The Construction of Accounting Information System in Network Economy

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Keywords: Accounting Information Systems, Economic Management, Informationization Construction

Abstract: As an information processing and information support system, accounting information systems will be eliminated if they do not satisfy users' information needs well. Therefore, accounting information systems are also developing in the context of continuous changes and survival crises. The rapid development of information technology and its wide application in economic management have provided opportunities and technical support for the reform and development of accounting information systems, providing new ways to meet the information needs of internal and external information users. Therefore, under the network environment, information technology must be used as a platform to reconstruct accounting information systems based on information needs. This article focuses on the theoretical basis for the construction of accounting information systems under the network environment, accounting information system architecture and business data model. This article first elaborates some problems in the process of enterprise accounting informationization construction, and then puts forward a few personal suggestions on how to effectively construct enterprise informatization. The importance of accounting informatization construction to the accounting work, thus giving accounting information construction work Sufficient attention was paid to constantly improving the construction of accounting informationization and improving the ability to construct accounting information, which in turn led to continuous progress and effective development of accounting informationization in China.

1. Introduction

With the rapid development of the market economy, the requirements for accounting work are getting higher and higher. The relatively international economic development situation also makes accounting work must continue to develop in a more modern direction. With the advent of the Internet economy, the macro and microeconomic environment in which companies are located has undergone great changes compared to the industrial era (Chen, & Chen, 2015). This change has not only made the factors that companies face when making decisions more complex, but also required Companies can capture changes in the relevant factors that influence decision making in real time, and modify any decisions they have made at any time based on their changes. Information users in the Internet age pay more attention to the timeliness and richness of information. However, the accounting information system of many companies still follows the model of the industrial age. In fact, it is precisely because of the backwardness of accounting theories and methods that accounting information systems can no longer meet the diversification and individualization of information users in the Internet age. Real-time information needs have received strong criticism and criticism. Information technology is changing the tradition of accounting as an occupation and redefining accounting work. The application and development of Enterprise Resources Planning has accelerated the process of this trend. ERP is a modern management information system based on enterprise value chain. It integrates enterprise logistics, value flow, and information flow. Accounting Information System is an important component of ERP. Establishing and improving AIS is an important means to modernize accounting work, and it is an important measure to improve ERP. Therefore, accelerating the development process of AIS, grasping the direction and

  DOI: 10.25236/ermbfe.2019.181

trend of AIS development, and building comprehensive and efficient AIS is imminent.

In recent years, networked accounting information systems have become increasingly popular. Under stand-alone systems, technical issues such as calculation errors have been resolved on the one hand, and new problems that traditional manual accounting systems do not have appeared on the other hand. The extensive application of the network to a large extent makes up for the deficiencies of the single-electromechanical computerized system, which makes the internal control of the computerized accounting system more complete, and also puts forward new requirements for it. The role of internal control is to enable companies to efficiently achieve business objectives, provide reliable financial statements and information, and ensure that all procedures comply with relevant laws and regulations. In terms of network environment, the processing of business transactions and related operating procedures must rely on a good computer information system. Therefore, the internal control of information systems will directly affect the operation and development of enterprises. The control structure and method of traditional accounting systems can still be used in the network environment. However, for the changes brought about by e-commerce development such as electronic transactions and SET transaction agreements, the main control focuses on the security control of transaction data, the security control of system applications, and the retention and control of audit trails. The connection of various computer systems inside and outside the enterprise benefits from the development of computer networks. The development of computer networks not only drastically increases the speed of information processing, but also makes the information systems of enterprises more open and complex (Frey, & Osborne, 2017). However, due to internal controls Not in place, Enron, WorldCom and other financial frauds and accounting fraud cases caused the behemoths of these corporate circles to collapse, and they also severely impacted the normal order of the US and even international capital markets. Therefore, the company's internal control is facing a severe test. This article will study the overview of the internal control of the accounting information system under the network environment, the favorable influence, the adverse impact, and the corresponding perfect measures. For this reason, how to do a good job in accounting under the information environment has become an important topic of great concern in all occupations. Based on this, this article combines personal research experience in accounting informationization and related references, expounds the problems existing in the current accounting informationization construction, puts forward effective ways of accounting informationization construction, in order to continuously improve the quality of accounting work and promote enterprises.

2. The Related Theoretical Knowledge and Research

2.1 Research Object

The enterprise management process includes planning, commanding, organizing, coordinating and controlling personnel and their activities. Senior managers are responsible for establishing the overall goals of the company (Lieder, & Rashid, 2016; Vovchenko, et al., 2017). The middle managers organize and control the resources of the company to achieve these goals. The grass-roots managers supervise and manage the daily business activities. The management activities of the organization are divided into three levels according to the decision-making authority of its managers: the business and supervision decisions of the grass-roots managers, the management control in figure 1, and tactical plans and decisions of the middle managers, and the strategic plans and decisions of the top management.

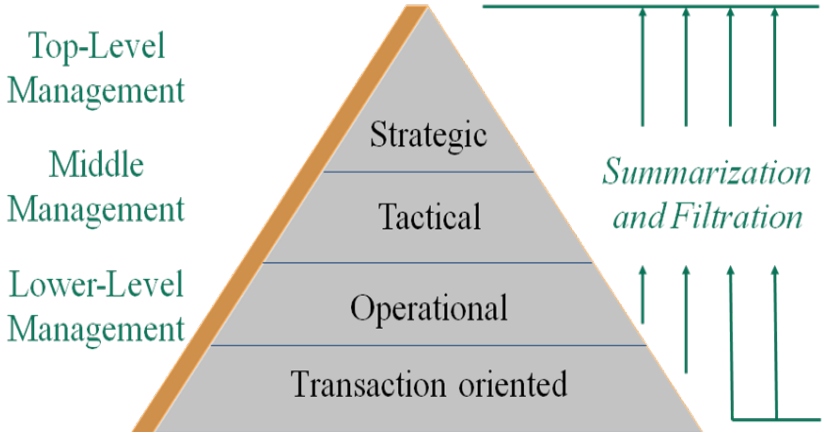

Figure 1 The Hierarchy of Internal Users

Accounting information system can have roughly divided into two parts: financial accounting and management accounting. Financial accounting conducts basic accounting business processes, including accounts receivable, payable, fixed asset management, salary management, cost accounting, general ledger, etc. Management accounting has based on financial accounting, including cost management, budget management, and fund management. Wait. In ERP, the function of financial accounting is mostly in the financial accounting module of ERP, while the management accounting function is not necessarily located in the accounting module. ERP is an integrated system with finance as the core, in order to achieve this goal, the accounting information system (Constantiou, & Kallinikos, 2015). Many of the features of management accounting, especially those of management accounting, are integrated into various job modules.

From a machine point of view, in the ERP, it can be roughly divided into the database layer, the middle business logic layer, and the client presentation layer. The middle business of logic layer can be divided into financial modules and other business modules, and the business personnel express the business data from the client. The layer is transmitted to the intermediate business logic layer, processed by the business module therein, and is not directly processed by the financial module, and is directly stored in the database. The financial module processes the incoming financial module that needs to be processed by the financial module, and the data is finally stored in the database (Tanikawa, et al., 2015). The accounting information system recommends using information technology in the organization to provide information to users as shown in Figure 2.

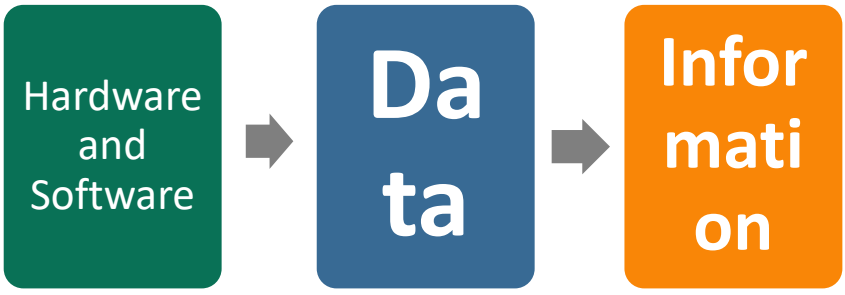

Figure 2 Accounting Information System

2.2 Various Information Systems in the Enterprise

Not only the joint efforts of awareness and behavior, but also because of this, in order to do a good job of accounting information construction must have the vision, must be able to clearly understand the importance of accounting information in the enterprise, aware of accounting information It is an inevitable trend for the development of corporate accounting work. For this reason, in the process of carrying out accounting work, it is necessary for all staff members to be able to understand the important influence that the construction of accounting information brings to the company. However, there are still some problems in the management ability of some corporate

managers and accounting practitioners, and there is a certain lack of knowledge in accounting informationization. Some accounting practitioners still continue the traditional way of working and lack a comprehensive understanding of the external accounting work, the current form of accounting work, the accounting work environment, and many other aspects in figure 3. They cannot correctly recognize the challenges faced by the new accounting work and give accounting information. The effective construction of globalization has had a tremendous impact (Pan, et al., 2015). The accounting information system includes the SEC overseeing all listed companies, the Financial Accounting Standards Board (FASB), and the Public Company Accounting Oversight Board.

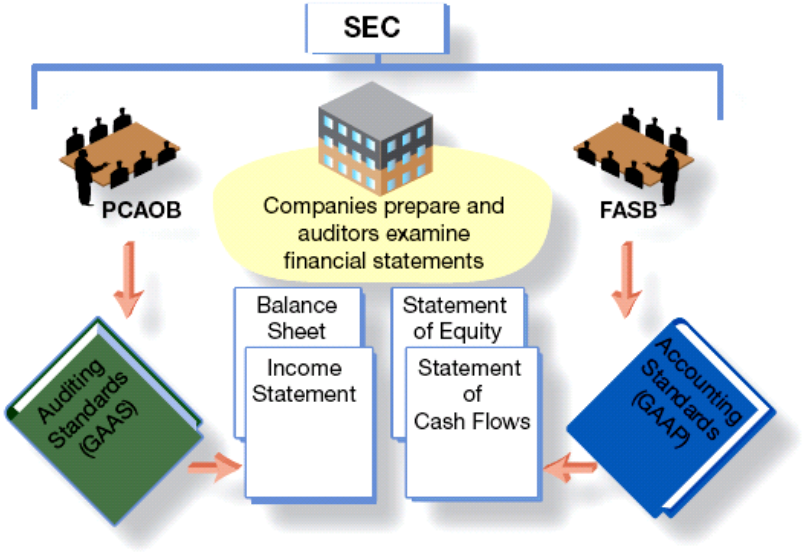

Figure 3 Financial Accounting Information

Second, the security and integrity of accounting information are insecure. For a company, the security and integrity of accounting information can be important lifeblood of corporate work. The emergence of accounting informationization is to improve the quality of accounting work. It is precisely because of this that it must be implemented in the process of carrying out accounting informationization work. The grid controls security and integrity. However, in the course of accounting informationization work, many companies have established a corresponding accounting information system, but they still lack a corresponding perfect information quality assurance. The integrity and security of accounting information still poorer, it also has a tremendous impact on the development of accounting informationization work, and this is one of the important issues facing the current accounting informationization process.

Third, the overall quality of accounting practitioners themselves is low. Accounting practitioners are the executors of the construction of accounting informatization. However, there are still many accounting practitioners in enterprises today, whose personal comprehensive quality is low, there is a certain bias in the understanding of accounting informationization, and it has not recognized correctly. The importance of accounting informationization to the development of corporate accounting work has also made the vast majority of accounting practitioners relatively low in the application capabilities of accounting information systems. It can be said that these are all inadequate for the accounting personnel themselves. The important performance has severely restricted the construction and application of enterprise accounting informationization.

Fourth, there is still a lack of effective integration of the enterprise's management system and accounting information system. In the actual development of accounting work, many jobs need to communicate and communicate with the specific work of the company, which further protects the quality and efficiency of accounting work. Therefore, in order to promote the good development of corporate accounting work and promote the development of the enterprise, we must effectively integrate the enterprise's management system with the enterprise's accounting information system in order to effectively improve the quality of accounting work and improve the efficiency of

accounting work in figure 4. However, many companies today have not yet achieved effective integration of enterprise management systems and enterprise accounting information systems, and they are unable to give full play to the greatest utility of accounting informationization.

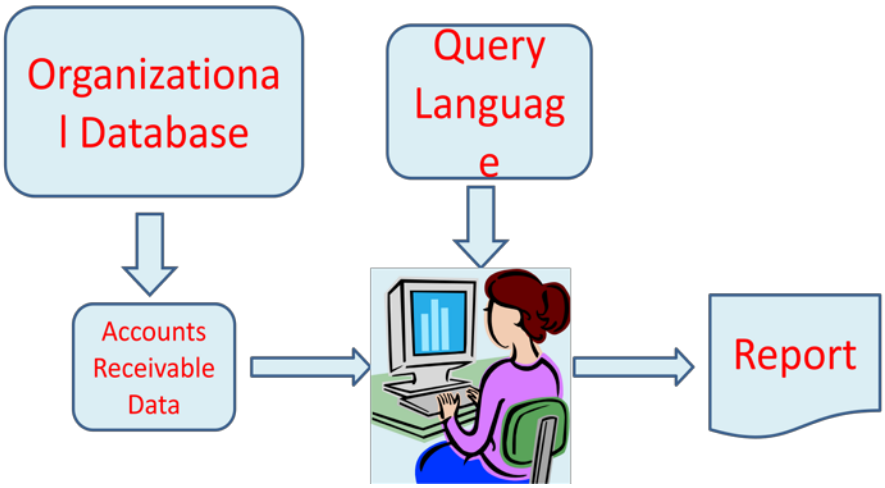

Figure 4 The Accounts Work Content

3. The Construction of Accounting Information System in Network Environment

3.1 Current Status of Aerobics Awareness

The goal of accounting information system refers to the situation or result to achieve by the accounting information processing activities. It determines the nature, functions, tasks, and structure of accounting information systems. The design of the objectives of the accounting information system needs to answer these questions: Who are the users of the accounting information, what information does the accounting information user need, and how does the accounting information system provide this information? From an external perspective, the information users of accounting information systems include investors, creditors, suppliers, customers, and government agencies. Investors are concerned about the inherent risks and investment rewards of their investments; creditors are concerned that their principal and interest can be paid at maturity. The suppliers are concerned about whether the cooperation will continue and whether payment can be recovered; customers care about the continuity of the business and whether future benefits can be guaranteed Government agencies care about taxes and their impact on the macro economy. Internally, the users of information in accounting information systems are mainly business managers and employees (Cooper, et al., 2017). Management managers are concerned about whether the fiduciary duties can be effectively and smoothly performed. The employees are concerned about the sustainability of their salaries and benefits brought by their profitability. Therefore, the perspective users of accounting information focusing on corporate value and the sustainability of corporate value creation activities, which are reflecting corporate value as the first goal of building an accounting information system.

Business organizations often contain a number of business units that each face the market and provide customers with goods and services. The value of a business unit has determined by the free cash flow, the cost of capital, and the duration of the business. The integration of the values of all these business units constitutes the value of the company. Their different business portfolios influence the overall value of the business and the sustainability of value creation. As a result, external stakeholders in an enterprise need to understand the current and future profitability of each business unit in addition to the overall value of the business. Internal business managers also need to grasp the value creation of all business units, and then optimize the organizational structure and promote Maximize the value of limited resources. In addition, corporate value also depends on a series of value activities such as corporate strategic decisions, corporate governance, and financial management. Therefore, the accounting information system needs to collect internal and external economic information of the enterprise, analyze the industry's competitive advantage and the

enterprise's competitiveness, confirm the competitive position of each business unit, and assist the enterprise operator in formulating the enterprise's competitive strategy, financial strategy, performance evaluation, and accounting policies in figure 5. Therefore, it will reflect the value of each business unit, analyze the value creation capabilities of each business unit, and provide decision-making information for the company's strategy as the second-level target for building an accounting information system. Corporate value has ultimately created by a series of operations in the business unit's value chain. Operators need to have timely accounting information on these operations in order to assess how well these operations support the company's value growth strategy so that they can effectively plan and control the business operations in real time. The accounting information system needs to describe these operations inputs and outputs, measure the value-added and value creation efficiency of these operations, and assist the business operators in formulating business plans and budgets, evaluating business performance, controlling business processes, eliminating ineffective operations, and optimizing the value chain. Therefore, it will reflect the operational activities of the value chain of enterprise business units, the analysis of value drivers and value creation capabilities as the third-level target of the accounting information system provided by the accounting information provided by the business planning and process control.

In this way, taking the corporate value as a starting point and breaking down from top to bottom, a target system of accounting information system based on the creation of corporate value has formed. The accounting information system constructed in this way can not only systematically reflect the entire process of corporate value creation, meet the needs of stakeholders for various types of decision-making information, but also enable accounting to focus on management and decision-making.

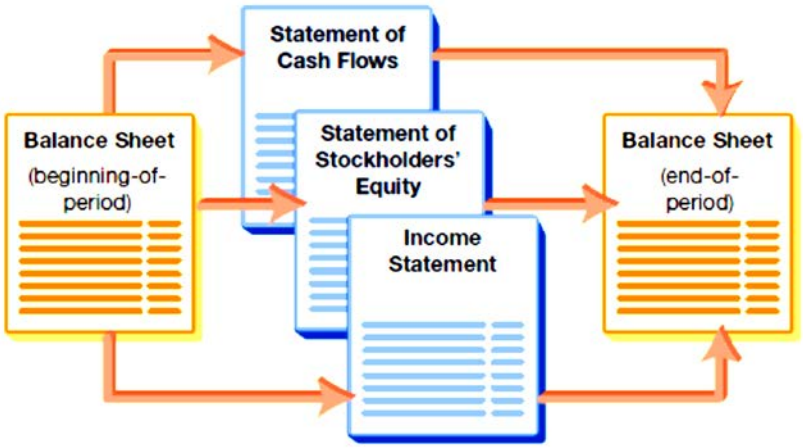

Figure 5 Financial Workflow for of Accounting Information System

3.2 Financial Information System

The collection of accounting data processing methods consists of accounting data validation methods, accounting data processing methods, and accounting information output methods. The main feature of the accounting data validation is the completion of economic activities from the enterprise. Get the accounting data in motion and store them in the accounting database. It includes the functions of accounting recognition, initial accounting confirmation, classification, measurement and recording of business activities. In the ERP environment, specific objects in the accounting validation method class are defined according to the nature of the enterprise business process, so that these objects can be embedded in the respective business subsystems as data input interfaces of the business subsystem and the accounting information system. When the business occurs, these data have processed by the accounting information system and stored in the accounting database in real time. The accounting data processing method class is a collection of various specialized accounting methods and models. They have based on their respective data processing systems and processing models. It has further subdivided into sub-categories and sub-category object sets. Objects are the smallest operating unit of a class. It encapsulates internal data

and specific data operations. The main function of the accounting information output is to provide information for users of different accounting information. The output interface, which defines the various information output window objects under this category according to the user's decision type, the user can define in the window object according to their own needs, to obtain the required accounting information. The main content of financial management is fundraising, investment and dividend distribution. Management methods include financial forecasting, financial decision-making, financial planning, financial control, financial analysis, and financial inspection in figure 6. The financial information system can report the company's investment income to shareholders, including the growth rate of stocks and the profitability of various products. It can also assist companies in making financial decisions, including investment, fundraising, and financing. Financial information systems can help companies manage funds (such as cash and securities). Such as: planning day, week, month of cash deposits to prevent cash shortages; simulation of excess cash investment; determine the correct portfolio of securities, funds, etc.

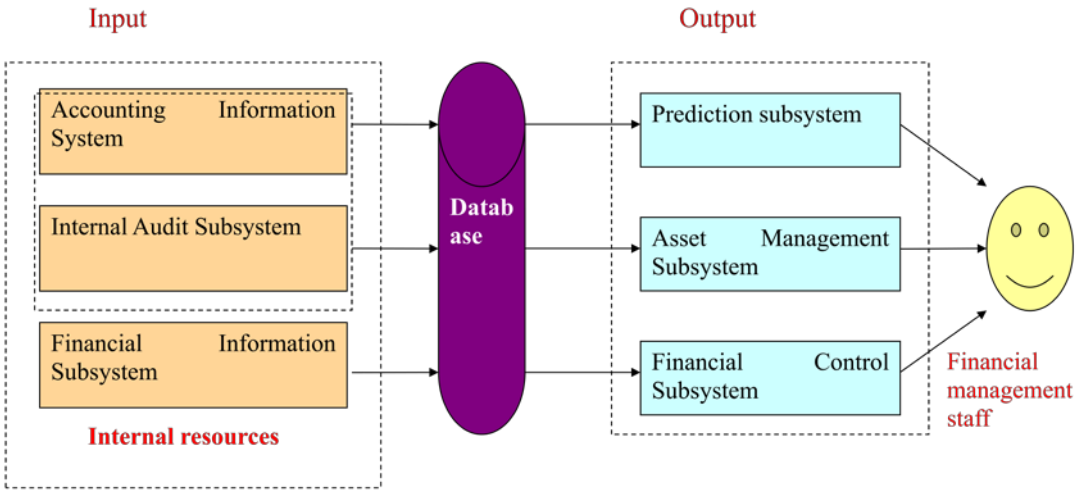

Figure 6 Financial Information System Conceptual Model

Accounting-based information systems based on the matter method need to record the original business information of economic business, and provide an information user with various information, which meets the requirements of decision-making, which is consistent with the "event-driven" system's claim, that is, does not want to be lost due to aggregation. The details of the information are not subject to arbitrary classification and distribution of accounting data. The data has recorded as far as possible at the lowest level. The data retains all useful attributes as much as possible. Therefore, the accounting-based information system is very suitable for adopting an "event-driven" architecture. Moreover, only by using the "event-driven" architecture can we better achieve the goal of providing diversified, personalized, and real-time information users under the network environment. In the event-driven accounting information system, the business event database is the cornerstone of the entire information system. The database with centralized and unified planning is an important symbol of the maturity of the information system. How to establish the business event database and then establish the business event database is the key content of the event-driven accounting information system. The REA model is a business process modeling technology. It is a conceptual data model tool based on the enterprise value chain and reflects the semantic relationship of business services. It can reflect the AIS from the data structure, and the REA model can be used as an application for constructing the AIS database.

Accounting management is one of the four major management functions of an enterprise. It includes accounting and finance. The main task of accounting management is accounting, such as income, expenses, deposits, and cash and so on. The main task of financial management is the management and operation of funds so that they can produce benefits such as financing, financing, investment, and fund distribution. Therefore, the accounting information system can also be divided into two parts: accounting information system and financial information system. The general

accounting information system includes functions such as journal processing, procurement and accounts payable management, sales and accounts receivable management, inventory management, salary management, fixed asset management, and statement processing. The following figure is a simple accounting system of business process. From the figure below, we can see that the accounting information system and sales order processing, inventory systems; payroll systems and other functional departments have business contacts and information exchange and sharing. Figure7. shows the accounting service system main business processing functions and flowchart.

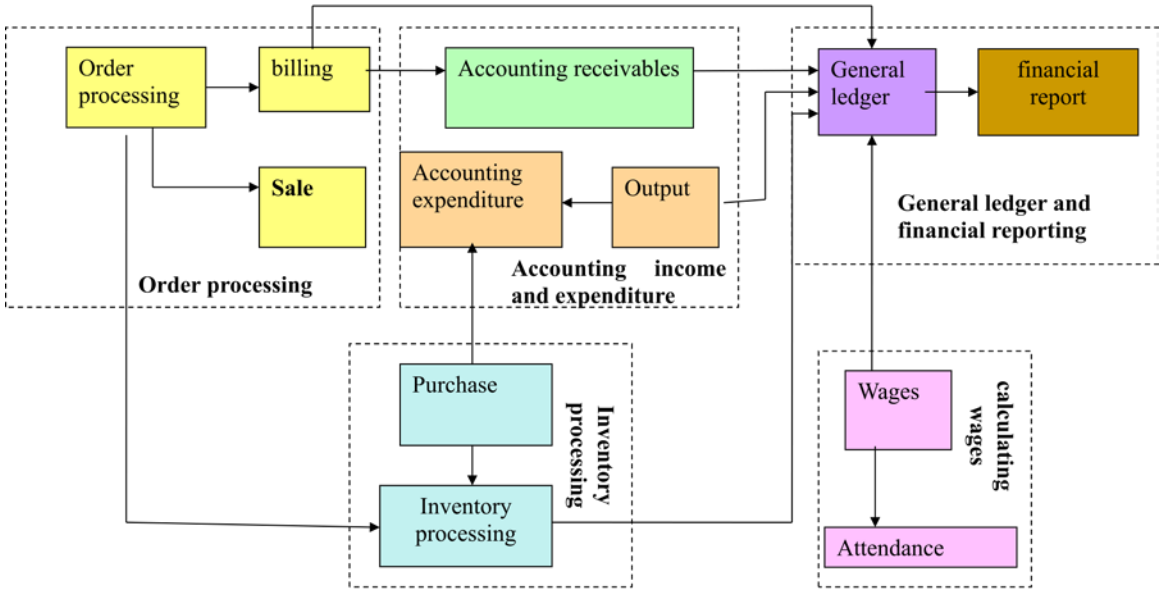

Figure7. Accounting Service System Main Business Processing Functions and Flowchart

3.3 Proposal of Accounting Information System in Network Environment

The application of network technology in accounting information system has greatly enriched the function of accounting information system and promoted the improvement of accounting work efficiency. However, if network security issues cannot be solved effectively, it will limit the development and application of network accounting systems. The methods of network accounting system security control mainly include:

(1) System software security control. Strictly control the installation and modification of system software according to operating authority, and periodically perform security checks on system software according to operating procedures. When the system is destroyed, the system software is required to have such functions as emergency response, forced backup, rapid reconstruction, and quick recovery.

(2) Data Resource Security Control. The database system is the core of the security control of the entire network accounting system. The security threats of the database mainly come from two aspects: one is the illegal access of the database by people inside and outside the system; the other is the physical damage of the database caused by system failure, misoperation or human damage. For this purpose, the following measures can be taken: (a) Reasonably define and apply data subpatterns. That is, different subsets of data are defined according to different categories of users or application items, which are open for specific types of users, so as to restrict legitimate users or illegal visitors to easily obtain all accounting data resources; (2) establish data backup and recovery systems. Data backup is the basis for data recovery and reconstruction. It is a common data control method. Using two servers for two-server mirror backup is an advanced form of data backup.

(3) System Intrusion Prevention Control. In order to prevent illegal users from intruding on the network accounting system, the following measures can be taken: (a) Set up the external access area. The visiting area is a logical area where the system receives external access (associated parties, social public) online and exchanges accounting data with the outside world. When establishing an Intranet, an enterprise must conduct a detailed analysis of the service functions and structure of the

network, and implement strict data isolation between the accounting application system and external access areas through dedicated software, hardware, and management measures. (b) Establish a firewall. A firewall is a technical system that is built around the protected network and separates the protected network from the external network. In order to effectively prevent illegal users from invading the network accounting system, you can set up two layers of internal and external firewalls. The external firewall is mainly used to limit external access to the host operating system. The internal firewall is mainly used to logically separate accounting applications and external access areas. The connection between the outside world limits the access of the outside world to the Intranet, especially to the accounting database system.

4. Conclusions

With the gradual maturity and improvement of network technology, the internal control system of accounting information systems will undergo profound changes. Only by clearly recognizing these changes, can we adapt to the development of society and establish a complete and new accounting system. The financial control of computer-based information systems is mainly concerned with the following two issues: First, the importance of information systems as a hybrid project in organizational budgets and financial statements: Second, as an information system, that supports cost or profit centers in an organization Responsibility in accounting system operations. Financial control requires planning. The report is relative to the actual performance of the plan. When assessing activities that deviate from the plan, appropriate measures should be taken. In the ERP environment, the accounting information system faces many different roles and tasks in an independent environment. It not only inherits the functions of the traditional accounting information system, but also develops a new one. Obviously, under such circumstances, the management and control functions of the accounting information system become very important. In recent years, the use of the Internet to promote e-commerce has become one of the important trends in global business development. Professionals should be aware of this trend, develop relevant capabilities, grasp opportunities, and give full play to their professional services. This should be a task worthy of attention, from the perspective of internal auditing and external auditing. It is of far-reaching significance to explore the impact and impact of network technology on the transaction processing process and internal control system of an enterprise.

Acknowledgement

The research in this paper was supported by The National Social Science Fund of China: Research on Promoting Middle-income Income Growth in Qinghai Tibet Region (NO. 17BJY041).

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