Abstract: This paper will start from the definition and purpose of paper invoice, analyze the shortcomings and problems in the use of paper invoice, and introduce the definition, advantages and purpose of electronic invoice, in order to solve the dilemma faced by the use of paper invoice. As a traditional form of bill, paper invoice plays an important role in commercial transactions, but there are some problems in its use. First of all, paper invoices are prone to damage, loss or tampering, increasing the risk and uncertainty of transactions. Secondly, the preservation and management of paper invoices requires a lot of time, space and labor costs, which brings no small burden to enterprises. In addition, because the paper invoice cannot realize real-time information sharing and tracking, resulting in the information process is not smooth and inefficient. In order to solve these problems of paper invoice, electronic invoice came into being. Electronic invoice is a new form of bill based on electronic data exchange and digital signature technology. It has the following advantages: First, electronic invoice does not need paper carrier, reduces the cost of use and management, and is not easy to be damaged, lost or tampered with, improving the reliability and security of transactions. Secondly, electronic invoices can realize real-time information sharing and tracking, which improves the efficiency and convenience of transactions. In addition, the electronic invoice can also be seamlessly connected with the enterprise's financial management system, to achieve automated accounting processing, reducing manual operations and errors. In short, there are a series of shortcomings and problems in the use of paper invoices, such as easy loss, difficult management, not easy to share information and so on. As a solution, electronic invoice has been more and more widely used and promoted by virtue of its advantages of eliminating paper carrier, improving transaction security and reliability, and realizing real-time information sharing and tracking. In the future, with the continuous development and improvement of technology, electronic invoices will become the mainstream form of business transactions, and promote the process of paper invoices to electronic transformation.

Keywords: Paper-invoice, Electronic invoice, Electronic transformation.

1. Introduction

1.1. Research background and purpose

With the rapid development of digitalization and networking, invoices, as an important financial document and tax payment record, are of great significance to enterprises and individuals in business transactions. However, there are a series of problems and difficulties in the use of traditional paper invoices, forcing us to find a more convenient, efficient and safe solution.

First, the use of paper invoices is subject to the risk of damage, loss or tampering. Since the paper invoice is based on paper as the carrier, it is affected by the external environment, such as humidity, temperature, etc., which is prone to damage or loss. In addition, due to the importance of the invoice, there is also a risk of malicious tampering or forgery, which brings many hidden dangers to the security of the transaction. The preservation and management of paper invoices requires a lot of cost and effort. Enterprises need to invest a lot of time, space and human resources when dealing with a large number of paper invoices, including classification, sorting, storage and other work, which not only increases the complexity of management, but also brings a certain financial cost burden. Paper invoices cannot realize real-time information sharing and tracking, which brings inconvenience to business transactions. When the transaction involves multiple links and multiple participants, it is necessary to constantly transfer and copy the invoice, which is prone to information loss or delay in delivery, resulting in poor business activities and low efficiency.

Therefore, the purpose of this study is to explore the dilemma of paper invoices and propose electronic invoices as a solution. As a new form of bill based on electronic data exchange and digital signature technology, electronic invoice has the advantages of no paper carrier, improve transaction security and reliability, real-time information sharing and tracking, and is considered to have important application prospects and promotion value.

Through this study, the differences, advantages and disadvantages of paper invoices and electronic invoices will be deeply analyzed and compared. And pay attention to the challenges and problems that electronic invoice may face in practical application, hoping to be able to be the phase of commercial transactions relevant businesses, government agencies and individual users to provide a clear understanding and understanding of paper invoices to electronic the transformation process provides feasible ideas and guidance to help drive the transition from paper invoices to electronic invoices to promote the convenient, efficient and sustainable development of business transactions.

1.2. Research significance

With the rapid development of digital technology and the increase of business transactions, paper invoices face a series of dilemmas and challenges in the modern business environment. Therefore, it is of great significance to study the dilemma of paper invoice and the solution of electronic invoice.

Studying the dilemmas and problems of paper invoices can improve the understanding of the risks and uncertainties in the use of paper invoices. Paper invoices are vulnerable to damage, loss or tampering, which will bring non-negligible risks to business transactions. By deeply studying the dilemma of paper invoices, we can better understand the root causes and effects of the problems, and provide theoretical...
basis and practical guidance for solving these problems. The research on e-invoice solutions is helpful to promote the process of paper invoice transformation to electronic. Electronic invoice has many advantages, such as no paper carrier, improve transaction security and reliability, real-time information sharing and tracking, etc., these advantages can effectively solve the dilemma of paper invoice. By studying the solutions of e-invoice, we can provide the corresponding reference and guidance for the government, enterprises and individuals, and promote the wide application and promotion of e-invoice in commercial transactions.

It is of great significance to study the dilemma of paper invoice and the solution of electronic invoice for improving the efficiency and convenience of business transactions. Paper invoice storage and management requires a lot of time, space and labor costs, while electronic invoices enable automated accounting processing, reducing manual operations and errors. In addition, electronic invoices can also realize real-time information sharing and tracking, improving the efficiency and convenience of transactions. Therefore, the study of electronic invoicing solutions will help to modernize and standardize business transactions. Studying the dilemma of paper invoice and the solution of electronic invoice also has the value of promoting the application of digital technology. With the continuous development of digital technology, electronic invoicing, which is widely used in business transactions, will also prompt digital transformation in other fields, such as electronic contracts, electronic payments, etc. Therefore, the study of the dilemma of paper invoice and the solution of electronic invoice will play a positive demonstration and leading role in the promotion of digital transformation.

To sum up, studying the dilemma of paper invoice and the solution of e-invoice is of great significance for improving the security, efficiency and convenience of business transactions, and also has a positive impact on promoting the application of digital technology and promoting digital transformation. Through in-depth research and exploration of relevant issues, we can provide useful experience and suggestions for practice and create a more favorable environment and conditions for the modernization of business transactions.

2. The Dilemma of Paper Invoices

2.1. Definition of paper invoice

Domestic scholars rarely study the connotation of invoice and electronic invoice, and what electronic invoice is often only mentioned in the research results. Guan Yungen (2008) believes that invoices are written documents left by transactions, which record the quantity, amount and date of transactions and can be used for future reference. [1] Ye Shaoqun (2009) believes that invoices are generated from commercial exchange activities and are legal documents and accounting documents used to record commercial transaction activities and financial income and expenditure activities. [2]

Domestic scholars on the connotation of invoice, although there are some differences in the expression, but the connotation of invoice is defined as the proof of transactions. Paper invoice, as a traditional form of bill, is usually given by the seller to the buyer as a transaction certificate. It is based on the paper carrier, through printing, filling, stamping and other means to record the detailed information involved in the transaction, is a paper-based form of bills, records the details of the transaction and the amount, and is issued by the corresponding seller to the buyer. Paper invoices usually include transaction date, description of goods or services, quantity, unit price, tax rate, tax and other information, but also include the seller's name, address, contact information and other relevant information.

2.2. Basic Functions of paper invoices

2.2.1. Origin of invoice

Invoice originates from commercial transaction activities, because the transaction subject needs to prove the process and result of commercial transaction, so invoice is produced as a credential transaction carrier form, and the proof function has become the basic function of invoice. With the development of commercial transaction activities, the subjects of transaction activities are gradually diversified. Not only operators need to obtain certificates of the quantity, subject and amount of their own transaction activities, but also counterparties, namely consumers or buyers, need to obtain certificates that prove the quantity, subject, method and amount of transaction activities. On the basis of proof, consumers or buyers also need to obtain the basis for maintenance or rights protection when disputes arise in their own trading activities, and invoices serve as the basis for maintenance and rights protection in this process. The frequent and diversified economic activities made the early tax collection difficult. Based on the needs of tax control of public subjects, the function of invoices gradually extended to the direction of tax collection and management of public subjects on the basis of the original proof and rights protection. The extension of its own function makes the invoice have a limited role for different subjects. For the seller of the transaction, the function of the invoice is more reflected in the basis, as a proof of commercial transactions. For consumers or buyers, in order to deal with possible disputes over economic transaction activities, invoices are used as the basis for safeguarding their own rights, and the functions of invoices are more reflected on the basis of rights protection.

In addition to the above two functions, the state accounts and verifies invoices based on the needs of market transaction activities and tax control, and realizes tax collection and management through the quantity, amount, subject and other matters recorded in invoices, which reflects the tax control function of invoices. [3] Invoice originates from market economic activities and is the product of the development of commercial transactions, the essence of which lies in its spontaneity. On top of the basic proof function, it gradually developed into the function of safeguarding rights, and some scholars identified it as a derivative function. [4]

2.2.2. The historical change of traditional invoice management system

In 1986, the Ministry of Finance formulated the first regulation on invoice management after the reform and opening up, the Interim Measures for National Invoice Management, which was mainly aimed at responding to the phenomenon of the coexistence of multiple business activities and multiple tax payers in the case of the surge in market transactions after the reform and opening up. The Interim Measures have played an important role in the unified management of invoices in China and strengthened the supervision of market economic activities. The "Interim Measures" stipulate the management subjects, methods, printing and supervision methods of invoices, and promote the standardization of invoice management in China, but also make the administrative color of invoice operation gradually
appear. Article 14, for example, implements strict examination and approval procedures for the printing, warehousing, issuance, purchase, balance and destruction of invoices, and these procedures are uniformly managed by the tax authorities. In 1993, the "Invoice Management Measures" and the "Implementation Rules of the Invoice Management Measures" made detailed provisions on the printing, purchasing, issuing and other aspects of invoice management. The invoice management system has been unified in form. In terms of content, it strengthens the power and function of collection and management subject by standardizing management procedure. The structure of the "Management Measures" is set up in accordance with the actual process of invoice management, and the behavior of each process such as receipt of invoices is standardized. Tax authorities are given more management powers in the invoice circulation, such as the right to inspect anti-counterfeiting measures on invoices. The "Measures" and "Detailed Rules" standardize the invoice management work and pay attention to the tax monitoring function of invoices. From the purchase, issuance and storage of invoices to the inspection and destruction of invoices, the setting and objectives of invoice management rules in all aspects are closely related to tax control.

The Tax Administration Law of 2001 provides more comprehensive regulations on the management of invoices. This is mainly reflected in the identification of the tax authority as the main body of invoice management and its specific responsibilities, such as Article 21, the tax authority is responsible for supervising the printing, purchasing and issuing of invoices. The invoice management system is determined to be hierarchical management, and Article 22 stipulates that the right to determine the printing subject of VAT special invoices and other invoices is enjoyed by the central and local tax authorities respectively. In addition to the above, the laws and regulations determine the legality of tax control devices and provide a legal basis for tax control and payment basis. The "Invoice Management Measures" and the "Interim Regulations" promulgated over and over again fully entrusts the tax authorities with the control power in the invoicing, storage, inspection and other links, which reflects a strong color of administrative power intervention. This administrative intervention is also the dominant factor in the invoice operation mode, while the marketability and spontaneity of invoices become secondary factors in this mode.

2.2.3. Legal function of invoice

China's "Invoice Management Measures" identified the invoice as the receipt and payment voucher generated in commercial activities, recorded the transaction content, and also included the bill relationship of transaction activities. The bill relationship with the recorded quantity, unit and amount as the main link is the basic legal relationship of the invoice, which shows the substantive content of commercial activities, and the legal relationship forms an internal relationship with the operator and the consumer as the main body in economic activities. Article 4, 5 and 7 of the "Invoice Management Measures" respectively make detailed provisions on the invoice management departments, types, joint and content as well as the printing of invoices, and determine the invoice mechanism mechanism with the tax authorities as the main responsible body and other functional agencies cooperating in their respective responsibilities. Tax authorities as the main body, finance, public security and other departments as the auxiliary, constitute the organizational form of China's invoice management. Tax authorities identify the quantity, amount and billing subject recorded in the invoice, so as to determine the tax subject, tax amount and tax payment method, and manage and control them. This kind of invoice management and control relationship forms the tax legal relationship between tax authorities and government functional agencies and taxpayers. The main function of invoice in this legal relationship is that tax authorities or other functional agencies form the tax basis through the contents recorded in the invoice, and use the tax basis as the proof of tax control. In this process, more reflects the tax control function of the invoice legal relationship.

The theory of the right relation and the theory of the debt legal relation are the mainstream theories of the tax legal relation formed by the tax control function carried by the invoice. The right relation theory emphasizes that the essence of tax legal relation is the obedience of citizens to the national right of collection, and the tax amount and tax obligation are caused by administrative acts. The representative of this theory is the German administrative law scholars Meyer and Preyra. On the other hand, the legal relation of tax revenue is the creditor's debt relation formed according to the public law, which is mainly manifested in the state's request to taxpayers to fulfill the tax debt. This theory is represented by the German jurist Hensel.

From the point of view of the main body of tax collection, the current tax party in our country is the government, mainly the tax authorities and some functional departments. The way of taxation is mainly based on the exercise of administrative power and the compulsory limitation of tax administration obligations, that is, only the unilateral will of the administrative subject can form a legal relationship. In addition, even if there is a mistake in the tax collection or the way of collection, the collection is still valid at the time of occurrence, and the taxpayer can only make up for the loss caused by the relief procedure after the fact. In this legal relationship, the tax status of the two parties is unequal to a certain extent. This unequal way of tax control reflects the distribution of power relations, that is, the power of the state to collect tax constitutes the basis of power in the legal relationship carried by the invoice.

The government intervenes in market transactions to form the basis for taxation, and the management function of the government is reflected in the traditional invoice supervision, which now controls the circulation links such as printing and issuing invoices. From the "Invoice Management Measures" analyzed in the first section of this chapter, it can be seen that in terms of the printing of invoices, the specific content, style and quantity of invoices are uniformly stipulated by the government, rather than defined according to the actual situation of market transactions. In the purchasing and issuing of invoices, the subject and scope of invoicing are stipulated, and the units and individuals who purchase invoices need to apply to the competent tax authorities, and invoice is issued according to the specific business activities of invoicing. In relation to the inspection and collection of invoices, invoices are monitored and inspected through the tax administrative enforcement powers conferred on the competent tax authorities.

Invoices originate from commercial transaction activities and play a role in proving the economic activities of commercial subjects, which is the initial function of invoices. At the same time, invoices should be generated according to
the needs of transactions and issued according to the substantive economic form of market transactions. However, from the perspective of the evolution of China's invoice management methods and current regulations, the main role of invoices is to ensure the stability of the country's tax revenue. By limiting the circulation links of invoice printing, purchasing, issuing and checking, the government intervenes in market transactions by means of administrative invoice management, and forms the basis for taxation of transactions.

The government imposes taxes on economic transactions in accordance with laws and regulations, which in itself is a gratuitously expropriation of private property. In this process, the government unilaterally enjoys the inflow of interests of tax payers and forms the rights and interests of tax payers. On the other hand, it regulates them according to relevant laws and regulations and imposes mandatory obligations on tax payers. Exacerbates the imbalance in the distribution of tax benefits. The invoice is an important carrier of tax collection in our country, carrying a certain tax control function, and should also be an important tool to balance the interests of tax collection and management. At this stage, the Chinese government, through the "Invoice Management Measures", limits the links of the use of invoices by tax payers. If there is a need to purchase invoices, they should hold the documents and other certificates stipulated in the regulations to purchase invoices. At the same time, in the process of purchasing invoices, relevant provisions should also be strictly followed, and the use of invoices should be checked by the tax authorities. In view of the conditions of the above restrictions, the invoice purchase link is unconditionally set as a tax obligation. In the invoicing process, invoicing units and individuals shall comply with the requirements of regulations on the invoicing process, report the use of invoices independently, and set up relevant registration systems. Under this regulation, the issuing behavior of the invoice user is related to tax registration and periodic reports, which makes the invoice issuing process limited by tax obligations. In addition to the above two obligations, the provisions of the "Invoice Management Measures" that stipulate the main obligations of the use of invoices also exist in the storage, inspection, collection and many other links of invoices.

From the perspective of government regulators, it is convenient to realize the tax control function of invoices by setting obligations on invoice activities, which is a privilege of tax control means. From the main body of market transactions, the design of the system should be related to the convenience and fairness of market competition. Therefore, when managers have hidden and potential tax collection rights, they should also consider the rationalization of tax collection and management interests when seeking to maximize their own interests, limit the tax obligation of the invoice subject and grant corresponding rights, so as to obtain the maximum effectiveness of the tax system.

2.3. Problems in the use of paper invoices

Under the diversified trading environment, the traditional "tax control by vote" system is facing the problem of failure. This system, which is the basis of China's tax collection and administration, relies on taxpayers to use unified tax invoices in the tax settlement process and fill out invoices according to the actual situation to supervise tax sources to ensure tax stability. However, in the electronic transformation, the main problems faced by this system include: the characteristics of the self-employed in e-commerce, the transaction amount is small, the number is large, the number of times, they tend to take tax avoidance business behavior, such as not to open or falsify invoices, in order to protect their own economic interests; Consumers in such transactions often do not verify the real situation of electronic invoices, or even apply for invoicing; It is difficult to implement "tax by vote" on individual taxpayers on the network, and the supervision cost is high. Placing the billing obligation before economic transaction activities increases the cost of tax payment, reduces the enthusiasm of tax payers, leads to network operators' billing behavior contrary to the actual transaction situation, increases the difficulty and cost of tax collection and administration, and reduces the efficiency of tax collection and administration.

The current system of "tax controlled by vote" requires information symmetry to reflect the authenticity of transactions. However, in actual management, tax authorities obtain information indirectly through invoices, resulting in the separation of transaction information from invoice information. Buyers and sellers get information directly, but tax authorities use invoices as a link to regulate tax sources. Tax authorities are in a monopoly position, which can lead to abuse of power and encourage tax evasion and improper benefits. Regulatory improvements are needed to reduce the risk of information separation and abuse of monopoly power, and to ensure fair and stable taxation.

The cost of the paper original certificate is high and it is difficult to obtain, and the price of the enterprise is high when asking for the invoice, resulting in the taxpayer hoping to conclude the transaction at a lower price but unable to obtain the legal certificate. The form of the paper original document is not standardized, such as incomplete filling, lack of approval procedures, or the use of internal settlement bills instead of invoices, resulting in non-standard accounting data. The contents of the original paper certificates are untrue, including false opening or false declaration of expenditure bills, as well as untrue economic activities. The paper original certificate is incompatible with information, which limits the automatic application of accounting information system, prolongs the information processing time, and hinders the cooperation between information flow and business flow. The paper original certificate cannot meet the development needs of e-commerce, which affects the development of e-commerce, the efficiency of tax declaration and tax collection and management, as well as the process of accounting informatization and enterprise informatization.

After the customer obtains the invoice from the supplier, it needs to be checked and sorted out, and then the invoice is entered into the financial system for accounting processing. Then, the vouchers generated by the financial system need to be printed out, and finally the invoices and other documents are bound into the account. In this process, the business activities of the enterprise are closely dependent on paper invoices, and the financial personnel have to deal with a large number of heavy businesses, and the paper documents are all over their workspace, resulting in the need to work overtime to deal with these tasks. This traditional process is inefficient and prone to cumbersome work burdens.

The invoice management system is disconnected from the actual operation and management behavior of the enterprise: the traditional invoice management system fails to achieve the consistency of information flow, material flow and capital flow, resulting in the disconnect between invoice
management and the actual operation situation and the inability to accurately record the business activities of the enterprise. Pay too much attention to the anti-counterfeiting of the invoice itself; the current invoice management system too much emphasis on the anti-counterfeiting and management of paper invoices, invest a lot of resources, resulting in high management costs, and the core should be the authenticity of the invoice information, if the tax authorities can grasp the invoice information from the source, the anti-counterfeiting demand can be reduced. Not adapted to the requirements of e-commerce, the existing invoice system cannot meet the needs of e-commerce, electronic transactions and payments require more efficient and secure information flow and tax payment process, and the traditional paper invoice management has become an obstacle to the development of e-commerce. [20]

The paper original certificate exists in paper form and carries the original written data. Once formed, unless subjected to irresistible disaster accidents, its form and content are not easy to change. The paper original certificate usually has various characteristics, such as different handwriting, paper security features, multiple duplicates, identifiable special seals, etc., making it easy to be recognized. Not easily modified or forged: The content of the original paper certificate is relatively difficult to tamper with or forge, and any modifications tend to leave obvious traces. Standardized management: The accounting law stipulates the methods and requirements for revising accounting information, which helps to standardize management and clarify responsibilities. [21]

Paper invoices require special paper and complex production, printing, anti-counterfeiting, receipt, printing, delivery, management and other links, so the cost is higher. High mailing and management costs: enterprises need dedicated warehouses and personnel to manage paper invoices, and additional costs are required for storage and management. In addition, invoices are easy to lose, and consumers are difficult to find invoices, affecting after-sales service. Unable to adapt to the development needs of e-commerce: paper invoices bring tedious work such as billing, checking and packing to e-commerce enterprises, and there are problems such as red flushing, invalidation, expiration and loss, which is difficult to adapt to the development needs of e-commerce. It is difficult to stop the counterfeiting of paper invoices: the inspection of paper invoices is complicated, and it is easy to be used for the production of fake invoices, which may lead to corruption and embezzlement of property. Tax audit and financial inspection are difficult: When auditing and inspecting corporate accounts, it is necessary to find information in a large number of paper invoices, which increases the difficulty and cost of work and reduces work efficiency. [22]

Jiang Haibo (2019) believes that the business hall has many outlets and a large amount of invoicing, which requires special personnel to manage the receipt, storage and printing of invoices, which increases the cost of manpower and material resources. Although the company has implemented multi-channel payment, customers who need invoices still have to queue up at the sales hall to wait for invoices to be printed, which reduces the customer experience and occupies the resources and time of the sales staff of the sales hall to deal with other business. The printing of paper invoices requires specific equipment and consumables, increasing operating costs. Paper invoice data is independent from other business systems and cannot be seamlessly connected with shared financial systems, which increases the burden of reconciliation work. The report used by the invoice adopts the semi-manual statistical method, which is low efficiency, easy to make mistakes, and is not conducive to the multidimensional use of data. These issues have led to reduced efficiency, increased costs, and decreased customer experience. [23]

To sum up: Paper invoices are vulnerable to damage, loss or tampering, increasing the risk and uncertainty of transactions. Paper invoices often need to be stored for a long time, which is easy to become blurred, damaged or lost in the storage process, resulting in the loss of transaction documents. In addition, due to the tamper-prone nature of the paper itself, the authenticity of the invoice is also vulnerable to question. This creates problems for both merchants and consumers, as once the invoice is lost or tampered with, it will affect the legality of the transaction and subsequent dispute resolution. The preservation and management of paper invoices requires a lot of time, space and labor costs, which brings no small burden to enterprises. The traditional way of invoice preservation often requires a large number of paper invoices to be sorted, classified and archived, which requires a lot of time and human resources. In addition, because paper invoices take up a lot of physical space, the convenience of electronic storage cannot be effectively utilized, increasing the storage cost of enterprises. This is particularly difficult for SMEs and the self-employed, as they often do not have the resources to process and manage these invoices.

Paper invoice cannot realize real-time information sharing and tracking, resulting in the information process is not smooth and low efficiency. Paper invoices need to be delivered by traditional mail, delivery or exchange methods, which can require time and material costs. Therefore, the transmission of information is often delayed and cannot be shared and updated in real time. This means that merchants cannot obtain and record information in time when processing invoices, which brings certain difficulties to subsequent business analysis and decision-making.

By abandoning paper carrier and applying digital signature technology, electronic invoice reduces invoice risk and improves transaction reliability and security. With the continuous development and improvement of technology, electronic invoices will gradually become the mainstream of commercial transactions, promote the transformation of paper invoices to electronic, realize instant information sharing, improve transaction efficiency, connect with the internal financial system, and promote the important role of electronic technology in commercial transactions.

3. Electronic Invoice Solutions

3.1. Definition and purpose of electronic invoice

Yin Shiyao (2022) believes that electronic invoice is a paperless receipt and payment voucher loaded with electronic signature, adopted national unified coding and anti-counterfeiting technology, and electronically transmitted and stored through the electronic invoice management system of tax authorities issued or received by taxpayers in the purchase and sale of commodities, provision or acceptance of labor services and other types of business activities. Electronic invoice is the electronic image of paper invoice, which has the characteristics of paperless, platform, real name and
The main purpose of electronic invoicing is to improve the efficiency and convenience of transactions, reduce the burden on enterprises, and ensure the security and reliability of transaction information. First of all, electronic invoices do not need paper carriers, and invoices are stored in digital form on a computer system or Internet platform, which greatly simplifies the use and management process. Compared with traditional paper invoices, electronic invoices are not easy to be damaged, lost or tampered with, and have higher transaction reliability and security. Electronic invoicing enables real-time information sharing and tracking. Through the electronic invoice system, the transaction parties can share the invoice information in real time, avoiding the cumbersome process of traditional paper invoice transmission and entry, and improving the transaction efficiency and convenience. At the same time, the electronic invoice can record the information of the entire transaction process, including the buyer, the seller, the transaction amount, the commodity details, etc., to facilitate the tracking of the transaction process and audit verification. The electronic invoice can also be seamlessly connected with the financial management system of the enterprise to achieve automated account processing. Through the integration with the financial system, the electronic invoice can be directly used as a voucher and automatically entered into the accounting accounts, reducing manual operation and errors. This not only improves the efficiency of financial processing, but also reduces the human cost of enterprises.

The main purpose of electronic invoicing is to improve the efficiency and convenience of transactions, reduce the burden on enterprises, and ensure the security and reliability of transaction information. First of all, electronic invoices do not need paper carriers, and invoices are stored in digital form on a computer system or Internet platform, which greatly simplifies the use and management process. Compared with traditional paper invoices, electronic invoices are not easy to be damaged, lost or tampered with, and have higher transaction reliability and security. Electronic invoicing enables real-time information sharing and tracking. Through the electronic invoice system, the transaction parties can share the invoice information in real time, avoiding the cumbersome process of traditional paper invoice transmission and entry, and improving the transaction efficiency and convenience. At the same time, the electronic invoice can record the information of the entire transaction process, including the buyer, the seller, the transaction amount, the commodity details, etc., to facilitate the tracking of the transaction process and audit verification. The electronic invoice can also be seamlessly connected with the financial management system of the enterprise to achieve automated account processing. Through the integration with the financial system, the electronic invoice can be directly used as a voucher and automatically entered into the accounting accounts, reducing manual operation and errors. This not only improves the efficiency of financial processing, but also reduces the human cost of enterprises.

3.2. Advantages of electronic invoicing

As a new form of bill based on electronic data exchange and digital signature technology, electronic invoice has many advantages and solves the dilemma faced by paper invoice from different angles. Electronic invoicing has four advantages. First, it simplifies the procedures for applying for invoices. Second, we strengthened tax collection and invoice management. Third, greatly save the invoice cost. Fourth, query verification.

The advantages of electronic invoice can be summarized as no paper carrier, reduce cost, improve reliability and security; Real-time information sharing and tracking to improve transaction efficiency and convenience; Seamless connection with financial management system to achieve automated processing. These advantages make electronic invoice become an effective solution to the problems faced by paper invoice, and provide more efficient, convenient and reliable support for commercial transactions. With the continuous development and improvement of technology, electronic invoices will be further promoted and applied to promote the process of paper invoices to electronic transformation.

3.2.1. No paper carrier, reduce cost, improve reliability and safety

As a new form of bill, electronic invoice eliminates the traditional paper carrier and has many advantages, including reducing cost, improving reliability and security. Eliminating the use of paper carriers can significantly reduce costs for businesses. Traditional paper invoices require a lot of paper, printing and storage space, while e-invoices completely eliminate the need for paper on a digital basis. This not only saves on the purchase of paper and ink cartridges, but also reduces the cost of printing and mailing. In addition, the management of electronic invoices is also simpler and more efficient, saving labor costs. In contrast, the preservation and management of paper invoices requires a lot of time and effort, and is prone to loss, damage and tampering, bringing risks and additional burdens to the enterprise. Electronic invoicing improves the reliability and security of transactions. The traditional paper invoice is easy to be damaged, lost or tampered with, which reduces the credibility of the transaction and cannot provide conclusive proof of the transaction. The electronic invoice adopts digital signature and other technologies to ensure the authenticity and integrity of the invoice, which can prevent tampering and forgery. In addition, the electronic invoice can establish a complete transaction information link, including both sides of the transaction, time, amount, etc., to ensure the traceability and auditability of the transaction. This makes e-invoicing a more reliable and secure way to conduct transactions. The use of electronic invoices further improves the efficiency and convenience of transactions. Paper invoices require traditional mailing and manual processing, and the risk of information delays and errors is relatively high. The electronic invoice can realize real-time information sharing and tracking, and electronic data exchange through the Internet, reducing the time and cost of information transmission. In addition, the electronic invoice can also be seamlessly connected with the enterprise's financial management system, to achieve automated accounting processing, greatly reducing manual operations and errors.

Electronic invoicing reduces costs and improves reliability and security by eliminating the need for paper carriers. It not only saves the resource and time cost of enterprises, but also provides traceable and auditable transaction vouchers, promoting the efficiency and convenience of transactions. Therefore, as a solution of paper invoice, electronic invoice has broad application prospects and great development potential. It is important to note that the implementation of e-invoicing requires reasonable technical and management measures to ensure the security of data and prevent improper
use. At the same time, users and enterprises also need to adapt to and trust the use of electronic invoices, improve the cognition and acceptance of electronic invoices, so as to achieve a smooth transition from paper invoices to electronic transformation.

3.2.2. Real-time information sharing and tracking to improve transaction efficiency and convenience

As a new form of bill, electronic invoice greatly improves the efficiency and convenience of transaction through the characteristics of real-time information sharing and tracking. In the traditional paper invoice, the transmission and circulation of information often takes a long time and complex procedures, which easily leads to the delay and complexity of the transaction. Electronic invoice through the application of modern technology, to achieve real-time and online information sharing and tracking, so as to effectively solve this problem.

Electronic invoice realizes real-time information sharing. In traditional paper invoices, both parties to the transaction often need to send invoice information by mail, fax or scanning, which has problems such as time delay and inaccurate information. The electronic invoice uses the electronic data exchange based on the network, so that the invoice information can be obtained instantly and accurately by the transaction parties. Both buyers and sellers can query, view and download invoice information by logging in to the corresponding platform or system, which greatly speeds up the transmission of information. Electronic invoice realizes real-time tracking of information. Traditional paper invoices are easily lost or tampered with in the process of circulation, while electronic invoices ensure the security and integrity of invoice information through digital signature technology. Buyers and sellers can monitor the status and location of invoices in real time to ensure that they are not lost or tampered with during the transaction. At the same time, the electronic invoice can also record all aspects and operations of the transaction, including the creation, sending, receiving and signing of the invoice, which is conducive to the audit and accountability of the transaction between the two parties.

Electronic invoicing also provides convenience. Traditional paper invoices require a lot of physical storage space and are prone to damage and loss. Electronic invoices do not need paper carriers, only need to be stored and managed on electronic devices, which greatly saves storage space and reduces the risk of damage and loss of invoices. In addition, the electronic invoice can also be seamlessly connected with the enterprise's financial management system, to achieve automated accounting processing, reducing manual operations and errors.

Electronic invoice greatly improves the efficiency and convenience of transactions through the characteristics of real-time information sharing and tracking. Real-time information sharing and tracking enables both parties to obtain invoice information immediately and accurately, avoiding the problem of inaccurate information and poor timeliness in traditional invoices. At the same time, real-time tracking of information can ensure the security and integrity of invoices, increasing the trust and reliability of transactions. In the future, with the continuous innovation and development of electronic invoice technology, it is believed that its role in improving transaction efficiency and convenience will be further prominent.

3.2.3. Connect with the financial management system to realize automatic processing

As a new form of invoice, the docking with the financial management system of the enterprise is an important function of the electronic invoice, which brings many advantages and convenience by realizing automatic processing.

The connection with financial management system can realize the automatic entry and check of invoice information. Traditional paper invoices require manual input and verification and are prone to errors and missing items. Through the real-time connection with the financial management system, the electronic invoice information can be directly entered into the system automatically. This not only improves the accuracy of the input, avoids human error, but also saves a lot of manpower and time costs. The connection with financial management system can realize the automatic matching and checking of invoice information. In the process of using paper invoices, it is necessary to manually match and check the invoices with the corresponding transfer records, which is very tedious and prone to errors. After the electronic invoice is connected with the financial management system, the system can automatically match invoices and transfer records according to preset rules, which improves the accuracy and efficiency of the check. At the same time, for cases that do not comply with the rules, the system can also issue warnings or prompts in time to help users discover and solve problems in a timely manner. With the connection of financial management system, the automatic processing and statistical analysis of invoice information can be realized. Paper invoices need to be sorted and filed manually, while electronic invoices can be automated and analyzed directly in the system. For example, the system can automatically classify and calculate invoices according to different categories and time horizons, generating financial statements and analysis results. This not only improves the efficiency of data processing, but also provides more accurate and timely information support for the financial decision-making of enterprises.

In short, the connection with the financial management system is one of the important functions of e-invoicing, which brings many benefits by automating the processing. Automatic entry and verification, automatic matching and verification, automatic processing and statistical analysis and other functions, not only improve work efficiency, reduce errors and missing items, but also provide enterprises with more accurate, reliable and timely financial information, help to improve the management level and competitiveness of enterprises. The connection to the financial management system needs to ensure the security and privacy of the data, ensuring that only authorized personnel can access and operate. In addition, the stability and reliability of the system are also key factors, requiring thorough testing and maintenance to ensure normal operation. With the continuous development and improvement of technology, the docking with the financial management system will be more intelligent and automated, bringing more convenience and benefits to the financial management of enterprises.

4. The Prospect of Paper Invoice to Electronic Transformation

4.1. Trend of technology development and improvement

The prospect of paper invoice to electronic transformation
is mainly driven by the continuous development and improvement of technology. With the rapid development of information technology, the field of electronic invoicing is also rapidly innovating and evolving. Below I will introduce some current trends in technological development and improvement:

The popularization and progress of mobile Internet technology has provided a broad development space for the application of electronic invoice. Nowadays, the penetration rate of smart phones is increasing, and people can complete various operations through mobile phones, including receiving, transmitting and storing invoice information. The development of mobile Internet technology makes it possible for people to apply, consult and manage electronic invoices anytime and anywhere, which greatly improves the convenience and efficiency of transactions. The emergence of blockchain technology provides strong support for the security and credibility of electronic invoices. Blockchain technology ensures the reliability and immutability of invoice information through a decentralized distributed ledger. Using blockchain technology, the digital signature of the invoice can be verified to ensure the authenticity and legitimacy of the invoice. In addition, blockchain technology can also achieve real-time sharing and tracking of invoice information, improving the transparency and traceability of transactions. The development of artificial intelligence and big data technology has provided a more intelligent and efficient way for the processing and analysis of electronic invoices. Through artificial intelligence technology, electronic invoices can be automatically identified, classified and sorted, greatly reducing the time and cost of manual processing. At the same time, through big data analysis, business information hidden in invoices can be mined to provide more accurate data support for enterprise decision-making.

The continuous improvement of digital identity authentication technology and electronic signature technology also provides a reliable premise for the promotion and application of electronic invoice. Digital identity authentication technology can ensure the authenticity and credibility of the user's identity in the electronic invoice transaction, and effectively prevent identity fraud and information disclosure. The electronic signature technology can verify the authenticity and integrity of the invoice to ensure the security and legitimacy of the transaction.

The prospect of paper invoice to electronic transformation depends on the development and improvement of technology. The continuous breakthrough and application of mobile Internet, blockchain, artificial intelligence, big data, digital identity authentication and electronic signature technologies will greatly improve the reliability, security and convenience of electronic invoices. In the future, with the continuous progress of technology, we can foresee that electronic invoices will become an indispensable part of business transactions, promoting the process of paper invoices to electronic transformation.

4.2. The wide application and promotion of electronic invoices

As a new form of bill, electronic invoice has many advantages and application prospects, and is being more and more widely used and promoted. This section will focus on the wide application and promotion of electronic invoicing, and explain its important role in business transactions.

The wide application of electronic invoice can effectively improve the efficiency and convenience of transactions. Compared with traditional paper invoices, electronic invoices do not need paper carriers, and can achieve fast transmission and exchange through electronic data exchange. This means that when purchasing goods or services, businesses and individuals can quickly obtain electronic invoices and understand the relevant information of the transaction in real time, such as transaction time, type and quantity of goods. At the same time, electronic invoices can also be sent to both parties through E-mail, mobile phone applications and other ways, greatly reducing the time and space costs of transactions, and improving the convenience of transactions.

The promotion of electronic invoicing can improve the efficiency and accuracy of financial management. Traditional paper invoices need to be entered and checked manually, which is prone to errors and omissions. The electronic invoice can be seamlessly connected with the financial management system of the enterprise to achieve automated account processing. When enterprises conduct financial settlement and report generation, the system can automatically identify and sort out relevant electronic invoice information to improve the efficiency and accuracy of financial processing. At the same time, the electronic storage form of electronic invoices also facilitates the financial audit and tax declaration work of enterprises, and improves the overall management level of financial work.

The widespread use of electronic invoicing can also enhance the security and reliability of transactions. Paper invoices are prone to damage, loss or tampering, bringing risks and uncertainties to both sides of the transaction. The electronic invoice adopts digital signature and encryption technology, which can effectively prevent the counterfeiting and tampering of invoice information and ensure the security and reliability of transactions. Both parties can verify the authenticity and integrity of invoices through digital signatures to avoid unnecessary disputes and losses.

In a word, electronic invoice has a wide range of application prospects and important promotion value. It can improve the efficiency and convenience of transactions, improve the efficiency and accuracy of financial management, and strengthen the security and reliability of transactions. With the continuous development and improvement of information technology, electronic invoice will play an increasingly important role in commercial transactions, and promote the transformation process of paper invoice to electronic. In the future, we can foresee that electronic invoices will become the mainstream form of commercial transactions, bringing more convenience and benefits to economic development and enterprise management.

4.3. Mainstream forms of electronic invoicing in commercial transactions

As a new form of invoice in commercial transactions, electronic invoice is gradually becoming the mainstream form. Its dominant position in commercial transactions is reflected in the following aspects.

Electronic invoice has the characteristics of no paper carrier. Compared to paper invoices, which require cumbersome procedures to print, distribute and save, electronic invoices can be created, transmitted and stored electronically without a paper carrier. This advantage not only reduces the cost of use and management, but also reduces the consumption of packaging materials, in line with the concept of environmental protection. Electronic invoicing improves the
security and reliability of transactions. The traditional paper invoice has the risk of being tampered with and forged, which brings uncertainty to the transaction. The electronic invoice adopts digital signature technology, which can ensure the authenticity and integrity of the bill and effectively prevent tampering and forgery. This increase in security makes business transactions more stable and trustworthy, giving more confidence to all parties.

Electronic invoicing enables real-time information sharing and tracking. Through the electronic platform, the parties involved in the transaction can obtain invoice-related information anywhere and anytime, including the creation, sending, receiving and processing of invoices. This feature makes the information process of business transactions smoother and more efficient, avoiding the problem of information lag and opacity caused by traditional paper invoices. At the same time, real-time tracking can also provide better order management and supply chain management, and provide more accurate data and supervision basis for tax authorities. The electronic invoice can be seamlessly connected with the financial management system of the enterprise. Traditional paper invoices need to be manually entered and registered, which is prone to errors caused by manual operation. The electronic invoice can be directly integrated with the financial management system of the enterprise to realize automated account processing and data management. This not only saves on labor costs, but also reduces human errors and omissions.

To sum up, electronic invoice has gradually become the mainstream form in commercial transactions due to its characteristics of eliminating paper carrier, improving transaction security and reliability, and realizing real-time information sharing and tracking. With the continuous development and improvement of electronic technology, electronic invoice will further expand its application field, and promote the process of paper invoice to electronic transformation. It is foreseeable that in the future, electronic invoices will become the dominant business transactions, providing more efficient, convenient and reliable invoice support for business activities.

5. Summary and Outlook

Paper invoice, as a traditional form of bill, plays an important role in commercial transactions. However, there are a series of difficulties and problems in the use of paper invoices, such as easy loss, difficult management, not easy to share information and so on. In order to solve these problems, electronic invoice as a new form of bill came into being, and gradually has been widely used and promoted.

The dilemma of paper invoice is mainly reflected in the following aspects. First of all, paper invoices are prone to damage, loss or tampering, increasing the risk and uncertainty of transactions. This is not only a burden for the buyer, but also brings management and maintenance difficulties for the seller. Secondly, the preservation and management of paper invoices requires a lot of time, space and labor costs, which brings no small burden to enterprises. Especially for large-scale enterprises, the management of paper invoices is more complex and difficult. In addition, because the paper invoice can not realize real-time information sharing and tracking, resulting in the information process is not smooth and inefficient. This brings great inconvenience and trouble to the transaction and financial management of enterprises. In order to solve these problems of paper invoice, electronic invoice came into being and has become a feasible solution. Electronic invoice is a new form of bill based on electronic data interchange and digital signature technology. It has the following advantages. First of all, electronic invoices do not need paper carriers, reducing the cost of use and management, and not easy to damage, loss or tampering, improving the reliability and security of transactions. Electronic invoices can be stored and delivered in electronic form, greatly reducing the risk of damage or loss of paper invoices. Secondly, electronic invoices can realize real-time information sharing and tracking, which improves the efficiency and convenience of transactions. Through the electronic invoice system, buyers and sellers can view transaction information in real time, timely confirmation and settlement of transactions, and improve the speed and accuracy of transactions. In addition, the electronic invoice can also be seamlessly connected with the enterprise's financial management system to achieve automated account processing. This reduces the tedious manual operation and possible errors, and improves the efficiency and accuracy of enterprise financial management.

In the process of using paper invoice, there are difficulties such as easy loss, difficult management and inconvenient information sharing, while electronic invoice as a solution has advantages in cost, reliability, security, efficiency and convenience. With the continuous development and improvement of technology, electronic invoices will become the mainstream form of business transactions, and promote the process of paper invoices to electronic transformation. Enterprises and governments should actively promote the use of electronic invoices to improve the efficiency and convenience of transactions and reduce the burden of management and costs. In the future, with the further innovation of electronic invoicing technology, it is believed that more functions and applications will be developed to bring greater convenience and security to business transactions.

With the continuous progress of science and technology and the continuous development of economy, electronic invoice, as a new form of bill to solve the dilemma of paper invoice, is gradually being widely used and promoted. Looking to the future, electronic invoicing will continue to develop and have the following development trends.

Electronic invoicing will enable more efficient and convenient operation. With the further innovation of digital technology, the electronic invoice system will become more intelligent and automated. By adopting advanced technologies such as artificial intelligence, big data and blockchain, e-invoicing can automate invoice generation, receipt, retrieval and processing, greatly reducing manual operation and time costs. In addition, the electronic invoice system can also be seamlessly connected with the internal financial management system of the enterprise to achieve integrated management and automated processing of the entire bill process, further improving the efficiency and convenience of transactions. Electronic invoicing system will be more secure and reliable. In order to solve the problem that traditional paper invoices are vulnerable to tampering, forgery and loss, electronic invoices adopt digital signature and encryption technology to ensure the authenticity and integrity of invoices. In the future, with the wide application of blockchain technology, the electronic invoice system will be more anti-counterfeiting and traceability, and every transaction can be recorded and tracked, greatly enhancing
the security of transactions. Electronic invoice will achieve a wider application and popularity. With the support and encouragement of the government, more and more enterprises will adopt e-invoicing for business transactions. At the same time, the standardization and interconnection of the electronic invoice system will also be further promoted, and different regions and industries can exchange and use electronic invoices more smoothly. In addition, e-invoice can also be connected with other e-commerce platforms and financial systems to provide integrated services and solutions for enterprises. E-invoicing will drive upgrades and improvements in financial management and auditing. Through the intelligent analysis function of the electronic invoice system, enterprises can grasp the operating situation and financial data more accurately and timely, and improve the effect of financial analysis and decision-making. At the same time, the traceability and integration of electronic invoices will also provide more reliable and comprehensive data support for the financial audit of enterprises, and further improve the quality and efficiency of financial management.

In short, looking forward to the future development of electronic invoicing, we can see that it will achieve more efficient and convenient operation, more secure and reliable transaction protection, wider application and popularity, as well as the promotion and improvement of financial management and audit. The development of electronic invoices will play an increasingly important role in commercial transactions, and promote the process of paper invoices to electronic transformation. Because of this, we have reason to believe that electronic invoices will become an indispensable and important part of business transactions in the future, and bring greater benefits and convenience to the development of enterprises and the economy.

References


