Research on the Construction of Remote Intelligent Accounting Service System in Hubei Free Trade Zone Based on Computer Network Platform

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Abstract. In order to understand the construction of remote intelligent accounting service system in Hubei Free Trade Zone, a research on the construction of remote intelligent accounting service system in Hubei Free Trade Zone based on computer network platform was put forward. Firstly, this paper constructs a standardized and effective management accounting system that adapts to the development model of Hubei Free Trade Zone, which is helpful to improve the quality and utilization efficiency of accounting resources in Hubei Free Trade Zone.Secondly, in the construction of the conceptual framework of intelligent accounting system, we will promote the innovation in the theory and methodology of intelligent accounting system construction, and provide ideas for the development and practice of accounting in intelligent environment. Finally, give full play to the role of management accounting for the establishment of Hubei Free Trade Zone.

Keywords: computer network; Intelligent accounting; service system

1 Introduction

With the increasingly close connection of the global economy and the rapid development of information technology, accounting services, as an important support link for enterprise operation and decision-making, are facing new challenges and opportunities. As one of the forefront positions of China's reform and opening up, the Hubei Free Trade Zone has adopted a series of innovative policy measures to further enhance economic vitality and attract international investment, providing enterprises with a more flexible and convenient economic environment. In this context, the construction of a remote intelligent accounting service system for Hubei Free Trade Zone based on a computer network platform has become an important topic to meet the diversified and efficient business needs of enterprises.

The traditional accounting service model has certain limitations in terms of geographical limitations and manual operations, while the rise of new technologies such as

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computer networks and artificial intelligence has brought new opportunities for innovation in accounting services. The remote accounting service system utilizes a computer network platform to eliminate geographical limitations in accounting work, enabling remote collaboration, data sharing, and report generation. Similar systems have been widely used both domestically and internationally, providing enterprises with more flexible and efficient accounting services. The construction of a remote intelligent accounting service system can achieve real-time sharing, remote collaboration, and efficient processing of financial data through computer network platforms, while integrating artificial intelligence technology to provide more accurate and timely financial information analysis and decision support for enterprises.

This study aims to deeply explore the construction of a remote intelligent accounting service system for Hubei Free Trade Zone based on a computer network platform, as well as the technical, policy, and commercial challenges involved in practical applications. Through the analysis of relevant research progress at home and abroad, this article aims to provide valuable reference and guidance for the construction of remote intelligent accounting service system in Hubei Free Trade Zone, and contribute to promoting innovative development of enterprises and regional economic improvement[1-2].

2 Ways to promote the development of management accounting in Hubei Free Trade Zone

(1) To build a framework for cultivating the ability of management accounting talents on both sides of the strait (introducing professionals from foreign universities; Send professionals to some foreign universities for training). First of all, we should change the old teaching thinking that management accounting course belongs to financial accounting course. In order to keep up with the great wave of free trade zone construction in Hubei Province, colleges and universities in Hubei Province must steadily improve the teaching position of management accounting, steadily increase the teaching proportion of management accounting in professional courses on the basis of ensuring the teaching quality, and support independent management accounting courses with different research directions in the teaching process. At the same time, in the face of colleges and universities with different orientations in our province, we need to adopt differentiated teaching thinking.

(2) Secondly, colleges and universities should encourage the establishment of management accounting courses training groups, on the basis of full investigation of the actual development needs of the free trade zone. Assigning lecturers to relevant government agencies, institutions and enterprises in FTZ for further study, and strengthening the vocational training of "Management Accounting" course teachers through this off-campus study visit to improve their social practice ability. Build a team of teachers with solid academic literacy, excellent professional ability and innovative educational ideas. Secondly, change classroom teaching methods. In the process of teaching, teachers should abandon "task-based" teaching methods and combine disciplines. Scenario simulation, new media technology and other methods are used to

deeply analyze the knowledge structure of management accounting course and the latest policy measures in free trade zone[3-4].

3 Intelligent accounting system model construction

This logic can be simply expressed as the role triggered activity, and the activity realizes the function. The relationship between roles is realized through equal point-to-point connection, and the relationship between roles is more decentralized, and the intelligent accounting system presents the characteristics of dynamic, network and interconnection[5-6].

3.1 Conceptual model of intelligent accounting system

The logical analysis idea of top-down and layer-by-layer decomposition is one of the methods to construct the conceptual model of complex systems. Based on the goal of intelligent accounting system, this paper puts forward a conceptual model of constructing intelligent accounting system by decomposing and abstracting the process of value movement, as shown in Figure 1.

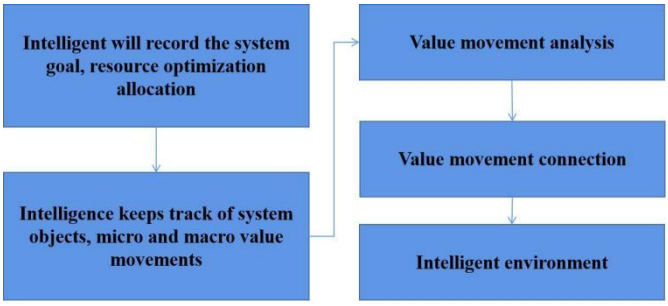

Fig. 1. Intelligent accounting system model construction

3.2 Business cycle model of intelligent accounting system

Business cycle refers to the combination of a group of processes that run repeatedly according to certain steps. The abstraction and description of processes is an important technical basis for system logic modeling. In the stage of accounting computerization, the system abstracts and models around the traditional accounting cycle process, realizing the automation from voucher preparation to report generation; In the stage of accounting informatization, the system abstracts and models around the "acquisition/payment" cycle, "production/conversion" cycle and "sales/collection" cycle of the enterprise core, realizing the integration of financial and business activities; In the stage of accounting intelligence, the system is guided by the goal of optimizing resource allocation, abstracting and modeling around the cycles of "decision-control", "disclosure-feedback", "collaboration-sharing" and "supervision-regulation", realizing the

integration of business, finance and macro-economy, and constructing the main business cycle model of intelligent accounting system[7-8].

3.3 Blockchain Technology

Blockchain technology was proposed by "Nakamoto cong" and first appeared in digital currency transactions. Supported by the encryption algorithm, it stores data through computer programs in chronological order and spreads it to each transaction user. The user actively calculates and records for the correct reward, and then embeds the optimal information into the next block. The block constantly merges the updated data of each transaction, and finally forms an unchangeable "chain".

Over the past nine years, blockchain has not only been the underlying technology supporting transactions between digital currencies such as "bitcoin", but also started to be used in finance, auditing and other fields. Even in the field of education, it has paid great attention to and attached great importance to the development and application of blockchain Technology. At present, it has been applied to education certificate authentication platform, financial credit reporting management and enterprise internal audit. It can even use the combination of blockchain smart contract and supply chain to establish a commodity industry information platform; The encryption technology of blockchain and the transparent sharing feature of the whole network can realize the safe storage and access of medical records; The traceability of blockchain can even realize the unified control, reconstruction and centralized sales of traditional power and other energy sources[9].

According to different development objects and use purposes, blockchains can be divided into Public Blockchain, Consortium Blockchain and Private Blockchain. Among them, the public chain is open to all participants, and anyone willing to join the node maintenance can participate; The alliance chain is only open to specific industries or organizations; The private chain is only open to individual developers or a group. The characteristics of three types of blockchains are shown in Table 1.

Table 1. Characteristics of three types of blockchains

Blockchain features	Public chain	Alliance chain	Private chain
Targeted population	The owners	Some industries or organizations	Individual person or entity
Node write	Free to join	Authorization required	Internal decision
Network type	P2P network	High speed network	High speed network
Node storage	personal computer	Specific server	Specific server
Application representative	Ethereum	Super ledger	Ant gold suit
Applicable fields	Financial asset transaction, existence certificate, etc	Intra organizational transactions, bank or national clearing and settlement	Companies, governments, hospitals and other entities are used as internal information systems

4 The technical path of intelligent accounting system construction

There are various technologies for constructing intelligent systems. This paper does not discuss specific technical methods, but puts forward general ideas and technical paths for constructing intelligent accounting systems based on the needs of accounting development. As shown in Table 2:

4.1 The construction method of intelligent accounting system

There are many ways to build an intelligent system, which can help to build an intelligent accounting system, including but not limited to the following methods, mainly including:

Intelligent Ontology: Ontology originated from philosophical concepts, and its main task is to study the forms (texts, symbols) and characteristics (meanings and relationships) of various things (things and objects) in the world and the categories (meanings and concepts) representing these things, and to classify them and establish norms. In the field of information technology, ontology can be expressed as concepts, concept attributes, relationships between concepts and control norms. Concept is the abstraction of accounting activities, concept attribute is the state description of accounting activities, and the relationship between concepts and control norms reflect the relationship between accounting activities. Intelligent ontology encapsulates the meta-operation model, and encapsulates execution, perception, task compilation and knowledge engine in one ontology, thus making ontology intelligent. With the help of ontology, intelligent accounting system is a system that describes accounting ontology and the relationship between ontologies.

Table 2. Micro-accounting and Macro-economic Management Cycle of Supervision-Regulation

management activity	business accounting	report	plan	carry out
Policy implementation	Policy implementation	Executive supervision	Executive feedback	
Policy impact	Supervision information perception	Influence reasoning	Industry policy analysis	Economic policy impact
Regulation policy	Macro-supervision	Policy simulation	Policy revision	System optimization

4.2 The financial information sharing module has been completed

As can be seen from Figure 2, in 2019, most enterprises have the highest data sharing module in the receivable business, accounting for more than 50%; followed by the general ledger and payable, and finally the sharing module of expenses and statements. Compared with 2019,2020 is still mainly focused on expenses, receivables, payable,

general ledger and tax management, among which expenses and tax management have greatly improved in financial information sharing[10]. In 2020, financial information sharing module of direct connection between banks and enterprises and contract management is added. This shows that the financial sharing service level in rising, in the financial sharing service center of financial information can achieve business revenue and ratio of information sharing, even due to the contract control, bank account direct enterprise began to gradually to the direction of risk control, but from the financial sharing service center based data standardization, digital business scene and far distance, has not basic financial accounting data applied to the business information flow and resource sharing layer.

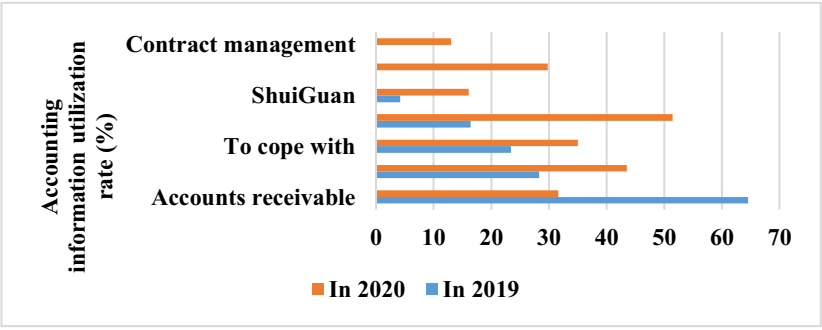

Fig. 2. Application situation of the service sharing service module of the financial sharing service center

Comprehensive analysis shows that financial shared services are constantly improving, but further efforts and improvements are still needed in data standardization, digital scenarios, and data applications. The development of financial shared services also requires comprehensive consideration of technological, policy, and business needs to achieve more efficient financial information sharing and integration.

5 Conclusion

Intelligent accounting system is the concrete embodiment of accounting management activity theory with China characteristics in intelligent environment. With the promotion of intelligent technology, the connotation and extension of accounting have been developed, the functions of accounting have been strengthened, and the application scope of accounting has been continuously expanded. Intelligent accounting system is continuously promoting the deep integration of intelligent technology and accounting, promoting the integration of traditional financial accounting and management accounting, and promoting the integration of business, finance and macroeconomic activities. Intelligent accounting system is expanding the boundary of accounting and redefining the connotation of accounting.

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