

E-invoicing: The catalyst for financial supply chain efficiencies

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Received (in revised form): 28th February, 2011

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ABSTRACT

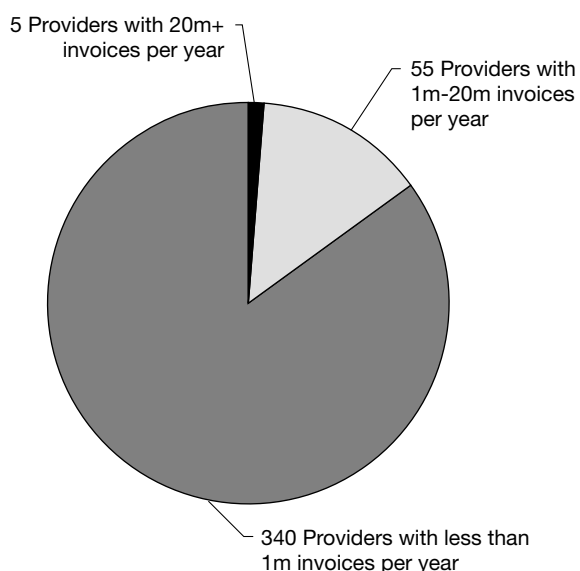
The benefits of e-invoicing have been documented extensively by various organisations, ranging from the European Commission 'Expert Group on E-Invoicing' to independent research organisations. The focus of much of the research, however, is limited to the replacement of paper invoices with electronic documents. While paperless invoicing does drive near-term cost savings, there are often further benefits to be gained through more ambitious accounts payable

(AP) automation projects. The introduction of electronic invoices into a financial supply chain can be a key enabler to other projects, such as evaluated receipts settlement, supply chain finance and category spend management, each of which can have even greater impacts on a company's income statement or balance sheet. These broader AP automation projects, however, often require new approaches to financial supply chain management, such as reversing the flow of invoices from buyer to seller or eliminating invoices altogether. Corporations considering e-invoicing initiatives should think holistically about the financial supply chain benefits that can be achieved from related projects. Much can be learned from the experiences of large organisations in North America, Europe and Asia which are already implementing many of these approaches. This paper explores the potential benefits to corporations from the adoption of an e-invoicing programme as well as broader AP automation initiatives. The focus will be on business-to-business e-invoicing as opposed to business-to-consumer billing.

Keywords: *e-invoicing, financial supply chain, accounts payable automation, fiscal dematerialisation, electronic data interchange*

INTRODUCTION

The first electronic invoices were sent over 30 years ago using electronic data interchange (EDI). Since then, the use of e-



*Figure 1
Business-to-
business e-invoices
in Europe*

Source: Billentis and DB Research

invoicing has continued to evolve at a slow, but steady pace. In recent years, a new wave of interest has emerged among corporate accounting organisations and large financial institutions. One of the key catalysts for the resurgence in e-invoicing has been regulations which allow corporations to replace paper invoices legally with electronic equivalents as the basis for taxation and commercial activities. These new regulations emerged in Europe starting in 2001, but similar frameworks have been introduced in Asia and Latin America since then. The ability to eliminate paper invoices from the financial supply chain can create significant cost-saving opportunities for buyers and suppliers. It is estimated that over €200bn can be saved from e-invoicing throughout Europe alone.¹ Not surprisingly, the market has been growing at the rapid pace of over 50 per cent per year (see Figure 1), even through the recent global recession.² In most countries, the use of e-invoicing is just beginning. Experts estimate that fewer than 10 per cent of the 30 billion invoices exchanged in Europe are electronic today.³

The demand for electronic invoices among corporations has not gone unnoticed by the vendor community. Over 450 different service providers in Europe alone now offer e-invoicing solutions.⁴ These vendors range from technology start-ups focused specifically on e-invoicing to the transaction banking divisions of global financial institutions.

BENEFITS OF E-INVOCING

There are numerous ways in which invoices can be exchanged between buyers (customers) and suppliers in a transaction:

- (i) paper invoice sent by post;
- (ii) invoice sent as an electronic attachment (eg PDF) to an e-mail;
- (iii) electronic invoice created from scanning a paper document using optical character recognition;
- (iv) electronic invoice sent as structured EDI or XML document;
- (v) both a paper invoice sent by post and electronic duplicate sent by other means (i–iv above).

As with any automation project, the cost savings to be achieved from e-invoicing will vary depending upon the starting point. Companies which only send paper invoices by post (i) will generate the most savings. Many companies which practice (iii) or (v) have already achieved significant cost savings, even though they have not shifted to a truly digital invoice model. Proper electronic invoicing is considered by most to be the transmission of a structured EDI or XML document from the supplier (iv) into the buyer's accounts payable (AP) system. Depending upon the location of the buyer or supplier, tax regulations also may require a government-issued identification number, qualified electronic signatures, specific content fields and long-term archiving of the invoice.

Switching from a paper to electronic invoicing process can yield savings of 60–80 per cent, with a payback period of 0.5–1.5 years.⁵ There are six key benefits that can be obtained from electronic invoices:

(i) *Digital invoice capture*: Invoices received as PDF attachments to an e-mail or by post introduce unnecessary costs and complexities into the AP and accounts receivable (AR) processes. For invoices received by post, the documents must be sorted, routed, opened and re-keyed into an AP system. For invoices received via e-mail, the documents must be saved, printed, re-keyed and possibly forwarded. Data re-entry is the most problematic of the processes, as it is time consuming and error prone. E-invoicing fully automates the invoice capture process, removing paper from the supply chain. Fiscal dematerialisation not only provides cost savings, but also reduces the carbon footprint of businesses. Although the digitisation of a single invoice does not lower green-

house gas emissions significantly, the cumulative effect of removing 30 billion paper invoices from the financial supply chain would have a significant impact.

(ii) *Automated invoice validation*: Most AP organisations perform validations of line items on an invoice before routing it to line of business managers for approval. For example, buyers often require suppliers to list the buyer's part number, buyer's purchase order number and general ledger on an invoice. Such references enable the AP department quickly to identify the goods being purchased and the department responsible. One of the more complex validations performed is the matching between an invoice and the related documents in the procure-to-pay life cycle. The pricing and terms on an invoice should match those negotiated in the master contract with the vendor. Additionally, the line-item quantities, product descriptions and per-unit pricing on the invoice must match those of the purchase order and the actual goods received. The costs, accuracy and time required for matching and validation can be significantly reduced through automation.

(iii) *Vendor self-service*: Perhaps, the most costly aspect of invoice processing is not the capture or validation of the data, but staffing call centres to support vendor inquiries about payments. After submitting an invoice the supplier's AR team typically will contact the buyer to confirm receipt of the invoice. A few weeks later, the supplier may follow up again to inquire about invoice approval and the actual payment date. Significant time and expense are incurred responding to vendor calls and researching the status of invoices. A key element of any e-

invoicing programme should be a portal which offers vendors the ability to check the status of approval processing and payment.

- (iv) *Enhanced account reconciliation:* Suppliers are often challenged to reconcile the payments they receive from customers against the original invoices they submitted. A supplier may have submitted four invoices for €5,000 during a single month, but received a single payment for €18,000. To reduce banking fees, customers will frequently consolidate payments for multiple invoices into one single funds transfer. Additionally, customers may claim deductions against an invoice because of shipment problems such as damaged or missing items. Upon receiving a consolidated payment, confused suppliers will frequently call the buyer's AP department to enquire about the details behind funds received. To simplify account reconciliation for suppliers, customers should send electronic remittance advices along with a payment, which provide a detailed accounting of the invoices paid as well as debits, credits or adjustments taken.

As well as the benefits cited above, e-invoicing provides a platform upon which additional financial supply chain programmes can be added.

- (v) *Enhanced spend management:* Companies large and small are under constant pressure to reduce costs. Cuts which eliminate waste or inefficiency are always preferred to those which affect the labour force, product development or customer service. Spend-management programmes can identify sources of fraud, waste and abuse by aggregating data from purchasing, contracts and AP systems into a data warehouse which can be analysed for

cost-saving opportunities. Examples might include reducing maverick, off-contract buying, cancelling unused services and consolidating spend with fewer suppliers. In categories such as travel, legal, utilities and telecommunications expenses, spend management can provide insights which reduce costs by 2–10 per cent. Regardless of which spend category is the focus, a key enabler for spend management programmes is the ability to receive electronic invoices from suppliers.

- (vi) *Access to early payment discounts:* Electronic invoices enable faster processing and approval cycles. Suppliers are often willing to exchange a discount of 1–2 per cent of the total charges on invoices for an earlier payment. There a number of different models for early payments, ranging from buyer-managed invoice discounting programmes, supplier receivables factoring programmes, bank-led supply chain finance programmes and multi-bank electronic marketplaces such as the Receivables Exchange. Each of the different models from receivables factoring to supply chain finance appeals to different types of companies. The key enabler to each of these different models, however, is the electronic exchange of an invoice.

MARKET DRIVERS FOR E-INVOICING

Several market drivers have emerged in recent years which have led to a resurgence of interest in e-invoicing:

- *Regulatory framework:* Many countries with value-added-tax (VAT) systems have enacted regulatory frameworks which allow companies to dematerialise invoices. Electronic invoices can function as the legal basis for taxation provided that certain measures are enacted

to guarantee the integrity, authenticity and archiving of the documents. Starting in 2001, the European Union introduced a regulatory framework for e-invoices. Several Latin American countries, including Chile, Brazil and Mexico, followed shortly thereafter with new regulations. A few countries in Asia, including Korea and Taiwan, have also updated or enacted e-invoicing frameworks. The introduction of clear guidelines from tax administrators on the legality of electronic invoices has been a key factor in driving corporate adoption.

- *Government mandates:* Numerous public-sector organisations in Europe, including Sweden, Norway, Spain and Denmark, have announced compulsory e-invoicing programmes. As a result, all government suppliers must invest in e-invoicing technologies to perform billing. Public-sector organisations in health care, education and defence buy from a broad group of vendors in almost every industry. Therefore, in effect, government mandates have seeded a large percentage of the private sector with e-invoicing technologies. The investments made for government entities can easily be extended to the electronic invoicing of commercial accounts as well.
- *Customer demand:* The macroeconomic recession of the past few years has led most private-sector corporations to seek out opportunities to reduce costs. Eliminating unnecessary back-office expenses has been a high priority for many organisations. Consequently, programmes such as spend management have seen greater interest from corporations. Many companies are centralising AP functions into shared service centres located in lower-cost geographies. Another driver is the extensions of payment terms with suppliers. Many large buying organisations increased payment

terms to 60, 90 or 120 days, which has created increased demand for receivables factoring and supply chain finance programmes. All these programmes depend upon e-invoicing for implementation.

- *Supplier innovation:* Vendors of e-invoicing services have also been a key force in building market awareness and driving adoption of these technologies. In addition to pure-play e-invoicing vendors, competition has emerged from EDI networks, business process outsourcing firms, e-procurement application vendors and financial institutions. Banks have been a key source of innovation in the marketplace. In particular, the trade finance groups at these institutions have focused on delivering new sources of value to clients. As revenues from traditional letter of credit products have waned in recent years, trade finance groups are introducing new procure-to-pay, supply chain finance, spend management or stand-alone e-invoicing services products to offset the declines.

CHALLENGES WITH ADOPTION OF E-INVOCING

With a mature technology foundation, compelling financial benefits and strong market drivers, e-invoicing has a promising future. Strong demand has led to growth rates in excess of 50 per cent in recent years. There are, however, a number of potential obstacles which could delay the adoption of e-invoicing. Challenges with government regulations, technology standards, pricing dynamics, market fragmentation and vendor interoperability all represent potential threats to the adoption of e-invoicing.

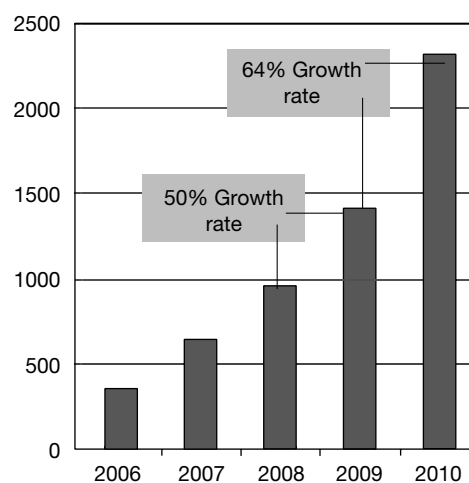
Diverse country-level regulations

Adoption of e-invoicing by the largest companies in the world will be a key

factor in the overall growth rates of the market. Those with the largest purchasing power also wield the greatest influence over the technologies used by their supplier community. One of the key challenges faced by large, multinational corporations is the complex maze of regulatory frameworks for e-invoices, which vary from country to country. Some countries, such as Japan, India, China, Thailand, Egypt and the Ukraine, have not permitted paperless invoicing historically. Other countries such as the USA, Australia, Singapore and Hong Kong have fairly liberal regulations regarding e-invoicing, with no specific legal directives in place. Examples of more flexible e-invoicing frameworks can also be found in Europe. Although falling under the purview of the EU Directives, regulations in countries such as the UK, Sweden, Finland and the Netherlands are generally less restrictive than in other European states.

As evinced by the examples in Figure 2, there are wide extremes in regulatory approaches to e-invoicing, ranging from explicit prohibition of e-invoices to very little regulation at all. Between the two extremes are a number of markets which permit e-invoicing, subject to adherence to government specified guidelines. Some countries are more prescriptive than others. For example, the government of Taiwan mandates that e-invoices contain a serial number which can only be obtained from the local tax office. Invoices in Taiwan must adhere to a specific format: Government Uniform Invoice. Turkey allows e-invoicing only for certain categories of companies. France, Hungary and Spain allow for e-invoicing, but also require a summary document on paper to be exchanged.

Perhaps the most prescriptive e-invoicing regulations exist in Latin America within countries such as Mexico, Brazil



Source: Trustweaver

Figure 2 Country approaches to integrity and authenticity management

and Chile. For example, in Brazil suppliers must obtain authorisation for e-invoices from the local state treasury organisation prior to transmission. A paper copy of the e-invoice must accompany the goods during transit to support any inspections by local customs authorities. Upon receipt, the customer must validate the authenticity and integrity of the e-invoice with its local state treasury. The extensive regulation is designed to minimise tax evasion in Brazil's relatively large 'informal economy'. Mexico has similar regulations, which changed at the beginning of 2011. As Mexico is one of the largest trading partners of the USA through the North American Free Trade Agreement, requirements to comply with Mexican tax regulations have been watched closely by American firms.

Buyer fragmentation

Not all companies have the budget, resources or expertise to generate EDI or XML-based electronic invoices from their accounting systems. Instead, many small and medium-sized enterprises (SMEs) elect to use Web portals to submit invoices electronically to their customers. Large organisations, both public and private, typ-

ically offer suppliers a 'vendor portal', which allows individual companies to submit sales proposals, download purchase orders and upload electronic invoices. For SMEs selling to only a few customers, such an approach can be effective. For SMEs selling to five or more customers, however, the process becomes burdensome, as they must register separately on the vendor portals for each customer. While these vendor portals generally do not charge suppliers for access, the need to key-in data to multiple Web interfaces can be time consuming.

Over the past ten years, adoption of e-procurement technology among European public-sector organisations has grown steadily. Most major national and regional governments have a platform for e-tendering, reverse auctions and e-invoicing. The platforms are highly fragmented at a country or regional level, however. The UK has several e-procurement portals, including Zanzibar, Buying Solutions, OPEN and xChangeWales. France has Ixarm, Achats, Marches-publics and e-Bourgogne; Spain has Direccion General, Del Patrimonio, Del Estado and PETM-BCS; Germany has e-Vergabe and Kaufhaus des Bundes (KdB); Italy has Acquistinretepa; Norway has Ehandel.no; and Belgium has .be-Procurement. Suppliers selling to multiple public-sector organisations need to register and interact with multiple different portals. As government organisations are some of the leading adopters of e-invoicing, the fragmentation of portal platforms presents a potential inhibitor to market growth.

Fortunately, there is an initiative to harmonise public-sector e-procurement platforms. The initiative, called PEPPOL (Pan-European Public Procurement Online) is just at the pilot stage currently, but 18 different public-sector buying organisations from 12 different countries are actively engaged.⁶ PEPPOL seeks to

unify the various local and national e-procurement exchanges into a single harmonised market across Europe. PEPPOL will reduce barriers to participation in government contracts, thereby introducing more competition to the market. Suppliers will also benefit, with a simplified, consistent approach to bidding on contracts both within their home country and in neighbouring states.

Large corporations also offer websites, which enable SMEs to submit invoices electronically. These vendor portals are particularly popular for high-value invoices in the direct materials value chain. Most large buyers of raw materials, component parts and finished goods in the retail, automotive, high-tech, pharmaceutical and industrial supply chains have a vendor portal. Suppliers to large corporations face the same fragmentation challenges as suppliers to government organisations. An automotive parts supplier who sells goods to ten different vehicle manufacturers in Italy, France and Germany may have to interface with ten different e-invoicing portals in order to bill its customers. Unfortunately, unlike the government market, there is no planned convergence of portal platforms between large corporations. For the foreseeable future, SMEs will have to continue to interface with multiple customer portals.

Pricing dynamics

Technology solutions which are used by a community of companies introduce unique challenges. One key question is: Who pays for the service? Buyers derive the majority of the value from e-invoicing. Furthermore, buyers have the power in the relationship. As a result, many buyers will push the costs for e-invoicing programmes to suppliers. Such a 'supplier pay' model, however, typically slows the adoption rate. Suppliers often are reluctant to invest in technologies that primarily benefit their customers without a clear



Figure 3 Relative size of e-invoicing vendors

Source: Billentis, EXPP Summit 2007

mechanism for obtaining reimbursement.

The issue of who pays, however, may become less significant as new pricing innovations come to market. In Northern Europe, there are already e-invoicing vendors which offer services for free to prospective buyers. Consider TradeShift and Maventa, which offer free in-network exchange of invoices between buyers and suppliers using the same service provider. Much like Skype, the free 'in network' services are subsidised by 'off network' roaming fees charged for documents exchanged with other service providers.

Service provider market fragmentation

Many of the 450 e-invoicing providers in the European market today are sub-scale. It is estimated that only five service providers have significant market share,

processing more than 20 million invoices per year (see Figure 3).⁷ Another 50 service providers have critical mass, processing at least 1 million invoices per year (but fewer than 20 million).⁸ The remaining vendors operate at only a country level, with relatively few invoices being processed.

The e-invoicing market will most likely consolidate down from 450 players to fewer than 20 over the next five years, following a pattern similar to other e-commerce markets. For example, over 2,000 e-marketplaces were launched during the dot-com era, including e2open, Covisint, SupplyOn, Transora, World Wide Retail Exchange, Elemica and Quadrem.⁹ Shortly after the peak, however, the vendor landscape began to consolidate down to fewer than 20 e-marketplaces today.

Service provider interoperability

A key topic of debate within the e-invoicing market in recent years has been the subject of interoperability between the 450 e-invoicing service providers. An e-invoice created on one service provider's network cannot be routed to another service provider's network.

Consequently, a manufacturer who sells goods to ten large customers may have to subscribe to ten different e-invoicing services in order to perform e-invoicing. By establishing interoperability, vendors would reduce the cost and burden placed on a supplier to participate in e-invoicing programmes. A supplier could join the network of choice, then route invoices to trading partners both on-network and off-network. Such an approach has enjoyed high levels of success in Northern Europe.

Proponents of interoperability argue that e-invoicing networks should allow buyers and suppliers to roam, much as a mobile phone user can. E-invoicing vendor Basware argued in a recent white paper:

(Consider the success of today's global system for mobile communication/general packet radio service (GSM/GPRS) telephony networks — success that would have been impossible without interconnect agreements between every single service provider (or aggregator) across the planet. When a Vodafone user in the UK places a national call it intelligently routes to the chosen recipient — irrespective of the chosen network. Similarly, when subscribers 'roam' abroad, the ability to 'borrow' connectivity from a regional network, and have the call placed anywhere in world is assured. This wasn't always the case, and breaking down technical, commercial and psychological barriers to such an open global mobile network was, for many years,

the major priority (and challenge) of the GSM Association. Today this has been realised to great effect, and seamless interoperability is the key reason why mobile phone penetration is over 100% in many European and Developed countries, why nearly 50% of the global population owns a mobile phone and why the industry is worth in excess of one trillion US dollars.¹⁰

Not all vendors are in favour of full interoperability, however. David S. Evans of Market Platforms argues:

There is no evidence to support the view that interoperability was a significant factor in the success of mobile telecom. Payments cards have become ubiquitous in many developed countries despite the fact that they are not interoperable. Facebook has grown to 500 million users worldwide, and is close to ubiquitous in certain demographic categories. These examples suggest that interoperability is not a necessary condition for transaction or communication networks to grow rapidly ... Free interconnection and interoperability would enable networks that have not invested in their products and services to free-ride on those who have. Under these circumstances transaction platforms would tend not to invest much in improvements — especially building out a supplier network — and there would be a race to the bottom.¹¹

Despite the spirited debate on the topic, several interoperability alliances have been formed between e-invoicing providers, including the Hub Alliance, VeR (Verband elektronische Rechnung) of Germany and Invoice-X of Spain. As the e-invoicing service provider market consolidates in coming years, the issue of interoperability will become less significant. Larger players

will probably view more benefit in inter-operating with one another.

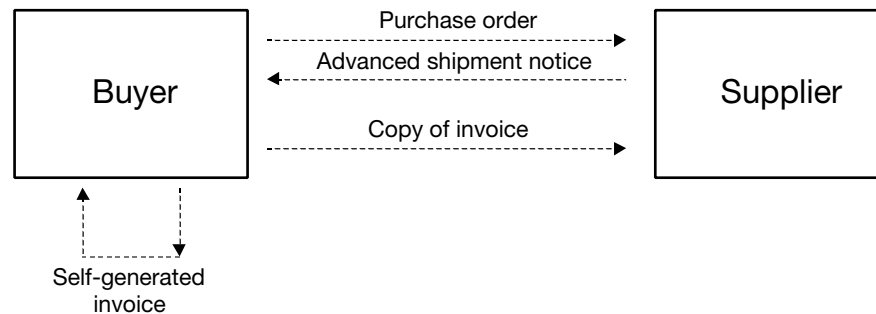
Unique e-invoicing challenges in industry sectors

Significant value can be unlocked through e-invoicing projects. In some cases, however, achieving the results may require a broader project than simply replacing paper invoices with electronic documents. The following two examples from the North American retail market provide illustrations of the significant profitability impacts to be gained by increasing invoice processing efficiencies.

- Consumer products:* The challenges with invoicing have been studied extensively in the fast moving consumer goods (FMCG) and retail industry. Independent studies have found that 60 per cent of the invoices in the grocery-sector have errors.¹² Most of the inaccuracies are caused by discrepancies in product and price data. Invoice accuracy challenges are perhaps the greatest in the beverage industry, specifically the carbonated soft drinks segment. Beverage companies in the North American market will frequently issue pricing discounts or trade promotions to accelerate sales. Some promotions are used to gain access to preferred shelf placement by the retailer. Other promotions, such as Buy-One-Get-One Free, are used to lower the price for the end consumer. Spend on trade promotions have accelerated in the past few decades, now representing up to 15 per cent of revenues for some brands. Frequent price changes and extensive use of trade promotions means that determining the correct price for a particular stock-keeping unit on a particular store on a particular day can be quite challenging. If pricing data is not regularly synchronised across the supply
- chain, invoicing disputes will arise. Studies have found that 43 per cent of invoices in FMCG have deductions today.¹³ Each deduction costs €50 to negotiate. With millions of invoices exchanged annually, the costs to manage the dispute resolution process can be substantial. Accounts payable departments could substantially improve efficiencies by reducing disputes. Simply replacing a paper invoice with an electronic version, however, does not adequately address the problem. Invoice accuracy, specifically price and trade promotion data must be synchronised to minimise disputes.*

Apparel and footwear: Another significant challenge in the retail industry, particularly in the North American apparel and department store sector, is the high volume of performance-related invoice deductions. A study from the US-based Credit Research Foundation found that the average retail supplier lost 2 per cent of annual sales to deductions associated with retailer 'compliance' programmes.¹⁴ Operating on relatively thin margins, retailers depend upon extremely high levels of automation in their distribution centre and supply chain operations to achieve profitability targets. To incentivise suppliers to minimise the exceptions which erode profitability, the North American retailer community has implemented an elaborate set of performance measurement techniques. Retailers publish compliance guides which outline for suppliers which transport carriers to use, the types of packaging to use, the placement of labels on packages, and the timing of related EDI transactions. It is not uncommon for an individual retailer to have 100–150 different rules in a compliance guide, which change 10–12 times per year. There is a tremendous opportunity to improve

Figure 4
Self-billing process



operating margins in the retail industry by lowering the frequency of deductions. Each euro in reduced deductions makes a direct positive contribution to profitability. Simply replacing paper invoices with electronic equivalents, however, does not address the root cause of the inefficiencies. Instead, success with reducing invoice deductions is highly dependent upon upstream or downstream processes in the procure-to-pay lifecycle. The problems cannot be solved by the AP and AR organisations, but rather require coordination between sales, purchasing, logistics and materials management functions.

Reverse invoicing and self-billing

Given the challenges with creating accurate invoices, many industry sectors have abandoned the idea of supplier-based invoicing altogether. As evinced by the examples above, the invoice can often be a source of discrepancies which lead to disputes, chargebacks, late payments and unnecessary costs in the supply chain. If the probability of a supplier generating an invoice correctly is relatively low, why should the supplier generate one at all?

An alternative approach is for the buyer to self-generate the invoice based upon their view of the amounts due. Upon receipt (or consumption) of goods from a supplier, the buying organisation will self-

generate an invoice. The invoice amounts are calculated based upon the pricing agreed in the original purchase order and the goods received as recorded in a warehouse management system. The invoice is sent from buyer to supplier, the reverse of the normal flow. A payment is made at a later time based upon the payment terms, using electronic funds transfer. The process, referred to as 'self-billing' or 'evaluated receipts settlement', is popular in certain industries within Europe and North America (see Figure 4).

- *Automotive manufacturing:* Self-billing is often used in conjunction with vendor-managed inventory (VMI) programmes in Europe. Automotive vehicle manufacturers make extensive use of VMI models with parts and subsystem suppliers. The Japanese original equipment manufacturers (OEMs) use a system called 'kanban'. European OEMs use a variety of models such as call-off, min/max and just-in-sequence. Regardless of the VMI model used, the self-billing process is similar. The quantity of parts or raw materials consumed in a manufacturing line is calculated at a regular interval. The consumption quantities are multiplied by unit prices to arrive at line item totals on a buyer-generated invoice.
- *Grocery retailing:* Another permutation

of the self-billing model is called scan-based trading. A form of VMI, scan-based trading has been adopted in selected merchandise categories of the US grocery market. In a scan-based trading model, the supplier retains ownership of the inventory until the consumer purchases the product. The scanning process at the point-of-sale triggers a self-invoice generation process by the retailer. Point-of-sale and pricing data housed in the retailer's system are used to calculate the invoice amounts. Scan-based trading is most popular in the US grocery industry with high-turnover products such as greeting cards, magazines, soft drinks and salty snacks. A study by the Grocery Manufacturers of America found that scan-based trading projects achieved 100 per cent elimination of invoice deductions as well as a 3–4 per cent uplift in sales.¹⁵ Despite the benefits, its adoption remains limited to only a few retail chains in North America.

- *Media and entertainment:* The rapidly growing market for digital goods is another area making extensive use of self-billing. Consider online purchases of music, films, e-books, apps (software) and video games for use on mobile devices, tablets and personal computers. Media and entertainment companies negotiate pricing and licensing arrangements with online retailers such as Apple's iTunes and Amazon.com, which then sell directly to customers. Billing in these scenarios is complex, as there is no regular replenishment or delivery of product. In fact, the supplier has no visibility to which types of products are being sold and in what quantity. Inventory in the form of an MP3 file or other media file is exchanged once upfront. The supplier is then dependent upon the online retailer to self-report the sales on a regular basis. The sales

report is often in the form of a self-generated invoice from the retailer.

It should be noted that self-billing is only allowed in certain countries and is often restricted to certain categories of goods by local tax authorities. Furthermore, there are opportunities for errors, disputes and adjustments in self-billing processes. By starting with the customer's view of an invoice, however, several unnecessary steps can be eliminated in the process. The supplier no longer has to submit an invoice which is likely to be disputed and debited by the customer.

Category-specific considerations

Another benefit of e-invoicing is to enable procurement departments more easily to monitor, analyse and control spending patterns throughout the organisation. In some cases, however, achieving the results may require a broader project than simply replacing paper invoices with electronic documents. Consider the following examples of category-level spend management.

- *Professional services:* Large corporations spend hundreds of millions each year on professional services provided by law firms, management consultants, advertising agencies, independent auditors and investment bankers. The suppliers of these services are generally receptive to the concept of sending invoices electronically. The invoices provided from these professional services firms, however, typically provide very little detail. For example, a law firm might submit an electronic invoice for €500,000 with the summary description 'For Services Rendered'. Upon receiving invoices from outside firms, corporate counsel often spend significant amounts of time researching and validating fees prior to approval. The lengthy approval process results in frequent delayed payments to the suppliers (law firms). Ideally, corpo-

rations would receive a detailed breakdown of charges in electronic format for all legal bills. The data could be fed into a legal spend analysis application which compares the invoiced amounts to contracted hourly rates. Such a process would ensure that corporations are not being over-billed for photocopies or travel expenses. Vendors of legal spend management products claim that customers can reduce legal expenses by 10 per cent annually simply through more detailed audits of their invoices. The benefits, however, are only obtainable with detailed, line-item-level invoices.

- *Utilities:* Most businesses only receive summary-level data in the monthly invoice provided by their electricity, gas and water providers. Approximately 10–15 per cent of all utility bills have some type of error. The meters which generate consumption data can provide inaccurate readings if not properly maintained. Electricity, gas or water services may still be switched on at vacated sites for which a service suspension was requested. Landlords of multi-tenant office buildings may have improperly allocated energy fees to the individual leaseholders. Ideally, corporate buyers of utilities services would receive detailed invoices which provide consumption data by location, day of week and time of day. The raw data could be fed into an energy spend management application which could identify billing errors or excessive usage scenarios. For example, above average electricity consumption at an office building maybe an indicative of ‘phantom energy’ which is being drawn by copiers, printers and computers that are switched on during nights and weekends rather than being placed in standby mode. Commercial buildings consume 10 per cent of all energy worldwide.¹⁶ A reduction in energy usage at these

facilities could considerably reduce a corporation’s carbon footprint. The cost and environmental benefits, however, are only obtainable with detailed consumption data from the provider.

ELIMINATING INVOICES

For certain categories of spending, the best approach to enhancing efficiencies within AP organisations may be not just the elimination of paper, but rather the elimination of invoices altogether. For example, most companies do not receive invoices for employee travel and entertainment expenses. Instead, employees are issued with corporate travel cards which are used to make payment for hotels, airfares, meals and rental cars. The use of credit cards by corporations is no longer limited to travel and entertainment expenses. A variety of commercial card offerings now exist to improve the efficiency of low-value payments.

Perhaps, the greatest potential for commercial cards is in the indirect materials categories of spend such as furniture, office supplies, IT equipment and maintenance, repair and operations expenses. The cost of generating a purchase order and invoice for these indirect materials purchases can represent a considerable percentage of the actual value of the goods. Many companies are considering migrations away from traditional purchase order and invoice models for low-value transactions towards purchasing cards. Studies of purchasing cards have found that organisations can save US\$50 per transaction by using a card compared with a paper requisition and payment process.¹⁷ There is no need to create a requisition, complete a purchase order or process an invoice. The adoption levels for purchasing cards are highest in the USA and UK, but cards are experiencing relatively strong growth rates in all regions.

CONCLUSION

Industry experts are often quoted as stating that e-invoicing has been in the early stages of development for over 20 years now. The technology, however, has now reached a critical mass of participation. There is strong market momentum, particularly in Western Europe and Latin America, where e-invoicing has grown in excess of 50 per cent even through the recession. Many of the largest financial institutions have been attracted to the rapidly evolving e-invoicing market. Growth rates of 50 per cent, however, will not continue forever. When growth slows, vendor market consolidation and price wars are likely to occur. Financial institutions will need long-term strategies for differentiation, survival and success. Regulators have greatly accelerated e-invoicing adoption among corporations with a clear legal framework for dematerialisation. The variances in tax code from country to country, however, confuse multinational corporations and delay adoption. Regulators need to focus on harmonising e-invoicing requirements not only across countries, but between regions as well. Finally, corporate practitioners must develop an e-invoicing strategy or risk being at a competitive disadvantage to peers in the industry which have embraced dematerialisation. Leaders in AP should resist the temptation to focus only on the automation of invoices, as far greater savings can be achieved with broader initiatives such as spend management and chargeback avoidance.

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