

Research on the Application of Comprehensively Digital Electronic Invoice

- Take X Finance and Taxation Consulting Service Company as an Example

Wangyu Jin^{1,a,*}

¹*School of Business, Shandong University, Weihai, 264200, China*

a. 202100620363@mail.sdu.edu.cn

**corresponding author*

Abstract: With the rapid development of information technology, the “Golden Tax Phase IV” system has been fully launched, and the comprehensively digital electronic invoice (hereinafter referred to as “CDEI”) as its core has also been piloted in many places. However, there is little research on CDEI in the academic community at present. Most of them use the literature research method, mainly focusing on the challenges of CDEI implementation to enterprises, coping strategies, financial management and other aspects. There is little research on the application of CDEI in a specific enterprise. Through literature research and case analysis, this paper firstly studies the theory of CDEI, expounds the relevant theoretical basis, and provides theoretical guidance for various practical problems in the application of CDEI in enterprises. Secondly, a case study of X finance and taxation consulting service company is conducted, which actively uses the CDEI system. This paper starts from three stages of the evolution of the invoice application of company X, and through a comprehensive understanding of company X, analyzes three major impacts of the application of CDEI on Company X’s improvement of work convenience, enhancement of tax compliance, and reduction of business error rate. In addition, it points out the problems existing in the application of CDEI in company X and the solutions. This paper enriches the existing optimization research on the application of CDEI, and provides some enlightenment for the risk prevention and supervision, system innovation and rational development of the application of CDEI in enterprises.

Keywords: finance and taxation consulting service company, comprehensively digital electronic invoice, electronic invoice service platform

1. Introduction

Since December 1st, 2021, the State Administration of Taxation of China has successively issued announcements in many places to carry out the pilot of CDEI. As of April 30, 2023, 24 provinces (municipalities and autonomous regions directly under the central government) have become the pilot places for CDEI, and the whole country (except Hong Kong, Macao and Taiwan) is the invoice recipients of CDEI. Therefore, this paper chooses China as the research object. Jiangsu Province, where the X finance and taxation consulting service company studies in this paper is located, has

carried out the pilot since April 27, 2023, and has been comprehensively popularized since July 1, 2023.

At present, there are few researches on CDEI in academic circles, most of which adopt the literature research method, mainly focusing on the challenges of CDEI implementation to enterprises, coping strategies, financial management, etc. Therefore, the scope of research is not broad enough, and the industry is relatively scattered. Meanwhile, the case study method is less used, and the application of CDEI in a specific enterprise is less discussed. In this paper, the case study of X finance and taxation consulting service company, which actively uses the CDEI system, is conducive to a comprehensive understanding of the impact of CDEI on specific enterprises in the promotion. Also, it analyzes the causes of the impact, and puts forward further improvement measures, so as to enrich the existing optimization research on the application of CDEI.

2. Literature Review

2.1. Concept of CDEI

CDEI is a brand-new invoice with the same legal effects and basic uses as the existing paper invoice. It does not exist in paper form and need media support. It does not need to apply for requisition, invoice verification and additional version increment [1]. CDEI fully digitizes the information of paper invoices, integrates multiple ticket types into a single electronic invoice, and implements national unified code assignment and automatic circulation and delivery [2]. CDEI can provide services such as issuance, delivery and inspection, and realize the electronization of invoices in all fields, links and elements.

2.2. Information of CDEI

The information of CDEI includes basic content and specific content. In order to comply with taxpayers' habit of issuing invoices, the basic content of CDEI has been optimized based on the original VAT invoice, including dynamic QR code, invoice number, invoicing date, buyer information, seller information, project name, specification and model, etc. [3].

In order to meet the personalized needs of taxpayers engaged in specific industries, operating special goods and services and specific application scenarios (hereinafter referred to as "specific businesses"), the tax authorities have designed the corresponding specific content in the CDEI according to the relevant provisions of the current invoice issuance and the invoicing scenarios of specific businesses [3]. Among them, specific businesses include rare earth, construction services, passenger transport services, cargo transport services, real estate sales, agricultural products acquisition, etc. [3]. When issuing the CDEI, the taxpayer may fill in the information of specific business in the column of specific content according to the actual business development.

2.3. The Difference Between CDEI and Invoice Issued by Using Tax Control Equipment

Invoices issued using tax control equipment are paper and electronic invoices (hereinafter referred to as "PEI"). There are seven main differences between CDEI and PEI. Firstly, in terms of pre-invoicing stage, PEI needs to apply for ticket type verification and tax control equipment, and get the number segment of PEI from the competent tax authority; CDEI does not need to apply for ticket type verification, tax control equipment, and invoice collection. Secondly, in terms of invoicing restrictions, PEI can only be issued within the given number of invoice copies and value limit, and taxpayers need to apply to increase the version of invoices; The "credit system" is adopted for the CDEI, and taxpayers can issue invoices of any amount and any share within a given total amount. Thirdly, in terms of the display information, the number of PEI is 8 digits, which is compiled by year

and batch; The number of digital invoice is 10 digits, including the year, administrative division code, invoicing channel, sequence code and other information. CDEI deletes the address column, bank account number column, invoice code, drawer and password area on PEI. At the same time, the buyer and seller information are displayed side by side, making the face of the ticket more concise and intuitive. Fourthly, in terms of the issuing platform, PEI is issued on the public service platform and can be issued offline; CDEI is issued on the electronic invoice service platform, and only taxpayers are allowed to issue invoices online.

Fifthly, in terms of category composition, PEI only includes VAT electronic special invoices and value-added tax (hereinafter referred to as “VAT”) electronic ordinary invoices; CDEI designs explicit labels and specific elements through labeling and elementalization, and unifies the “7+10” standard invoices into electronic invoices, which not only covers value-added tax invoices, but also includes motor vehicle invoices, used car invoices, electronic itinerary of air transport passenger tickets, railway electronic passenger tickets, medical invoices and other ordinary invoices, with richer connotation and extension than paper electronic tickets. Sixthly, in terms of delivery means, after PEI is issued, the drawer needs to manually deliver the electronic data format documents (OFD, etc.) of the invoice to the invoice recipients by e-mail or other methods; After CDEI is issued, the electronic data file of the invoice is automatically sent to the tax digital account of the invoice issuers and recipients, and all kinds of invoice data are automatically collected. Seventhly, in terms of format, the format of PEI data format is OFD and other formats; The internationally accepted XML pure data message format has been added to the electronic data file of CDEI, while OFD, PDF and other formats have been retained.

2.4. Introduction to CDEI Technology

Du Peng pointed out that CDEI adheres to the idea of “managing taxes by data” and is supported by information technologies such as big data and cloud computing [4]. Zheng Lanrui believed that big data is a huge database, which can quickly extract, integrate, store, search, share, analyze and process a large number of complex data, help enterprises obtain valuable information and provide basis for business decisions [5]. Using big data for financial analysis can promote better business development. Xu Qiang and Xiong Xiaojiao concluded that cloud computing refers to the data storage, computing, software and related information technology services provided on demand through the network, which can be paid according to the usage, in order to achieve the optimal utilization of computing resources [6]. Yu Dan and Li Miaoyan pointed out that CDEI supported by blockchain technology has the dual characteristics of different levels of technical rules and legal rules, which inevitably requires the amendment of China’s “all-round” invoice supervision legal system, that is, the technical characteristics of the legal supervision system set by the formal authenticity of invoices, to the blockchain technology developers On the regular governance of the legal system of the users and their mutual relations [7].

Yi Suqin pointed out that CDEI sets the content required by the taxpayer in the remarks column in the original PEI as the collectable element data item, making the invoice information more standardized and comprehensive. Meanwhile, it changes the specific element information that cannot be identified, collected and used in the remarks column of the original tax control invoice into structured data such as numbers and letters, so as to make data collection more efficient [8]. Li Ping summed up that driven by digital technology such as big data, artificial intelligence, blockchain, cloud computing, tax regulation will be comprehensive, accurate, timely and efficient [9]. Chen Yugang, co-founder and COO of Zhongke Xunlian Intelligent Network Technology Co., Ltd, believes that as an important starting point for implementing the digital upgrading and intelligent transformation of tax collection and management, the promotion of CDEI can further strengthen the

nature of transaction information recorded in invoices and realize the “one ticket” integration of economic transaction information [10].

3. Application Analysis of CDEI in X Finance and Taxation Consulting Service Company

3.1. Brief Introduction to X Finance and Taxation Consulting Service Company

X finance and tax consulting service company is a small and micro enterprise in Jiangsu Province established in 2016. Its business scope covers agency bookkeeping, financial consulting, tax services, business agency services, intellectual property services, trademark agency, industrial and commercial registration agency, real estate registration agency services, real estate brokerage, domestic trade agency, marketing planning, real estate consulting, consulting and planning services, information consulting services and other businesses.

While developing, X finance and taxation consulting service company has fully realized the importance of smart taxation for agency bookkeeping business. In order to improve the low efficiency of tax declaration, company X responded to the policy of the State Administration of Taxation on the pilot of CDEI and actively promoted the implementation of the pilot of CDEI.

3.2. Evolution of Invoice Application of X Finance and Taxation Consulting Service Company

3.2.1. Stage I: Issuing PEI Using VAT Invoice Software

The first stage is from the establishment of X finance and tax consulting service company to June 2023, when the staff used the VAT invoice software to issue PEI. The staff connects the tax control disk of the customer's enterprise to the computer, logs in on the invoicing software corresponding to various tax control disks, and carries out a series of operations such as invoicing. Since company X uses many kinds of tax control disks, it is not conducive to unified management. Meanwhile, as the tax control device separated from the computer, the tax control disk may be lost. After the invoice is issued, the staff needs to mail the paper-based invoice or the paper-based printed copy of the electronic invoice to the opposite enterprise that transacts with the customer enterprise. Therefore, there are mailing expenses and the risk of loss and damage in the process of invoice mailing.

3.2.2. Stage II: Using the Electronic Invoice Service Platform to Issue Paper Invoice and CDEI

The second stage is from July to August 2023, which is the transition stage of CDEI pilot. The staff gradually switches the pilot enterprises that used the VAT invoice software to the electronic invoice service platform in batches, and uses the platform to issue paper invoice and CDEI.

Compared with the first stage, the application of electronic invoice service platform to issue paper invoices by X finance and taxation consulting service company has the following advantages. Firstly, invoice issuance becomes more efficient. The staff do not need to use tax control device, and can directly log in to the electronic invoice service platform under their real name. The paper invoice issued does not need to be checked manually. The system can automatically perform invoice verification. Secondly, ticket service becomes more convenient. Staff can directly enjoy the “one-stop” service on the electronic invoice service platform without logging in to multiple platforms. Thirdly, the amount deduction becomes more flexible. The available invoice amount of this month is no longer deducted when collecting invoices, but is deducted according to the actual amount when issuing invoices. Fourthly, tax declaration becomes simpler. It is not necessary to copy and declare tax and clear the card in the next month, and the VAT can be declared directly.

3.2.3. Phase III: Issuing CDEI Using Electronic Invoice Service Platform

The third stage is from September 2023 to now. Staff use the electronic invoice service platform to issue CDEI instead of paper invoice. CDEI issued through electronic invoice service platform is more convenient. For example, there is no limit on the number of copies of invoices and the amount of a single invoice within the total amount of invoices issued. In addition, there is no limit on the maximum number of billing lines, and a digital ticket can display the details of all transaction items without additional sales list. At the same time, the original invoice and paper printed copy need not be recovered when the digital invoice is red-letter offset.

3.3. The Impact of the Application of CDEI on X Finance and Taxation Consulting Service Company

3.3.1. Improving Work Convenience

When issuing digital invoice, it is not necessary to connect different types of tax control devices of different enterprises to the computer, and then open different platforms such as corresponding VAT invoice software for operation. A series of businesses such as invoice issuance, delivery and check can be carried out through the electronic invoice service platform. The “one-stop” service can be enjoyed on the same platform. It is no longer necessary to copy and declare tax and clear cards, reducing the tedious manual operation and the burden of staffs. There is no limit on the number of CDEI and the maximum amount. Therefore, when there are many details of transaction items, it is no longer necessary to attach a sales list. Staffs can continue to add the number of lines down, saving time and labor costs and improving business processing efficiency. Without mailing invoices through express companies, customer enterprises and their trading enterprises can directly check the digital ticket information on the platform. At the same time, it also saves mailing costs for customer enterprises and reduces operating costs.

3.3.2. Enhancing Tax Compliance

The staff and the legal representative and financial principal of the customer’s enterprise realize two-way mutual recognition, and adopt the hierarchical real name authentication method to improve the staff’s sense of responsibility and tax security. When the first invoice is issued every day, fingerprint and code scanning authentication are required. Face recognition is required at regular intervals to prevent illegal invasion. For blue ink invoices that have been issued and need red ink offset, if the opposite enterprise has prepared to deduct input tax, it needs to inform and wait for the red ink information confirmation before red ink offset, which improves the standardization of red ink offset process. For enterprises that only spend item tax and have no input tax for a long time, the system will automatically give a risk prompt. Only when the input and output items match can the risk be relieved and invoicing continue, effectively preventing the occurrence of false invoices. The comprehensive digitization of electronic invoices makes invoice management more authentic, accurate and standardized, more in line with the requirements of tax policies and accounting standards, and improves tax compliance.

3.3.3. Reducing Business Error Rate

The staff only need to enter the website on the computer to handle business, eliminating the possibility of inconvenience caused by the loss of previous tax control equipment. The electronic invoice service platform collects all the relevant data of the enterprise and automatically counts the required information, such as the number of blue ink invoices and red ink invoices, input tax amount,

monthly report, quarterly report, annual report, etc. The electronic and automatic processing of each link reduces the physical transmission of paper invoices, reduces the interference of human factors, and avoids tax related risks and customer conflicts caused by the loss of mailed invoices.

3.4. Problems and Solutions of X Finance and Taxation Consulting Service Company in the Application of CDEI

Firstly, the electronic invoice service platform is different from the original PEI platform, and the layout of functional modules is different, so the staffs are not adaptable and proficient when adjusting. Secondly, since all businesses are centralized on the same platform, the system is sometimes stuck. Thirdly, the monthly, quarterly and annual reports automatically generated on the electronic invoice service platform may have minimal errors, but the probability of occurrence is very small. Fourthly, because the bookkeeping voucher is completed on the Xiang Long software, the annual financial statements on the electronic invoice service platform cannot be generated automatically, which means they still need to be filled in manually by the staff.

Therefore, the staff of X finance and taxation consulting service company need to strengthen training and get familiar with the functional modules on the electronic invoice service platform as soon as possible; The technicians of the electronic invoice service platform need to regularly improve and maintain the system, and actively embrace the era of digital invoice.

4. Conclusion

With the promotion of CDEI throughout the country and the management requirements of “managing taxes by data”, it is the general trend for enterprises to improve their informatization and digital management ability. How to scientifically and efficiently use the CDEI and improve the management ability is a key issue that enterprises should seriously consider and begin to solve. Enterprise financial personnel should not only strengthen their own learning to adapt to future tax changes, but also actively promote and advocate CDEI within the company. Besides, they should innovate working ideas and methods by using information technology, improve the risk early warning ability of the company, and promote the healthy development of the enterprise.

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