

Task and Sales Manager Web Application

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ABSTRACT

The purpose of the Web Application and Sales Manager Web application is to automate the existing hands-on system with the help of fully computerized software and software, to meet their needs, so that their important data / information is stored longer and easily accessible. and similar fraud. The required software and hardware are easily accessible and easy to operate. This application can lead to a flawless, secure, reliable, and fast management system. It can help the user to focus on other tasks instead of focusing on keeping records. Thus, it will help to plan for better utilization of resources. An organization can store computer records without unnecessary access. That means you don't have to be distracted by useless information, while being able to access information. Basically, the project outlines how to manage efficiency and better customer service.

Keywords :— Task and Sales Application, Invoice Generator, Sales Management, e-Invoicing.

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I. INTRODUCTION

The concept of electronic invoices emerges as a modern, reliable, and effective method of managing and processing invoices for products, services, taxes, and other types of goods sold, without the need for paper [1]. An electronic invoice is provided as an information system service that collects information from the business and sends it over the network [2].

Nowadays, with the development of smartphones, people are constantly working with those devices. Therefore, users want all personal and professional information to be synchronized and, in their hands, transforming the use of emails, instant messaging apps, and SMS as a common source of information. These are important channels for the delivery of business information, from Business to Consumer (B2C).

An additional marking language, XML, on the other hand, is a widely used format for exchanging information about invoices in a digital way [3], [4], [5], [6], [7]. With the use of XML, there are many applications that use web resources to find, store, process and send information to tax collectors [4], [6]. Invoices said they could be sent to the customer's email as [4], which includes the invoice in XML and a version of the document in PDF format.

Also, the protection represents an important ineffective factor that should be considered in invoicing solutions, as they often carry sensitive client information. First, this feature should be based on the laws and regulations of each country in terms of electronic invoices. Also, it is important to consider certain steps to manage information effectively These

essential requirements allow for authenticity, content integrity, non-denial of origin and recipient, confidentiality and confidentiality, integrity alignment and related policies [3], [7]. As indicated by [8], the use of electronic invoices allows for: (i) saving time and money, (ii) payments, (iii) production of international payment methods, (iv) privacy and security, (v) reliability and (vi) dispute resolution. The use of electronic invoices in a company or business has a significant impact on the exchange of information and working links between B2C, creating lasting and committed relationships [9].

On the other hand, evaluating the benefits of electronic invoice against traditional paper invoices shows a reduction in costs by reducing travel costs and saving time by reducing workflow [10]. Even the environmental impacts of electronic invoices are much lower than those of conventional invoices, mainly due to energy consumption [10]. At the organization or business level, electronic invoices improve payment control by increasing productivity in invoice management units, reducing processing time, reducing paper usage, among others [1].

In any case, to its knowledge, there have been no second courses about invoice programs for notices. It is important to know how the existing invoice systems, compatible technologies, security considerations and notification methods are proposed. Therefore, in this paper we present a systematic review of the literature, which deals with the state of the art in terms of e-invoice systems and the delivery of notices through digital channels. The results of this study show that the relationship between e-invoice systems and the use of digital notifications has not yet been resolved.

To conduct this study using the approach proposed by Kitchenham [10], which has three phases: editing, designing, and writing. This paper is structured as follows: first, section 2 deals with activities related to the research topic. Next, in Section 3, a systematic

book review is presented, which includes protocol, execution and results; and finally, Section 4 presents the conclusions and further work.

II. RELATED WORK

Not found for any secondary invoices related to invoices and related activities. However, this section introduces methods that consider important topics such as technology, safety, benefits, methods, and applications. Therefore in [10], it is considered a reduction in costs in the conversion of paper charges to electricity. It deals with the manual and electronic invoice process at the Finnish Department of Housing for example. The resulting processing costs (per invoice) are 8.60 € (paper invoice), 2.11 € (invoiced paper invoice) and 1.89 € (electronic invoice). As a result, there is a real reduction in shipping and storage costs, as well as a further reduction in prepaid payment benefits.

On the other hand, the authors of [7] evaluate how the service level of service providers affects customer satisfaction in SMS usage, which includes their ethical intention to continue using SMS. The results showed that the characteristics of optical value, sensitivity, assurance, and tangible interaction play an important role in client satisfaction in the ambit of electronic commerce.

In addition, in a compound metamodel of objects has been developed, which influences the acceptance of an electronic invoice at the state level, which facilitates literary analysis. It covers several factors such as institutional and environmental pressures, political committee, technical adjustments, economic benefits, among others.

About the features of the electronic invoice, research [7] discusses the importance and method of sending, receiving, and processing invoices without manual intervention. In this way companies benefit from

shorter payment delays, smaller errors, and lower printing and shipping costs.

However, the study mentions that the introduction of such systems are often complex and costly, particularly for small and medium-sized enterprises. In addition, it provides functional and non-functional requirements, rational design of the system, technologies to be used and ultimately its security.

Finally, [4] provides an overview of electronic invoice development, where the results show that despite significant savings, error eliminations, accelerated cash flow, improved competition and efficient service chains, it remains a separate issue with a wider range of further investigation.

Therefore, as of the investigation, no second reported studies were related to customer notices in electronic invoice.

III.SYSTEMATIC LITERATURE REVIEW

A systematic review of the literature involves identifying, evaluating, and interpreting all the information found in a research topic or object of interest by using a reliable, researchable, and robust approach [1]. This systematic review consists of three stages: (i) planning the review, (ii) conducting the review, and (iii) reporting the review.

A. Planning the review

This section contains the establishment of steps to be followed during the review, which will determine research questions and search strategies. This section has two steps: (i) introducing research questions and (ii) defining sources and search strategy.

1) Establishing the research questions

The stated research question describes the scope of the formal review and is as follows: "What is the state of

the art in terms of electronic invoices and information systems or forums that use notifications?"

2) Defining data sources and search strategy

The following digital libraries were selected for automatic search: IEEEExplore, ACM Digital Library, Springer Link, Science Direct, and Google Scholar. With manual search conferences and leading magazines related to the topic of e-commerce electing. Table I lists selected conferences and journals in which search results were not found for automatic search and its content represented research.

TABLE I. MANUAL SEARCH SOURCES

Conferences
IEEE International Conference on Enterprise Computing, E-Commerce and E-Services
International Conference on Electronic Commerce
International Symposium on Data, privacy, and E-Commerce
Journals
International Journal of Electronic Commerce
Journal of Organizational Computing and Electronic Commerce

a) Search string

To perform automatic search, the series was defined based on keywords related to the search topic. This series was selected based on the researchers, following a process of many attempts with different combinations of potential keywords. These combinations and the final character search unit are shown in Table II.

TABLE II. SEARCH STRING

Concept	Substring	Connector	Alternative terms
Electronic Invoicing	e?invoic*	OR	includes e-invoice, e-invoicing
Electronic Invoicing	electronic invoic*	OR	includes invoice, electronic invoicing

b) Search period

The concept of electronic invoices dates to the 1970s when organizations began exchanging invoice files. At the time, there were no exchange rates and business plans did not meet the requirements for that purpose.

Solutions and technological standards such as XML have made this process possible [16].

c) Extraction criteria

To answer the research questions raised, the method of extracting information has been described, shown in Table III. The importance of defining exclusion criteria lies in avoiding bias on the part of researchers, so that their expectations do not affect the analysis of the studies.

TABLE III. EXTRACTION CRITERIA

How is the international invoice process handled?		
EC1	Service Model	IaaS, PaaS, SaaS
EC2	Deployment Model	Community, Private, Public
EC3	Institution types	Commercial, Government, Industrial, Education, Other
EC4	Included parts	Notifications, Electronic billing, Cloud computing, technologies
EC5	Uses	Merchandise payment, Services payment, Taxes payment
How is the technical aspect of using the e-invoice handled?		
EC6	Types of architecture	Monolithic, Service oriented, Microservices
EC7	Used development methodology	Scrum, Waterfall
EC8	Programming language (Back End)	Java, PHP, .NET
EC9	Programming language (Front End)	JavaScript, HTML, Angular, Bootstrap
EC10	Databases	Relational, Non-Relational
What security features are considered in the e-invoice process?		
EC12	Security attributes	Integrity, Confidentiality, Non-repudiation, Authenticity

B. Conducting the review.

1) Selection of primary studies

After performing automatic and manual searches, each study was screened to determine whether it should be included. Any discrepancies in this process are resolved by reviewing conflicting research. Courses that meet at least one of the following conditions will be used:

- ✓ Research containing information about e-invoicing

- ✓ Research involving e-invoicing and cloud computing.
- ✓ Research containing information on electronic notices
- ✓ Research containing information related to the quality and technologies used by these platforms.
- ✓ Research that meets any of the following exclusion criteria will be excluded:
 - ✓ Introduction papers on special topics.
 - ✓ Duplicate studies of the same subject in different sources.
 - ✓ Short papers of less than five pages.
 - ✓ Papers written in languages other than Spanish and English.

This section describes the results of the activities performed in this study. Automatic search of the search series has allowed for the discovery of subjects from a variety of sources or digital libraries, considering the included and excluded subjects.

After applying the inclusion and exclusion criteria in the study-based studies, 39 articles were considered, as shown in Table IV. On the other hand, 9 articles were analyzed in this study that were found in manual search.

2) Quality assessment

In addition to the inclusion and exclusion criteria, it is important to perform quality inspections. For this purpose, a three-point Likert scale is used, based on the number of quotes from each lesson.

3) Analysis and synthesis

In this section, the results of the systematic review are presented, histograms showing the individual results for each condition. The most relevant conditions found are shown in the bubble graphs.

Fig. 1 shows the percentage of subjects in terms of the type of institution they are focusing on, which shows that there is a great deal of interest in the commercial and public sector. On the other hand, Fig. 2 indicates the percentage of course distribution according to the

topic, most invoice topics and the absence of courses referring to notifications.

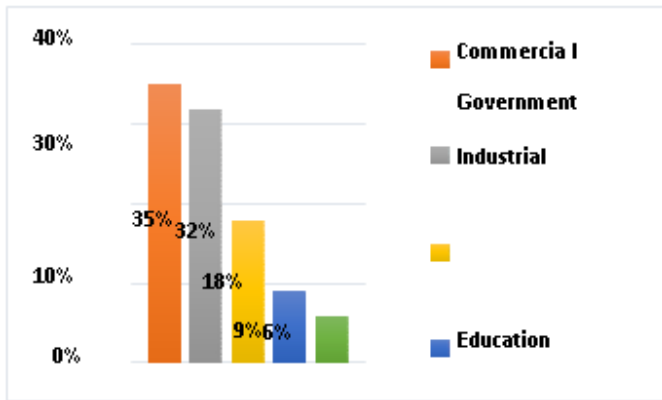


Fig. 1. Percentage of studies corresponding to EC3: Institution types.

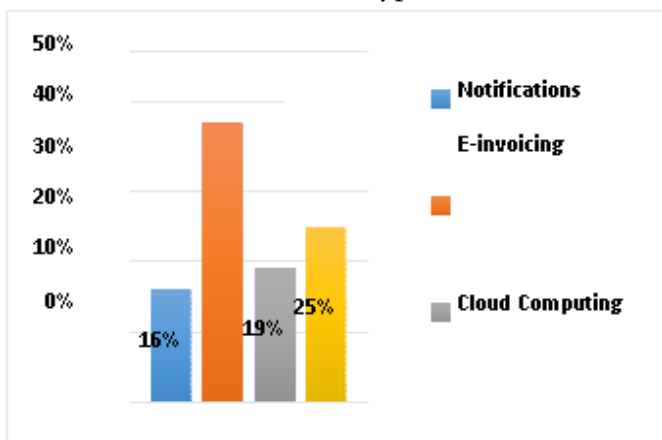


Fig. 2. Percentage of studies corresponding to EC4: Included parts.

Fig. 3 shows the percentage of subjects in terms of the security environment they are talking about, presenting themselves as the main interest in authenticity, followed by the close values between integrity, confidentiality, and non-repudiation.

From another perspective, Fig. 4 contains the axis of the links represented by EC 3: center types, on the axis of abscissa is shown EC 4: inserted parts. In this way it is evident that much research is being done on online invoice issues that focus on commercial institutions, followed by the government. And cloud computing is an interesting topic in government institutions, while the notification feature has not been addressed.

Similarly, Fig. 5 shows on abscissa axis EC 11: safety features, joint axis representing EC 3: center types and

parts included. It is noted that in many studies related to e-invoice invoices security features are considered, while in notification studies the issue of security is ignored. Also, safety features are a very important point in business-focused studies.



Fig. 3. Percentage of studies corresponding to EC11: Security attributes.

C. Reporting the review

Below is a brief discussion according to the extraction criteria that have been considered:

EC3: Institution types

E-invoicing has been considered one of the most important sources of profit in Europe. Some countries have worked hard on switching invoices. In some cases, this has been promoted by the government at the legal level, making it compulsory, as in the case of Denmark [7] and Italy and public institutions.

The inclusion of e-invoices in institutions results in a reduction in payment costs and therefore, an increase in available resources, which may be used for other purposes to increase the organization's value. There are several factors that influence the acceptance of an invoice for e-institutions. The study analyzes these factors with the example of four private companies and two civil society organizations. The following are some of the factors associated with the results after the use of e-invoicing:

- (i) Relative benefit: degree to which an innovation is better than the preceding one. The number of errors in paper invoices was reduced. The circulation time for invoices was reduced from one week to two days.
- (ii) Compatibility: degree to which an innovation is consistent with what already exists. The usability of e-invoicing systems is important, as their graphical interfaces should be easy and be like paper invoices.
- (iii) Complexity: degree to which an innovation is perceived as difficult to understand and use. The transition to e-invoicing should be simple and can centralize invoices from multiple departments within the organization.
- (iv) Testing capabilities: the degree to which an innovation can be tested. It is useful to test the operation of e-invoicing by taking a pilot company to perform the tests and obtain feedback.
- (v) Observability: degree to which the results of an innovation are visible. A public organization seeks to project a positive and modern image of the public service, in addition to monitoring the internal flow of information among its employees.

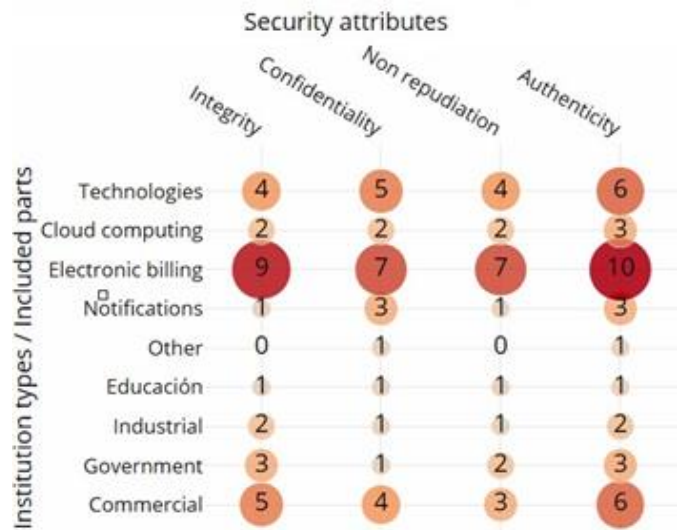


Fig. 5. Comparison between EC 11: Security attributes, EC 3: Institution types and EC4: Included parts

On the other hand, studies [4], [6], address the relationship between e-invoice and tax collection, given the legitimacy offered by this method. In [6] an e-invoicing solution is proposed that allows for the integration of taxpayers with government electronic forums with public access. The results show that the need for taxpayers is being addressed and the effective control of the tax collection agency is allowed.

EC4: Included parts

This condition is one of the most important in classifying paper, as it divides the problem (i.e., notifications, electronic invoices, cloud computing, technology). According to the notice, 12 papers were received, covering the matter. Lessons [7] - [8] can be used to create a notification system for real-time emergencies. This development enhances the system where notifications can be generated and alerted from a mobile app, smart watch, and SMS with the use of Extensible Messaging and Presence Protocol (XMPP). On the other hand, in [2], a school notification module is proposed, which facilitates student- teacher communication through file exchange and SMS transfer, including the technology used for such implementation.

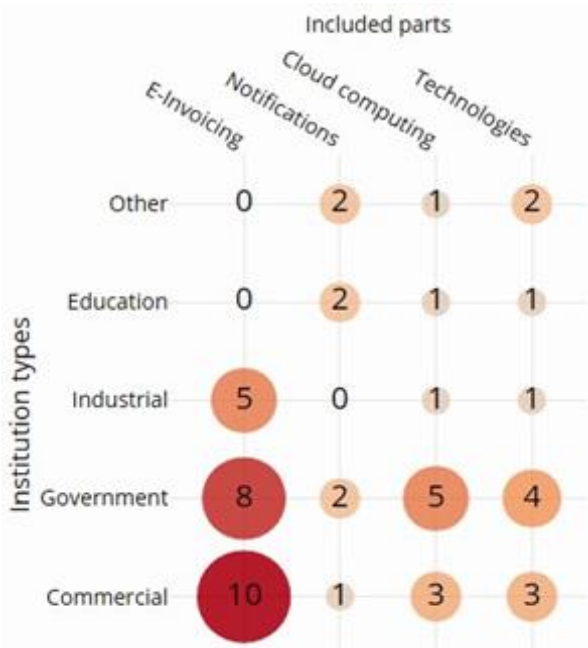


Fig. 4. Comparison between EC 3: Institution types and EC 4: Included parts

Moreover, it has been proposed the use of Instant Messenger (IM) for real-time notifications, as is the case of

[2]; where, refers to architecture, which uses notices of companies with web services. This uses XML format and e-commerce content management system, developed with HTML, CSS, PHP, and Ajax respectively.

Finally, the authors of [2] explored the possibilities of using a messaging framework that could be used as a free cloud-based notification. The framework is based on Extensible Messaging and Presence Protocol (XMPP). This study is based on a few of the methods provided by cloud providers to send messages to mobile applications, these methods are considered as a black box service (e.g., GCM, APNS, MPNS, etc.).

Also, 27 papers were found, covering electronic invoices. On the other hand, these papers talk about the benefits as well, on the other hand, the implementation of such a program. In [2], a study was conducted on the factors involved in e-government that make use of cloud computing. It concludes that e-government is a process that should be adopted by companies to reap the greatest benefits. In the same way [1], [8], [10] deal with the benefits and implications of adopting systems or platforms for electronic, commercial invoices electronic and e-government.

Furthermore, [3] proposes older structures and models of the electronic invoice system and the tax system to improve the efficiency of the process and improve tax collection. On the other hand, [4], [6], [7], propose electronic invoice systems with different functions (e.g., sending, receiving, and processing invoices). Those systems require personal intervention, the security of the electronic invoice system, and the electronic invoice system for tax collection through web services. In addition, the donation [4] proposes an invoice for tax collection based on a computer cloud with Software as a Service (SaaS). Demonstrates the technology used in development to receive, store,

process and send invoices to tax collectors and customers via email.

EC11: Security attributes

Security is very important in notification systems in the areas of authenticity, authorization, and accounting. In the proposed notification system [2], the Public Protocol Extensible Messaging and Presence Protocol (XMPP) is used to provide secure communication between businesses and instant messaging service providers (IM). In addition, information transmitted over the Internet maintains confidentiality when using encrypted Hypertext Transfer Protocol Secure (HTTPS) encryption and the use of a digital signature on Public Key Infrastructure (PKI).

As a precautionary measure against compromised websites, the proposed system uses the MD5 hash algorithm to encrypt users' passwords into their system before saving them to the site, this way when the attacker accesses the site., this sensitive information will not be readable.

Considering the nature of e-commerce between clients and banks, research [1] uses the Virtual Private Network (VPN) protocol to verify the origin of the communication, to ensure the integrity and confidentiality of the messages transmitted.

Research [3] proposes a web-based e-invoice system, which complies with the requirements of the European directive 2001/115 / EC. The system provides authentication of source authentication using digital signatures including smart cards. The integrity of the information is achieved by using cryptographic hash functions, near the signature or separately. The origin and space rejection are achieved by XML Advanced Electronic Signature (XAdES) digital signatures and time stamps. XML Encryption Syntax is accessed following the W3C Recommendation.

Studies [7] consider similar approaches to assurance, non-denial, integrity, and confidentiality.

EC12: How is the study being addressed and EC13: Validation method.

In the study 14 papers were conducted that conducted case studies such as [2], [10]. Among the highlights is [1] conducting 6 studies focusing on European companies and two Finnish cities, including textile companies, manufacturer of kitchen and bathroom accessories, IT service providers and recycling service. And [3] introduced the issue of the textile industry in Hong Kong; [6] The Thai Income Department and finally [2] introduced an electric company in Iran. While at the academy 15 papers were found, in which [4] were found. in European countries. In addition, 12 industries were acquired in the industry through the implementation of notices and warnings, in e-inclusive and e-commerce. Finally, controlled trials were performed on [2], [4], [10].

The use of cloud computing to provide electronic government services offers several benefits such as total cost reduction, distributed data storage, scaling, responsibility, conversion capabilities and security management [5]. However, these electronic government services, based on cloud computing, take on specific physical risks (access, availability, infrastructure, and integrity) as well as intangibles (reliability, security, confidentiality, and data privacy, among others.) [5].

The most resource-rich countries are at the forefront of this development, as the adoption of e-government by a particular group of people is influenced by several factors, such as economic prosperity, education levels, political stability, and cultural acceptance [2].

Following this, [5] identifies one of the major challenges for e-government, where it demonstrates that the use of information technology to a large extent is a dangerous process, duplicating challenges, and risks with the participation of a few organizations, as is often the case with government electronic programs. The author also notes that some of the risks can be solved by carefully aligning the motivations of the partners. Therefore, [5] proposes a strategic alignment framework, the same one used to assess the motives of a group of government agencies and companies to reduce risks.

Benefits that organizations can expect when they switch to electronic invoices take digital invoices (i.e., small manual labor), automatic invoice verification (i.e., fewer errors), cost reduction, improved financial management (i.e., faster work), low carbon footprint, good IT system performance, better relationships with providers, security, acceptance of multiple formats.

1) Threats of validity

Due to the large number of digital libraries, only five of the most important in the field of computer science have been considered. Additionally, for best results, manual searches are conducted at conferences and magazines in the field of electronic commerce. However, the search series was defined in terms of investigator terms, which may require the inclusion of bibliography in terms of e-invoicing-related terms.

IV. CONCLUSIONS AND FURTHER WORK

In this study the methodology proposed by Kitchenham [3] was used to create a systematic review that allowed readers to be aware of the state of the art in e-invoicing-related issues. To this end, studies from 2001 onwards, which help to answer the research questions raised earlier, have been analyzed. Electronic invoices have been used in several countries over the years. In some cases, with the introduction of obligatory debts for the issuance of electronic invoices. Benefits have been reported for the receipt of invoices from public and private institutions. In view of the sensitive nature of the information exchanged on electronic exchanges, it is important to consider the terms of security: confidentiality, integrity, authenticity, trust, and integrity. In this way, secondary studies such as [1], [3] provide an overview of the safety features to be considered and used in future implementations.

Some studies dealing with the use of notifications in various ways (SMS, email, IM, mobile applications) were analyzed, however these solutions are targeted to a different field than the email invoice. Finally, the Critical Performance Index (KPIs) analysis is proposed as a future activity in applying consumer notifications to end-to-end customers in e-invoicing systems.

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