E-invoicing and Cost Reduction: A Case Study of Multinational Corporations

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ARTICLE INFO	ABSTRACT
	Digital invoicing, or electronic invoicing (E-invoicing), has emerged as an important driver of corporate digital transformations that directly impact the bottom line. Top multinational corporations (MNCs) have rolled out E-invoicing systems and are reaping the benefits in terms of significant cost savings. Doing away with manual invoicing by automating preparation, distribution, and processing, E-invoicing has delivered a wide range of cost reductions: Invoices are processed at up to 90% less cost than paper invoices; the cost for resolving exceptions and disputes has dropped as much as 70% and duplicate payments now stand at around 0.2% or lower, for example. In addition, extended payment terms have become a source of operating cash flow, thanks to faster invoice approval and payment; MNCs' working capital has been optimized through early-payment discounts that deliver additional cost savings. Compliance has also improved, with E-invoicing ensuring tax compliance and dramatically reducing invoicing fraud, which has already saved MNCs millions of dollars in fines and penalties. Efficiency, transparency, sustainability, and money; a tall order for any solution, yet one which E-invoicing is delivering. With the dawn of the digital age, expect to see E-invoicing delivering even greater savings and efficiencies for MNCs and corporations around the globe. **Keywords:** E-invoicing, Cost Reduction, Multinational Corporations.

INTRODUCTION

In an era of pervasive digital transformation and relentlessly advancing technology, come another twist in the inexorable march of multinational corporations (MNCs) to improve their financial process efficiency, rationalize financials and reduce costs. The digital exchange of invoices between buyers and sellers is known as E-invoicing. It is now regarded as the natural evolution from the paper-based manual process with considerably less friction and manual intervention on both the buyer's and supplier's side, and ultimately a massive enabler of companies' journey to automate their financial process, improve financial acumen and drive down their cost base. For MNCs, they therefore represent yet a further strategic step to improve the efficiency of their financials and achieve significant reductions in cost (Hugos, 2018).

Multinational corporations (MNCs) are globally engaged in substantial operations that encompass wide-ranging complex financial transactions and administrative regulations. Invoicing is one very crucial component of these operations. Invoicing is the process in which businesses issue bills, receipts, and other financial documents to each other. For centuries, invoicing systems were paper-based, meaning they remained in place for a very long time. However, with the evolution of technology, a new system, E-invoicing, was introduced and became a game-changer for MNCs, offering a number of benefits (Nasiri, Ukko, Saunila, & Rantala, 2020).

Definition E-invoicing is the intersection of the most modern methods of managing financial transactions and

the growing trend of digitizing (i.e. making electronic) the invoicing process. It is defined as: "... the exchange of the invoice document between the supplier and the buyer in an integrated electronic format" (Alnsour et al., 2023).

It involves generating, transmitting, receiving and processing invoices in an electronic format, rather than through reliance on physical means (paper) and manual data entry. In fact, in a report by Zion market research in 2019, The implementation of E-invoicing is seen as a major disruption in traditional E-invoicing, given the replacement of paper invoice with an E-invoice.

For all entities, the pursuit of cost reduction is an inherent and essential objective. For multinational corporations (MNCs), the organisation's operational scope spans various nations, currencies, and regulatory landscapes. Consequently, this mitigates against this organisational priority. In this domain, the imperative is, therefore, to streamline procedures and enhance cost efficiency. E-invoicing potentially offers a means by which substantial cost reductions can be realised.

E-invoicing has received much attention in recent years as a component of E-procurement and digital financial management, and for its potential to deliver cost reductions to multinational corporations (MNCs). The innovation is that it is likely to transform traditional invoicing practices, resulting in streamlined, accurate and cost-efficient operations. The strategic integration of electronic invoicing is likely to have significant and extensive impact, in an era where agendas are dominated by both the urgency for agility, and the centrality of cost consciousness. However, consideration of the implications of E-invoicing for cost reduction within the specific context of multinational corporations MNCs), is long overdue.

Statement of the Problem

Multinationals face a number of challenges in their financial operations, including the complexity associated with processing cross-border transactions, the need to address inefficiencies in traditionally invoicing methods, and the large burden inherent in manual and paper-based invoicing processes. Challenges like these significantly dampen operational efficiency and inhibit any cost-reduction initiatives within multinational corporations. This research aims to examine how the integration of E-invoicing into multinationals' operations can begin to address these challenges and represent a natural fit with the corporations overall cost-reduction strategies. The study's goal is to provide an overview of how E-invoicing is being adopted in todays' market, and what some of the outcomes and experiences, in a variety of multinationals, where the process has been implemented, are looking like.

Objectives of the Study

The following are the main aims of this research:

1. To assess the impact of E-invoicing adoption on operational efficiency.

2. To analyze the cost reduction potential of E-invoicing in multinational corporations.

3. To identify the challenges and barriers faced by multinational corporations in implementing E-invoicing systems.

Research Questions

1. To assess the impact of E-invoicing adoption on operational efficiency.

2. To examine how E-invoicing may help international companies save costs.

3. To assess the scope of obstacles and difficulties international companies have while putting E-invoicing systems in place.

LITERATURE REVIEW

The Emergence of E-invoicing

The paradox of a world becoming more and more digitally driven is that conventional, paper-based procedures are becoming less and less relevant. Financial transaction participants see the use of electronic invoicing as a significant move away from paper-based operations and toward the rapid, effective, and environmentally responsible administration of financial records (Hill, 2020). A flood of technologically driven developments has swept across the previous several decades and deeply penetrated the worldwide economy. The way businesses interact with one another, communicate, and handle finances has all undergone significant change as a result (E-invoicing Basics, 2018). Most people trace the emergence of E-invoicing as we know it today to the

late 20th century, when computer technology were still developing at a breakneck pace and the internet was experiencing exponential development. Due to the fact that businesses could now operate more quickly thanks to the World Wide Web and personal computers, invoices also had to be processed more quickly because the goods and services they represented were increasingly being delivered virtually and, naturally, automatically (E-invoicing Basics, 2018).

It was acknowledged that traditional invoicing was a laborious and error-prone process since it relied on physical papers, mail services, and human data input (Institute of Financial Operations, 2012).

The 1970s and 1980s saw the standardization of electronic data interchange (EDI), one of the most important turning points in the history of E-invoicing. Through EDI, businesses were able to exchange structured data electronically, including purchase orders, invoices, shipment notifications, and other vital documents that are essential to the business-to-business (B2B) ecosystem. The standards meant a sea change in how companies moved data between each other, but the integration of EDI was complex and expensive, limiting their uses to large enterprises almost exclusively. The "father of electronic invoicing", as it's understood today, experienced a resurgence in the late 1990s and early 2000s, evolving a process that leaps and bounds ahead in terms of accessibility and usability, enabled supported the progression of email, PDF technologies and secure online platforms.Governments and regulators globally recognized the potential for eInvoicing and have launched various initiatives and mandates to drive its adoption en masse (Koch, 2019).

E-invoicing

Electronic invoicing, commonly referred to as E-invoicing, entails the conversion of the conventional paper-based invoicing procedure into a digital format, thereby facilitating a technological advancement in this domain. The process encompasses the generation, propagation, reception, and manipulation of invoices through electronic modalities, commonly facilitated by dedicated software or platforms. The European Commission in 2019 provided a definition for E-invoicing, which entails the digital transmission of invoicing data encompassing billing and payment information between collaborating entities. Henceforth, it is imperative to acknowledge that invoices that are conveyed as attachments, such as Portable Document Format (PDF) files, within electronic mail correspondences do not meet the criteria to be classified as authentic electronic invoices. According to Koch (2019), the reason for this restriction is that e-mail attachments are inherently incapable of facilitating the seamless automation of invoice data processing within the payment system. For tax rules to be followed, depending on where the buyer or supplier is located, they may need to provide a government-issued ID number, use qualified electronic signatures, stick to certain content fields, and put in place long-term storage options for the invoice (Keifer, 2021). The legislative framework in the Czech Republic lacks a precise definition of an invoice, regardless of its format, be it electronic or paper-based. The tax document has the potential to exist in either a physical or digital manifestation. A tax document is deemed to be in electronic format when it is both issued and received through electronic means. Why is it so important for the recipient of an electronic tax document to "clearly and unambiguously" consent to receiving the document in electronic form? According to the Dutch Chamber of Commerce in 2012, the invoice must include some means of ensuring that an E-invoice is genuine and remains unaltered "from its source and content". The Chamber viewed the "use of a recognized electronic signature" for this purpose or "making data interchange more reliable" as two of "the various ways that such checks can be carried out". The inclusion of an "advanced digital signature" is one of the elements that "increases the invoice credibility validation" within an E-invoicing system according to Koch (2019). Tight security for E-invoicing is one of the requirements that must be met "by an E-invoice" system that can fit in a firm's financial management (Kaliontzoglou, Boutsi & Polemi, 2016). Notwithstanding the prevalent utilisation of electronic means for invoice preparation, it is noteworthy that a significant proportion of invoices undergo manual data entry, wherein information from a physical invoice is transcribed into a financial management system for subsequent processing and disbursement. This phenomenon exemplifies a substantial expenditure of time and exertion, particularly in light of the fact that the act of replication may give rise to the incorporation of errors. The implementation of automation in this particular function not only serves to mitigate the aforementioned risks but also facilitates the utilisation of digitised content in a manner that is characterised by enhanced efficiency (Kaliontzoglou et al., 2016). The effective administration of inbound monetary inflows resulting from finalised transactions is of utmost importance for the sustainability of an enterprise.
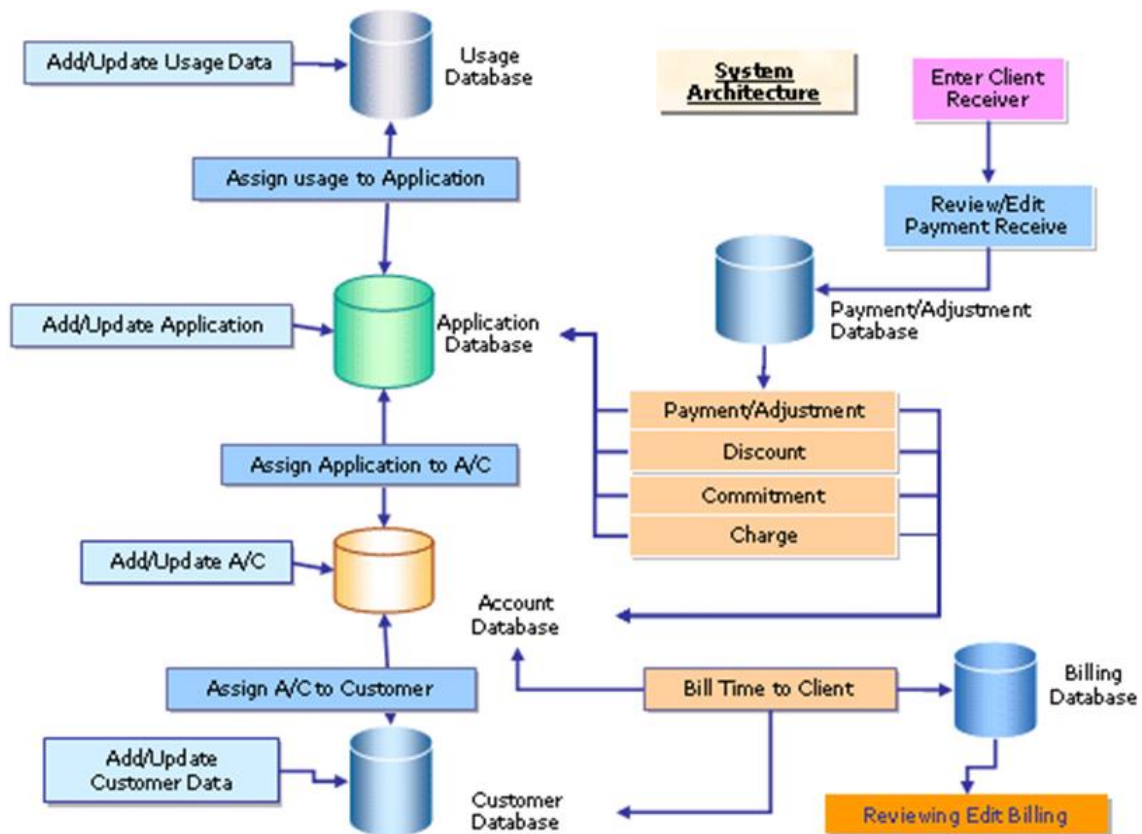
System Architecture of E-invoicing

Figure 1. E-invoicing System Architecture (Source: Swastik Infotech Services 2018)

The primary function of this module entails the meticulous conversion of the biller data file, preserving the integrity of each individual byte, into the requisite data fields that align with the database specifications. The information parser component creates an interface with the biller's pre-existing billing system. The parser effectively retrieves the pertinent billing information from the data formats of the legacy billing systems, encompassing fixed length, data-tagged, Xerox Line Mode, or alternative file formats. The salient aspect pertains to the extraction of billing information for electronic bill presentation, wherein said information is derived directly from the biller's existing format, thereby obviating the necessity for any upgrades or modifications on the part of the biller. The fundamental technological framework employed in this context is a bespoke middleware meticulously crafted utilising the Visual Studio development environment (Swastik Infotech Services, 2018) (see **Figure 1** for details).

E-invoicing Process Flow

The process of e-invoice generation, registration, and confirmation receipt can be conceptually delineated into two primary components (**Figure 2**).
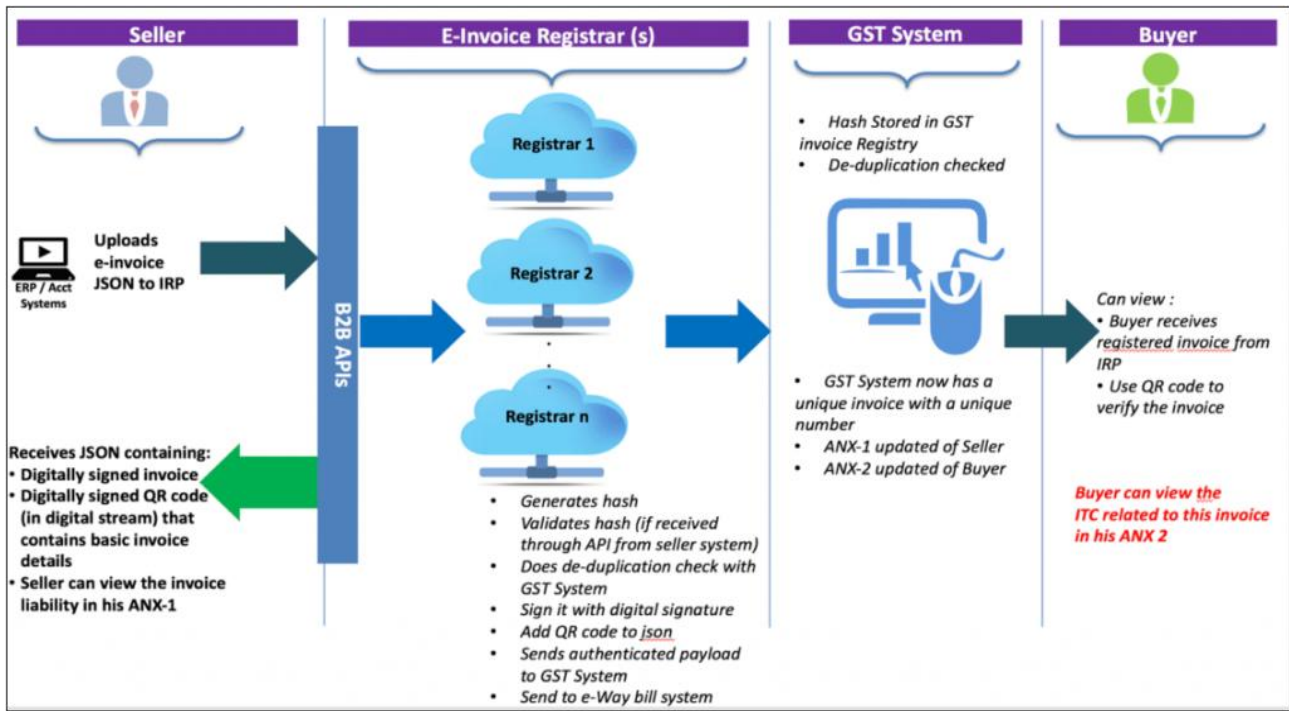
Figure 2. E-invoicing Flow Process (Source: MASK Business Consultancy Pvt, 2020)

1. The initial component involves the interaction between the commercial entity (referred to as the supplier in the context of an invoice) and the Invoice Registration Portal (commonly abbreviated as IRP).

2. The subsequent component entails the intricate interplay between the Integrated Resource Planning (IRP) framework and the Goods and Services Tax (GST)/Electronic Way (E-Way) Bill Systems, as well as the purchaser.

Traditional invoicing Versus E-invoicing

In the ever-evolving realm of commercial transactions, the process of invoicing assumes a pivotal role as the essential conduit linking the provision of goods and services with the corresponding remuneration acquired. Over the years, this fundamental process has undergone a significant transformation. The conventional practice of invoicing, which entailed the utilization of tangible paper-based documents, has yielded to the transformative paradigm of E-invoicing, as evidenced by scholarly works such as those authored by Fairchild (2016), Hugos (2018), and Gamaralalage (2020). **Table 1** below illustrates the difference between traditional invoicing and e-invoicing.

Table 1. Difference Between Traditional Invoicing and E-invoicing

Traditional Invoicing	E-invoicing
Traditional invoicing involves the creation, printing, and physical mailing of paper invoices. This approach relies on physical documents.	E-invoicing involves the creation, transmission, and processing of invoices in digital or electronic formats, such as PDF, XML, or EDI (Electronic Data Interchange).
Data on paper invoices must be manually entered into accounting or invoicing software, which can be time-consuming and error-prone.	E-invoicing systems can automate data entry, reducing the likelihood of errors and speeding up processing
Physical invoices require handling, sorting, and storage, which can lead to increased administrative costs and storage space requirements.	Digital invoices are easier to handle, store, and search for, leading to reduced administrative overhead and improved document management.
Invoices often move through the postal system, leading to delays in processing and payment. This can hinder cash flow and supplier relationships.	E-invoices can be transmitted instantly, enabling faster processing, approval, and payment. This can enhance cash flow and supplier relationships.
Traditional invoicing incurs costs for paper, printing, postage, and labor associated with manual processing. These costs can add up significantly for organizations dealing with a high volume of invoices.	E-invoicing eliminates costs associated with paper, printing, and postage. While there may be initial setup costs for implementing E-invoicing systems, the long-term savings are often significant.
Manual data entry introduces a higher risk of errors, such as typos, missing information, or misplacement of documents.	E-invoicing systems can offer robust security features to protect sensitive financial data. This reduces the risk of fraud or unauthorized access.

In traditional invoicing (**Figure 3**), the operational procedure necessitates a substantial amount of physical manipulation and the repetitive inputting of data, thereby engendering inaccuracies in the invoice data, impeding the efficiency of processing, and exposing the organization to the potentiality of misdirected invoices. The conventional method of invoicing is characterized by a significant expenditure of labor and time. Consequently, when personnel are engaged in various concurrent responsibilities, the invoicing procedure may be further impeded.
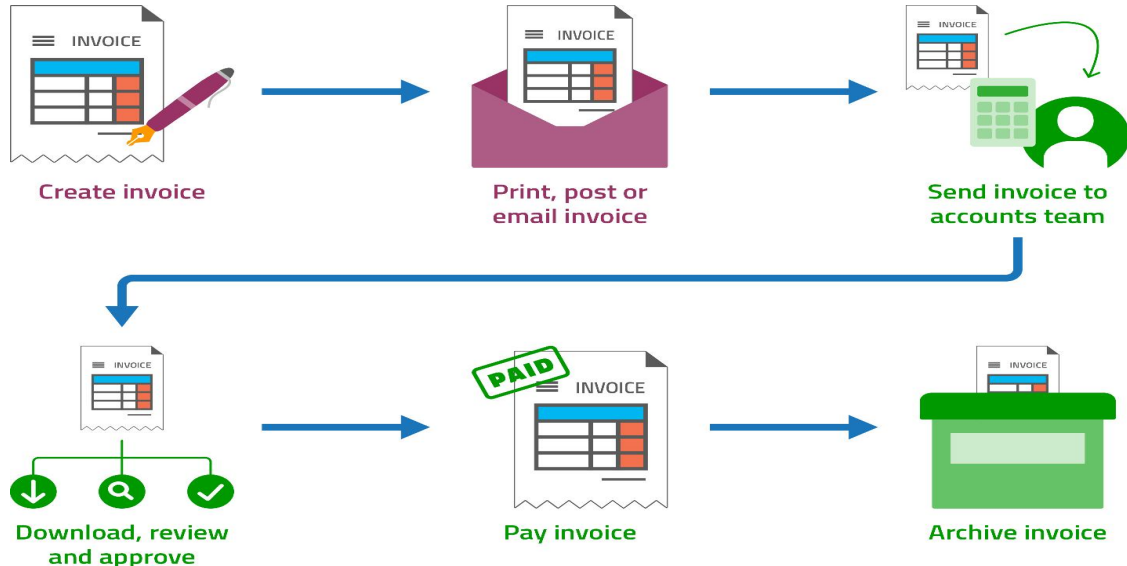

Figure 3. Traditional Invoicing Processes (Source: Message Xchange, 2022)

1. Create the invoice

2. Print and post it (or send via email)

3. Buyer receives and sends it to their accounts team

4. The invoice is downloaded, reviewed and approved

5. The invoice is paid

6. The invoice is archived.

The presence of these various elements can give rise to substantial payment delays and constrict the cash flow of vendors, thereby posing a particularly formidable challenge for enterprises of smaller scale. In the realm of administrative operations, it has been approximated that the temporal duration required for the processing of paper invoices amounts to a total of 23 days, under the assumption that the process proceeds without any significant hindrances or complications. The duration of this process has the potential to extend to a maximum of 90 days in the event that errors are encountered.

Whereas in e-invoicing (**Figure 4**), the vendor locates the Purchase Order (PO) within their software system and proceeds to generate an invoice. The information is conveyed from the primary source. The vendor transmits the invoice electronically via their proprietary software platform. The invoice is transmitted via the Peppol network, exhibiting a near-miraculous quality as it seamlessly interfaces with the recipient's software system.
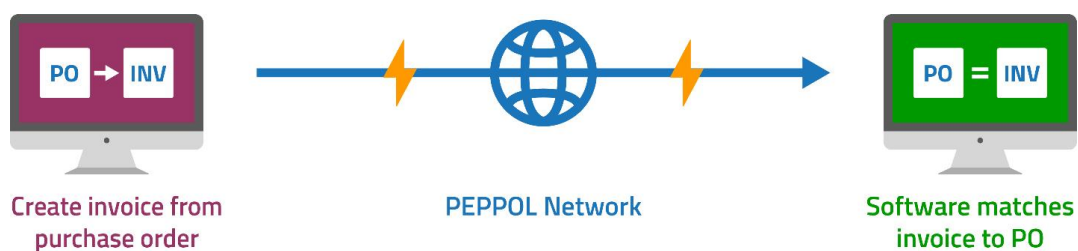

Figure 4. E-invoicing Processing Invoices (Source: Message Xchange 2022)

In order to verify the invoice's accuracy and subsequently authorize payment, the purchaser's software compares the received invoice with the corresponding PO. The operational efficiency of both the seller and buyer is enhanced through the implementation of automated processes. The elimination of issues associated with traditional invoicing is achieved through a substantial reduction in redundant manual processing. Using electronic invoicing (E-invoicing) has been shown to be significantly more efficient than the old way of processing invoices on paper, by a factor of 60% to 80%. This substantial enhancement in efficiency consequently leads to a significant reduction in payment durations. For instance, E-invoicing processing times are estimated to have a mean duration of only five days all in. With E-invoicing in place, sellers shorten the processing times of their invoice management sufficiently enough to compress payment cycles nicely. So they get paid promptly for their goods and services; at the same time, they optimize buyers' business processes and operational workflows.

Types of E-invoicing

Electronic invoicing, refers to the digital exchange of invoices between businesses or individuals, typically in a standardised electronic format. E-invoicing offers several advantages over traditional paper-based invoices, including cost savings, efficiency, and reduced errors.

Methods of E-invoicing

E-invoicing, which stands for electronic invoicing, is the digital exchange of invoices between businesses or individuals in a standardised electronic formatE-invoicing is available in a number of formats since it requires mutual agreement on the mode of exchange between the parties. These formats include:

Structured E-Invoicing: This kind of electronic invoicing makes use of a standardized and well-organized framework for invoice submission, which makes it simple for computers and people to complete. It is predicated on the interchange of structured data, and invoicing is done via the use of data standards or schemas. A variety of electronic invoicing techniques are included in structured E-invoicing; one of the oldest is electronic data interchange, or EDI, which is the electronic transfer of data between computer systems using standardized standards. Businesses utilize XML, a common language for B2B transactions, to create organized invoices that are simple for computers to process. While keeping a consistent structure, it permits some modification variations.

Because sending E-invoices is fundamentally different from mailing paper invoices, there are myriad ways to E-invoice. Here are some of the most common E-invoicing methods and protocols.

PDF E-Invoicing; Pioneers in E-invoicing, some businesses generate digital invoices as PDFs and email them to recipients, or electronically share them. It's a mainstay in B2C E-invoicing because these digital invoices are cheap and easy for humans to read (J. Sundh & V. Sundh, 2018).

Web-Based E-Invoicing: Many businesses operate web-based portals that their suppliers can log in to and submit their invoices electronically. This type of E-invoicing is popular among large enterprises with many suppliers. It also includes cloud-based platforms that offer E-invoicing as a service, which permit businesses to e-permission, -send and -receive in real time over the internet. These platforms also offer E-invoicing automation, integration and compliance capabilities.

E-file E-Invoicing: The invoices are converted to digital files and submitted to the recipients' email addresses as generic attachments. This is one of the simplest ways to E-invoice but it typically does not offer automation and tracking (Yongchareon, Voss, & Dwivedi, 2016).

PEPPOL (Pan-European Public Procurement Online): This E-invoicing framework is used for cross-border E-invoicing in Europe. It uses a set of common standards and specifications for the electronic exchange of structured data to its network in support of electronic procurement.

Blockchain E-Invoicing: Blockchain technology has been examined as a way to greatly enhance the security of E-invoicing, which could not only built invoices that are 100% tamper proof and not modifiable, but also for more trustworthiness and transparency of e-transactions and also to record invoices from a common invoice pool/across a common invoice ledger, to substantially enhance transparency and security.

Mobile E-Invoicing: Research articles have discussed the role of mobile solutions and how they improve E-invoicing. For example, some E-invoicing solutions include mobile applications that let users create and send invoices straight from a smartphone or tablet, which is convenient and saves time, especially when creating invoices while on the go.

Supplier Network E-Invoicing: As a part of a wider, internal supplier network, buyers and suppliers in a digital supply ecosystem may submit electronic invoices to many buyers.

The importance, and almost magnetic appeal, of a supplier network is that the more buyers that participate, the more suppliers are incented to join. Even without a supplier network, supplier-facing portals support many of

the same features, but without the multi-buyer capability (Tedic & Kikovic, 2015).

Integrated E-Invoicing: Integrated solutions are those that can be integrated to a buyers' accounting, ERP or financial systems. This typically includes having multiple options and formats for data integration. By integrating supplier data directly into a purchase order, receipt of goods and acceptable invoice data, these systems can support touchless E-invoicing in the eProcurement process (Ubacht & Kijl, 2014).

M2M E-Invoicing (Machine-to-Machine): M2M E-invoicing is when one system generates an electronic invoice with another, without human intervention. These types of E-invoicing systems are often used in telecommunications and similar industries.

Hybrid E-Invoicing: These services entail both methods; a system generates a digital invoice and then prints/mail an invoice to preferred customers.

Government Mandated E-Invoicing: Some countries are now mandating that certain E-invoicing systems and formats be implemented with in business E-government transactions. These systems are designed to ensure tax-compliance and reduce fraud and other such efforts are being studied in E-invoicing such as in the impact of government mandates on E-invoicing compliance (Chen et al, 2018) and The Effects of a Government E-Invoicing Policy on Business-to-Business (B2B) Integration (Javed et al, 2020).

E-invoicing as a Strategic Lever for Cost Reduction

E-invoicing has emerged as a pivotal strategy for attaining cost reduction amidst the concerted efforts of companies to optimise their financial supply chain. According to Hugos (2018), this statement is especially important for businesses that send a lot of documents because they need to look at their internal processes in order to free up money that has been stuck in the company because credit is hard to come by and costs a lot. One of the fundamental components for enhancing the efficiency of the financial supply chain entails the provision of electronic data, which necessitates the adoption of electronic invoicing, commonly referred to as E-invoicing. According to Alhawamdeh et al. (2023), firms perceive the advantages associated with cost reduction to surpass any potential costs or inconveniences incurred in the process of altering their operational procedures. E-invoicing serves as an automated solution that encompasses the complete cycle of invoice processing, commencing from the inception of the invoice to its ultimate settlement. This automation system obviously reduces the need for humans to do things like data entry and harmonization, making it so that businesses don't spend countless hours and dollars on a lot of the tedious work. Putting an electronic invoicing process into place means you won't need paper invoices anymore, eliminating those costs (think: printing, postage, envelopes, physical storage). Going paperless definitely does cut costs both direct and indirectly. So, from a financial standpoint it's like killing two birds with one stone. The manual input and handling of data leaves lots of room for mistake and opens up the chance for discrepancies and disputes and the need to go back in and fix things after the fact. E-invoicing systems have been purposefully developed to mitigate errors by means of automated validation checks, thereby guaranteeing the precision of financial data (Marak & Pillai, 2018).

The utilisation of E-invoicing frequently encompasses the implementation of automated approval workflows, thereby expediting the process of approval and subsequent payment. Better efficiency like the one described here makes it easier to approve invoices without having to spend as much time and money on administration. This speeds up payment cycles and improves cash flow. E-invoicing systems facilitate instantaneous access to pertinent information regarding the current state of invoices and financial transactions. The enhanced visibility afforded by this system facilitates more effective decision-making, diminishes the duration dedicated to status inquiries, and augments reporting capabilities, thereby optimizing administrative operations (Marak & Pillai, 2018; Moretto & Caniato, 2021). The implementation of E-invoicing enables the expeditious and precise processing of payments, thereby augmenting the rapport between suppliers and their counterparts. The mitigation of payment delays and disputes results in enhanced supplier interactions, thereby diminishing the administrative burden associated with issue resolution. E-invoicing systems frequently incorporate inherent compliance verification mechanisms and maintain meticulous records of audit trails. The aforementioned process enhances adherence to tax regulations and streamlines the readiness for audits, thereby potentially mitigating expenses associated with audits. Fairchild (2016) is a scholarly source that can be referenced for further exploration and analysis. The implementation of E-invoicing systems facilitates the automation of mundane administrative tasks, thereby enabling organisations to redirect their administrative resources towards endeavours that are more strategic and yield added valueThese initiatives might include, but are not limited to, process improvements, supplier agreements, and financial analysis (Olaleye, Sanusi, Dada, & Agbo, 2023).

Pricing structures of E-invoicing solutions generally employ a predictable model, which assists organizations in budgeting and forecasting their invoicing cost expenditures. The increased predictability allows for a more robust financial planning model that negates the need to allocate funds for unforeseen costs. After the

implementation of E-invoicing, organizations will have the capability to handle the associated growth and transaction volume without a corresponding increase in its administrative costs. The scalability of the system will ensure that the organization can grow and retain the same level of cost efficiencies. The implementation can also provide operational efficiency and accuracy for payment processing. This reduces the likelihood that the organization would incur penalties and associated costs as a result of late payments. Furthermore, implementation can have a very positive effect on an organization's sustainability efforts by reducing the amount of paper used and no longer requiring that invoices be transported. That's a win-win for everyone!

E-invoicing Adoption on Administrative Costs Within MNCs

An observable effect of the adoption of the electronic invoicing, known as E-invoicing, appears in the area of administrative expenses within multinational corporations (MNCs). A number of billing procedures are streamlined and automated by E-invoicing in order to reduce the costs and difficulties of the management of paperwork. The E-invoicing innovation almost eliminates labor-intensive manual data entry and paper-based processing from the requirements of invoicing. Paper invoices are labor-intensive to process because of data entry requirements, which are costly in terms of time and error rates (Marak & Pillai, 2018). Automated extraction of extraction-ready data in the E-invoicing system is a technology that allows these requirements for manual data entry in administrative labor costs to be reduced. Paper invoices require the physical activities of being printed, mailed and stored. Expenses for paper, printing materials, envelopes, postage and the physical storage space for invoices are largely being used in this effort. In the work of Edelman and Sintomen in 2016 it is demonstrated that the reduced need for paper and therefore administration decreases. E-invoicing systems, i.e. are often electronic platforms that store and organize them, their audit trails and attachments along with invoices (Marak & Pillai, 2018). The infrastructure scanner, however, provides retrieval and organization of paper invoices by centralizing and placing them on digital directories using the document scanner, automation software and file server. These technologies also increase the document's security and accessibility, Marak and Pillai's study found, as well as the researchers from Moretto and Caniato (2021).

The electronic invoicing integration also frequently involves the adoption of automated approval workflows. These workflows enable the invoices to electronically route to the right personnel for their review and approval. The automated system is capable of significantly accelerating the approval process. This significantly reduces administrative traffic jams and the accompanying financial stress. E-invoicing systems offer a real-time window into the current state of invoices, and the ability to track their progress, identify bottlenecks, and generate more advanced reports. This enhancement in visibility serves to maximize the administrative decision-making process. It also removes the need for staff to inconveniently and labor-intensively check the status of each invoice. This is why E-invoicing has been found to lead to stronger relationships with suppliers and vendors. A system that processes invoices quickly and without error greatly reduces disputes, inquiries, and the resulting phone tag and administrative headaches that arise in their wake (Moretto & Caniato, 2021).

Skare, de Obesso, and Ribeiro-Navarrete (2023) and their research teams found that companies—especially MNCs—find it easier to balance payments with an E-invoicing system because the system automatically matches invoices with purchase orders and delivery receipts. They created this report after surveys found management simply wanted to balance payments with their systems. "Automate the mundane, move resources in an optimised fashion to make your company more efficient", said Ni et al. (2023), Olaleye et al. (2023), and Skare et al. (2023). Wang et al. (2023) found E-invoicing systems often have built-in compliance verifications and audit trails are often well-documented in these systems.These systems help mitigate the administrative workload in ensuring a company follows all the regulation standards and assists management in prepping for audits. This could result in large savings for a company in audit-related expenses. But as Waarts, van Everdingen, and Van Hillegersberg (2002) pointed out, this report could also free up resources to reassign administrative staff for more of an impact in the company such as strategic financial planning, supplier relationship management, and enhancing process efficiency and effectiveness. Waarts et al. (2002) cites the most important report about this topic of unifying invoice data across all systems. E-invoicing systems can evolve with a company's needs, especially MNCs. They can be configured to handle higher transaction volumes and align tightly with additional business units. This means management doesn't have to hire more administrative staff or pay them more in salaries.

Cheng et al. (2019) argue that adopting an E-invoicing system like the one being developed by Rwanda Digital Transformation Hub may require some initial investment in employee training. However, they observe that subsequent administrative training and support costs will be far less than the continual training involved in handling invoices manually. Edelman and Sintomen (2016) claim that transitioning to E-invoicing has the potential to significantly drive down other outlays, such as those associated with clerical work and printing. Research from Poel, Marneffe, and Vanlaer (2016) shows the solution can speed up delivery times, reduce payment delays and increase reliability by decreasing service error rates. Moreover, Sandberg, Wahlberg, and Pan

(2019) believe it may will increase process efficiency in-house as well. And it won't just be a boon for the organizations using it. it's creating value for all of the stakeholders moving the product, Sandberg said. it's creating value with accepting goods and services. As Krysovatyy, Kurylo, Synyutka, and Pozniakova (2021), Olaleye et al. (2023) and Skare et al. (2023) suggest, E-invoicing could greatly enhance firms' ability to comply with their tax responsibilities; a key step toward improving their country's tax collection.

Another significant advantage is the positive impact this development could have on the environment. Poel et al. (2016) reported it reduces the amount of paper used and increases the energy usage efficiency. This is echoed in Ashish, Zericho, Marak, Justin, and Abhijit (2023) as an example of the relative advantage of E-invoicing. This last term coined by the authors of the original innovation diffusion model actually has four dimensions: compatibility (how well a new solution matches an old one), complexity (how difficult it is to understand), observability (how obvious it's advantages are) and trialability (how much it's possible to experiment with).

Complexity

Rogers (2020) maintains that complexity restrains the comprehension and use of an innovation. For the high rate of innovations adoption, it is necessary that the innovation is very consistent with the existing values, past experiences and operational system of the business organization. If the organizations observe that technology is complex in terms of its understanding and usage then it will serve as a barrier in the adoption of the technology. Complexity consists of a model that consists of a highly intricate subsystem that works with local rule interacting with the large number of local systems governed by these large number of interaction (Moore & Benbasat, 2021). Moreover, the probability of embracing technological innovation can be increased with the reduction of its intrinsic complexity. It has been observed that complexity of technology has an unfavorable result of acceptance of technology (Moore & Benbasat, 2021).

Observability

The third grade refers to the extent to which an innovation's results are observable to others (Rogers, 2020). The impact of technical change is much more visible within the industry and this may make an innovation more likely to be adopted. Previous research on innovative technologies has also suggested significant role of observability in the acceptance and use of a new technology (Al-Jabri & Sohail, 2022).

Trialability

Trialability is the extent to which an innovation may be experimented with for adoption. Rogers (2020) argued that, generally, it is preferred by most firms and users to have a trial period with a new technology before definitively deciding to adopt and allocate resources towards its adoption. Trialability offers the potential to more literally "come to know", i.e., all the technologically advanced attributes, functionality, and resultant benefits, in addition to challenges and implications of advancement, of a new technology (Agarwal & Prasad, 2018; Rogers, 2020; Al-Jabri & Sohail, 2022). Rogers also explained that the technologies use has also help make the firm more familiar with it.

Factors Militating Against Effective E-invoicing System Implementation

While there are many benefits to electronic invoicing, its adoption rate has been slow due to the many obstacles companies face when implementing electronic invoicing. Larger corporations might find it easier to implement electronic invoicing as the integration cost and investment cost is substantial. As Sandberg et al (2019) explained, "The change is larger, riskier and potentially leads to a higher reward." However, smaller-sized corporations might find it hard to implement such a system. Two obstacles noted by Fairchild (2016) that may impede electronic invoicing adoption are a lack of capital and a lack of inter-company advocacy. Edelman and Sintonen (2016) described several reasons for the small- and medium-sized enterprise (SME) sector to not warmly embrace electronic invoicing, including a lack of demand, perceived uncertainty and lack of awareness. Buyer fragmentation may contribute to the above challenge. The view of a service provider is another example; a fragmented service provider can be a large hurdle for the successful implementation among the many partners in its supply chain (Ahmad, 2019).

The effective integration between a recently implemented electronic invoicing system with any preexisting enterprise resource planning (ERP) or financial systems has never been a small challenge: data compatibility, system customization, and the need for APIs (application programming interfaces) all have come into play. As Kimberly found, multinational corporations (MNC) engaged in business activities across multiple countries regularly have to meet different invoicing standards, tax regulations, and languages, so doing so on a single E-Invoicing platform is a significant hurdle. Making sure an electronic invoicing system complies with tax regimes, legal requirements and reporting standards for every jurisdiction in which an MNC operates is no small task (Kyove et al., 2021). The E-invoicing process involves the transfer of sensitive financial information, so it's no

surprise that security and privacy is job one. That means complying with data protection regulations, especially the General Data Protection Regulation (GDPR) and constant vigilance against cyber threats and breaches (Basil et al., 2022). Hernandez-Ortega (2012) noted that the willingness and ability of suppliers and clients to use compatible systems is critical to any E-invoicing effort, so ensuring it's as seamless as possible for outside partners to make the transition may be a particularly daunting task.

The success of electronic invoicing also requires changes in processes and workflows within the organisationEmployees who have always "done things the old way" may resist the changes. Change management techniques, including extensive training of both employees and stakeholders in how to use of the new electronic invoicing system, can be used to manage this resistance (Gamaralalage, 2020).

According to Koch (2019), and Gamaralalage (2020), training and obtaining user competency in large, geographically dispersed organizations is particularly difficult challenge. The potential longer-term cost savings through the use of electronic invoicing are attractive, but it is important to recognize that the initial costs of implementing such a system and the time it takes to achieve a return on that investment can be significant. Managing diversity in suppliers, where many have limited resources or experience with technology, so that all of their suppliers can use its electronic invoicing process is also a significant challenge for MNCs (Gamaralalage, 2020).

The E-invoicing process could be technically glitchy in so many ways—system outages, software bugs, technological features not aligning with other hardware or software, etc. These glitches would magnify in the process, as a whole, and therefore the overall operational efficiency. Indeed, the E-invoicing process is one that must operate seamlessly and without interruption across all geographies and business divisions of a MNC. This is no small feat (and quite the challenge), as the firm might have expansive global reach.

Onboarding suppliers onto the E-invoicing platform can be quite a labor-intensive (and fraught) process, too—a very time-sensitive one. How well and with how much agility any onboarding supply-line hiccups are remedied can be key to the E-invoicing process' successful launch and ongoing operation.

The Prospect of E-invoicing

The term "E-invoicing", or electronic invoicing, refers to the digitalization of the invoicing process in which, in contrast to traditional invoicing procedures, invoices are generated, transmitted, received, and processed electronically within multinational corporations (MNCs). According to Wang et al. (2016), E-invoicing facilitates and streamlines the process of generating digital invoices, sending them electronically, and receiving them via the same channels. It also allows for more automated processing and settlements by integrating the invoices into financial systems. All of these steps are made possible by utilizing technological advancements.

The appeal of E-invoicing lies in the potential improvement it holds for several aspects of financial operations within multinational corporations (MNCs). One of the key benefits is significant costs savings from bypassing the various inefficiencies of manual and paper-based invoicing, as E-invoicing can greatly reduce the time of invoice creation and delivery, the chances of human errors, and physical mail and storage expenses (Peng, Ahmad, Ahmad, Al Shaikh, Daoud & Alhamdi, 2023). Nonetheless, the introduction of E-invoicing can also help to enhance the transparency of financial transactions, fortify adherence to complicated tax regulations, and deepen relationships between the multinational corporations (MNCs) and their business associates (Wang et al., 2016). It is widely value harnessed E-invoicing in improving invoicing process, be it efficiencies or time reductions, the technology removes the need for manual data input and paper documents handling, and enables the organisations to place inherent efficiency led automations and accuracy to their invoice processing processes.

Wang et al. (2023) concluded that the application of E-invoicing can result in a costreduction for organizations. Through automation of the invoicing workflow, organizations can save up to 60% of the operational expense that would normally be incurred from paper, printing, postage and manual processing of invoices. This cost savings translates into meaningful cost reductions and improved fiscal outcomes. E-invoicing provides some benefits as well given that Ahmad (2024) research indicate that the rate of cards in the approval and payment process can be improved by its application. Invoices are routed electronically, and can be reviewed and approved by the appropriate personnel according to the current workflow rules. This negates the delays associated with physical routing or manual approvals, and leads to faster approvals and therefore, faster payments. Additionally, E-invoicing can expedite payment cycles which leads to improved cash flow and working capital. Manual invoicing processes are vulnerable to errors, which can lead to disputes, payment delays or additional administrative costs.

E-invoices validation checks are automatic making it difficult for mistakes and disparities to be made. A good invoicing data verification system increases invoicing data accuracy, reducing the chances of disputes on the invoice and sparing any time consuming resources that are used up on reconciliation tasks.

This increased accuracy of invoicing data fosters a climate of trust and transparency in financial transactions. The timely and accurate implementation of invoicing and payment processing procedures serves to reinforce and foster mutually beneficial relationships with both suppliers and buyers. Such an approach has the potential to yield favorable outcomes such as improved contractual conditions, skewing down of pricing and improved inter-business exchanges, thus offering relief from the administrative complexities associated with conflict resolution (Yahiya, 2023). For organizations that aspire to be "green", the E-invoicing initiative is in line with that objective. It effectively reduces paper consumption by eliminating the having to deal with paper invoices. In addition, it reduces the carbon footprint associated with the physical movement of paper invoices. Thus, E-invoice would advocate for an environmentally friendly course of action within operations of the business.

Invoices and financial transactions are almost current. As well, "A well designed E-invoicing system could deliver an accurate real time process automation data to enable management to make fact-based decisions, largely eliminating the need for reporting capabilities previously provided by labor-based status inquiries and reporting", Dias, Rodrigues, Craig, and Neves (2018) found. This leads to much more optimized administrative processes. In many regions and countries, E-invoicing programs are being established with the goal to optimize this operational excellence and transparency, according to Vishal and Gupta (2017). Many systems also have compliance features that help the business to follow the rules, avoiding heavy fines and the like, and they have vigorous data security and privacy features. Generally data like this is encrypted and there's some strong authentication up and down the line, as almost all data breaches are caused by outsiders who have gotten their hands on an authorized user's credentials. The cost sharing of the E-invoicing company is minimal, such as for capital expenditures, and it scales nicely with the company as it grows, and amount of transactions processed. As the company's volume goes up, this kind of system can expand to serve it without growing the administrative staff and associated consulting costs linearly with the company. Many companies making a big enough investment in these types of purchase put up a predictable pricing contract, making budgeting and forecasting their expenses that much easier.

METHODOLOGY

To investigate the impact of E-invoicing on cost reduction within multinational corporations, a qualitative research design was executed. The population of the study was comprised of various multinational corporations, which belong to different industries and have implemented E-invoicing systems in Jordan. The sample was chosen through stratified random sampling based on different sectors from the study area. A structured questionnaire was developed after reviewing of the literature and upon consultation with experts. It was evaluated through a panel of experts for content validity, and the reliability of the instrument was appraised through the test-retest method. Data was collected through the online survey and interviews, while statistical techniques like regression analysis were employed for data analysis.

RESULTS

Research Questions One
To assess the impact of E-invoicing adoption on operational efficiency.

Table 2. Mean and Standard Deviation of the Impact of E-invoicing Adoption on Operational Efficiency

Variables	$\bar{X}$	SD	B
Operational Efficiency	15.59	1.32	
			.58
E-invoicing	39.11	9.29	

Table 2 presents the impact of E-invoicing adoption on operational efficiency. Mean (X-) and standard deviation (SD) values are shown for the variables. E-invoicing adoption has a mean score of 39.11 (SD = 9.29), while at an operational efficiency mean score of 15.59 (SD = 1.32). The beta (B) coefficient for E-invoicing adoption is .58. This indicates that as E-invoicing adoption increases, operational efficiency does as well. This has implications for research question one. Results indicate that E-invoicing adoption has a notably positive effect on the operational efficiency of multinational corporations.

Research Questions Two

To analyze the cost reduction potential of E-invoicing in multinational corporations.

Table 3. Mean and Standard Deviation of the Cost Reduction Potential of E-invoicing in Multinational Corporations

Variables	X⁻	SD	B
Cost Reduction	16.08	2.16	
			.75
E-invoicing	39.11	9.29	

Table 3 shows the regression analysis on the cost reduction potential of E-invoicing in multinational corporations. The dependent variable cost reduction is assessed by a mean (X-) of 16.08 and a standard deviation (SD) of 2.16 representing the average change in A/P cost. This provides a measure of central tendency and variability of responses within multinational corporations of an average change in cost reduction as a result of employing E-invoicing. The independent variable E-invoicing has a mean of 39.11 and a standard deviation of 9.29 signifying the average level of E-invoicing adoption and variability between multinational corporations who employ e-invoicing. Additionally, the beta value assigned to E-invoicing is 0.75 providing a coefficient associated with regression analysis to indicate the likely influence of the variable "Cost Reduction" in relation to the independent variable "E-invoicing". This value provides an indication of the extent to which changes in E-invoicing practices may be associated with changes in cost reduction across all sampled multinational corporations. The result overall provides a quantitative indication of cost reduction potential and E-invoicing adoption across multinational corporations. The result reveals a p value of <0.001 providing a significant result (α < 0.05) for the cost reduction potential of E-invoicing in multinational corporations.

Research Questions Three

To examine extent of the challenges faced by multinational corporations in implementing E-invoicing systems.

Table 4. Mean and Standard Deviation of Extent of the Challenges Faced by Multinational Corporations in Implementing E-invoicing Systems

Variables	X⁻	SD	B
Challenges	16.23	1.72	
			.40
E-invoicing	39.11	9.29	

Table 4 presents the analysis of the challenges faced by multinational corporations in implementing E-invoicing systems. The variable challenges has a mean (X-) of 16.23 and a standard deviation (SD) of 1.72. This represents the average level of challenges faced and the variability in responses across multinational corporations. The variable E-invoicing has a mean (X-) of 39.11 and a standard deviation (SD) of 9.29. This represents the average score and variability in implementation of E-invoicing systems. The coefficient (B = 0.40) indicates the strength and direction of the relationship between challenges and E-Invoicing. This suggests a positive association. In general, the table gives the quantitative result of the level of challenges faced by multinational corporations in implementation of E-invoicing systems. So, this all the multinational corporations are managing the challenges faced by them significantly in the implementation of E-invoicing system.

DISCUSSION

Table 2 reveals the finding on the impact of E-invoicing adoption on operational efficiency. The result shows that as e-invoicing adoption increases, operational efficiency does as well. This has implications for research question one. Results indicate that E-invoicing adoption has a notably positive effect on the operational efficiency of multinational corporations. In a similar vein, Marak and Pillai (2018) asserted that, "Electronic invoicing systems enable data extraction in an automated fashion, which eliminates the need for manual entry of data and reduces the administrative labor, the associated costs of acquiring paper, printing material, envelopes, postage fees, and allocation of physical storage space, etc." Caniato, Gelsomino, Perego, and Ronchi (2016, p. 6) also

showed that E-invoicing systems offer, "···instantaneously tracking where the company's invoices are at any given time, their progress, and the related inflations, a quick sort on non-payments and deliveries not yet as these represent 30% of cases in a quarter at best".

Table 3 shows findings on the cost reduction potential of E-invoicing in multinational corporations. The result provides a measure of central tendency and variability of responses within multinational corporations of an average change in cost reduction as a result of employing E-invoicing. The overall result provides a quantitative indication of cost reduction potential and E-invoicing adoption across multinational corporations. The result reveals a p value of <0.001 providing a significant result ($\alpha < 0.05$) for the cost reduction potential of E-invoicing in multinational corporations. The result agrees with the research finding of Alhawamdeh et al. (2023) which argued that organisations find the benefits of decreased costs to be greater that the expenses and inconvenience in performing significant alterations to their operation (Alhawamdeh et al., 2023). E-invoicing can automate the entire process of invoice management from when the invoice arrives to when it is processed and paid. "Implemented correctly, an E-invoicing system removes the majority of human interaction during processes such as data entry and matching, the work that takes time and costs money" (Alhawamdeh et al., 2023).

Table 4 presents the analysis of the challenges faced by multinational corporations in implementing E-invoicing systems. In general, the table gives the quantitative result of the level of challenges faced by multinational corporations in implementation of E-invoicing systems. So, this all the multinational corporations are managing the challenges faced by them significantly in the implementation of E-invoicing system. It is affirmed by Marak and Pillai (2018) that E-invoicing implementation is not without its challenges, but it is well managed and facilitates the expeditious and accurate processing of payments, thereby enhancing supplier-buyer relations. "Reduction in payment delay and disputes at buyer end foster buyer-supplier relationship which in turn reduces administrative burden at buyer's end due to issue resolution" (Marak & Pillai, 2018). Furthermore, Olaleye et al. (2023) elaborate that the implementation of E-invoicing systems leads to the automation of many routine administrative activities, thereby allowing organizations to target their administrative channels at more strategic and value added tasks such as financial analysis, supplier negotiations, and process improvement etc. (Marak & Pillai, 2018; Moretto & Caniato, 2021; Fairchild, 2016).

CONCLUSION

The study found that E-invoicing significantly streamlines invoicing by automating data entry, validation and approval workflows, reducing errors and accelerating the payment cycle. That process alone can provide ample savings in terms of time and resources. Furthermore, E-invoicing removes the paper invoices, envelopes and postage, thereby reducing the more direct costs. Multinational corporations with a high volume of invoicing will realize significant savings by eliminating these paper-based processes as well.

Invoices processing is a labor intensive process that includes low-value activities such as document handling, data entry and reconciliation. Automation introduces dramatic processing cost savings, removing these mundane tasks from the skilled accounts payable staff that can focus on higher-value activities. E-invoicing systems also offer better visibility into an invoice's details and status. This could mean disputes are resolved more rapidly, reducing administrative costs of billing discrepancies and disputes. E-invoicing systems should help large multinationals remain compliant with a myriad of tax and other regulatory requirements. This isn't in itself a reason to adopt E-invoicing, but avoiding fines and penalties for non-compliance could be an important but indirect benefit of E-invoicing. One other benefit from E-invoicing, is better relationships with suppliers. They'll be happier with timely and accurate payments. That could result in negotiated discounts, better terms and a more efficient overall supply chain.

RECOMMENDATION

The study found that E-invoicing significantly streamlines invoicing by automating data entry, validation and approval workflows, reducing errors and accelerating the payment cycle. "That process alone can provide a significant amount of time and money saved in terms of manpower required to execute and resolve errors in that workflow", the Observatory said. "Further eliminating the paper invoices, envelopes and postage can cut more direct costs, while large multinational corporations generating a high volume of invoices will recognize the efficiencies gained by eliminating these paper-based processes in each jurisdiction."

Processing of invoices is a labor-intensive process and includes low-value activities such as document handling, data entry and reconciliation. E-invoicing systems can dramatically bring down these processing costs through automation, leaving the skilled accounts payable staff to focus on higher-value activities. E-invoicing systems also offer better visibility into the status and details of invoices. This means that any disputes can be resolved more quickly, reducing the administrative costs of billing disputes and discrepancies. E-invoicing systems can also help large multinationals stay compliant with different tax and other regulatory requirements. While not in itself a reason to adopt E-invoicing, avoiding fines and penalties for non-compliance could provide an important but indirect benefit of E-invoicing. One other benefit from E-invoicing is better relationships with suppliers. They'll be happier with timely and accurate payments, which can result in negotiated discounts, better terms, and a more efficient supply chain overall.

Examine the information produced by your E-invoicing system(s) to find trends in your expenditures, supplier performance, terms of payment, and possible areas of cost savings. In addition to missing out on a chance, if you're not devoting time to gathering these insights on a weekly or monthly basis, you're continuing to operate within the same guidelines and procedures.

CONFLICT OF INTEREST

The author has declared no potential conflict of interest.

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