEs to engage in electronic invoicing it is recommended that the European Commission communicates exactly if this method is tax compliant under 2010/45/EU and if so, provide detailed explanatory notes and case studies on exactly how. Harmonised guidance from tax authorities across the European Union on when and how e-invoicing will be considered compliant will ensure the SME community is assured that they are meeting tax authority requirements for e-invoicing by themselves, or that service providers can provide innovative tax compliant solutions that benefit SMEs.

European Commission to investigate/promote the creation of e-invoicing certification programs: All companies require certainty in tax matters and this is why investment is made in pre-audit quality checks before implementing an e-invoicing solutions. But as these companies are typically the larger trading partner they can afford the investment that must be made. To encourage mass adoption by reaching the mass-market of e-invoicing solutions by SMEs a 'quality mark' will enhance the reputation of the software and give the same certainty in tax matters to SMEs. Any service provider that offers e-invoicing solutions/software to the European SME market will commercially require the 'quality mark' to denote the compliance of their product(s). The creation of such a scheme can be instigated at two levels; at domestic level member state governments can create national schemes through their tax administration or at EU level the Commission could consider supporting the creation of a European quality mark⁸³.

⁸³ The EU services directive states that improving services quality should be done at member state level. Instigation of a quality mark by the Commission will be to encourage either member state or global level compliance.

Glossary

AS2	Applicability Statement 2: A transmission protocol for transporting data securely and reliably over the Internet.
B2B	Business to Business: In the context of this document, the electronic communication of supply chain data between two companies.
B2B e-Commerce	See e-Business.
Bacs	Bankers Automated Clearing Services: A United Kingdom scheme for the electronic processing of financial transactions.
CAGR	Compound Annual Growth Rate: A business and investing term for the geometric mean providing a constant rate of return over a time period.
CHAID	Chi-Squared Automatic Interaction Detection: A method of exploring the interactions between variables.
Cloud	A colloquial expression used to describe different types of computing concepts involving a large number of computers connected through a real-time communication network.
Digital Certificate	An electronic document that uses a digital signature to bind a public key with an identity.
Direct Materials	The goods and services required to ensure the day-to-day running of a business, such as desks, computers, phones and utilities.
EBICS	Electronic Banking Internet Communication Standard: A transmission protocol for transporting data securely and reliably between banks.
e-Business	Electronic Business, the process of doing business electronically (or e-Business for short), is more than “Electronic Commerce”. While e-Commerce describes the world of Business-to-Consumer commercial transactions, the term “eBusiness” usually refers to a broader scope of electronically-enabled activities, including Business-to-Business, Business-to-Consumer and Business-to-Public Sector. ⁸⁴
EC	European Commission
e-Commerce	Electronic Commerce: Commonly understood to be electronic transactions for the sale or purchase of goods or services, conducted over computer networks to consumers. In the context of this document e-commerce relates to B2B transactions.
EDI	Electronic data interchange is the electronic transfer, from computer to computer, of commercial and administrative data using an agreed standard to structure an EDI message. A term commonly used to describe an EDI network inclusive of infrastructure, messaging and applications, inclusive of web-enabled technologies. ⁸⁵
EDI Message	An EDI message consists of a set of segments, structured using an agreed standard, prepared in a computer readable format and capable of being automatically and unambiguously processed. ⁸⁶
e-Invoicing	Electronic Invoicing: The issuing and receipt of VAT compliant invoices in an electronic format. According to Article 217 of VAT Directive No. 2010/45/EU, an electronic invoice is ... "an invoice that contains the information required in the Directive, and which has been issued and received in any electronic format".
EMSF	European Multi-stakeholder Forum on e-Invoicing
UN/CEFACT	United Nations Centre for Trade Facilitation and Electronic Business: An international organisation that creates and maintains global EDI Electronic Data Interchange standards for electronic trade documents.
e-Procurement	Electronic Procurement: In the context of this document, the business-to-business or business-to-government purchase and sale of supplies, work, and services through the Internet, electronic data interchange or enterprise resource planning.
ERP	Enterprise Resource Planning: A cross-functional enterprise system driven by an integrated/cloud suite of software modules that supports the basic internal business processes of a company.
EU	European Union

⁸⁴ <ftp://ftp.cen.eu/CEN/Sectors/List/ICT/FocusGroups/eBusRoadmap.pdf>

⁸⁵ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31994H0820:en:HTML>

⁸⁶ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31994H0820:en:HTML>

EUROSTAT	A Directorate-General of the European Commission that provides statistical information to the institutions of the European Union and promotes the harmonisation of statistical methods across member states.
Financial Process Automation	In the context of this document, the use of information systems to automate financial processes across Accounts Payable, Accounts Receivable and Treasury in order to contain costs, provide efficiencies and improve process visibility.
Freemium	A business model by which a product or service is provided free of charge, but cash is charged for advanced features, functionality, or virtual goods.
In-Direct Materials	Indirect materials are the goods and services required to ensure the day-to-day running of a business, such as desks, computers, phones and utilities.
Information Economy	The information economy theory places an increased emphasis on informational activities and information industry to drive value. Also called the digital economy.
Integration	In the context of this document, the machine to machine transfer of business information between business partners.
Nemhandel	Easytrade: A Danish e-invoicing infrastructure developed by the National IT and Telecom Agency.
OCR	Optical Character Recognition: The electronic conversion of scanned images of handwritten, typewritten or printed text into machine-encoded text/data.
P-Cards	Purchasing Card: A form of company charge card that allows goods and services to be procured without using manual purchasing processes.
PDF	Portable Document Format: A file format used to represent documents in a manner independent of application software, hardware, and operating systems.
PEPPOL	Pan-European Public Procurement On-line: A European Commission large scale pilot IT project designed to align business processes for electronic procurement across all governments within Europe, aiming to expand market connectivity and interoperability between (existing public sector) e-procurement communities.
SCF	Supply Chain Finance: The use of financial instruments, practises and technologies to optimise the management of working capital and liquidity tied up in the supply chain processes of trading counterparties.
SEPA	Single Euro Payment Area: A European Union payment-integration initiative for the simplification of cross-border Euro denomination bank transfers.
Semi-Structured	In the context of this document, an electronic invoice document that contains both an image and machine readable data but with no defined schema (as found with standards). For example PDF/A-3.
Service Provider	In the context of this document, a private company providing software or services relating to electronic invoicing.
SME	In the context of this document, European Commission Recommendation ⁸⁷ of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises,
SMP	In the context of this document, a definition of micro, small and medium-sized accounting practises serving the needs of micro, small and medium-sized enterprises.
Standards	Standardisation can take different forms, ranging from the adoption of consensus based standards by the recognised European or national standards bodies, through consortia and fora, to agreements between independent companies ⁸⁸ . In the context of this document, a national, industry, government or international schema for an electronic document defined by a professional body or organisation. For example UBL 2.0, EDIFACT or UNCEFACT II.
Structured Invoice	In the context of this document, an electronic invoice document that contains machine readable data within a recognised schema. For example UBL 2.0, EDIFACT or UNCEFACT II.
Supply Chain	In the context of this document, a term describing the system of organizations, people, activities, information, and resources involved in moving a product or service from supplier to customer.
Tax Compliance	In the context of this document, the rules defined by the European Commission (2001,2006,2010) and interpreted by member states, that must be met to create, transfer and archive electronic invoices both domestically and cross-border within Europe.

⁸⁷ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:124:0036:0041:EN:PDF>

⁸⁸ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2011:011:0001:0072:EN:PDF>

UBL	Universal Business Language is a library of standard electronic XML business documents such as purchase orders and invoices.
Unstructured Invoice	In the context of this document, an electronic invoice document that contains an image (for example JPG, GIF or PDF) or a data file that has no determined structure or definition (for example customised spread sheet formats or text files).
VAN	Value Added Network: An intermediary infrastructure and platform service sharing structured data between international business partners.
XML	Extensible Mark-up Language: A mark-up language providing a set of rules for encoding documents in formats that are both human and machine-readable.

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