

Research on the New Accounting Control Based on the Environment of IT

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Abstract: Purpose The information technology, such as communications technology, computer technology and network technology, is widely applied in business administration and financial management since 21st centuries. The people weren't pleased with the facilities of accounting account brought by information technology, begun to study the changes of accounting control functions from accounting to management changes under it environment, and hoped to achieve real-time control of accounting. However, the accounting real-time control also can not be regarded as a complete theoretical. **Design/methodology/approach** The paper takes the basic accounting control theory as the beginning, combines with the systems and methods of Accounting Computerization and Network Accounting under information technology, and studies the theory systems and operational mode of accounting real-time control. **Findings** This paper gives the third-class control system of and partitions the control object, content and real-time control methods. And the paper discusses the building of IT environment, the rebuilding of accounting process and the designing of control mode. The paper analyzes the new models of real-time control implementation. **Originality/value** Accountant real time control theory is the theory having the vast application prospect puts important guiding principle and means controlling into practice especially with the fact that development of IT technology, it will certainly become enterprise. . [The Journal of American Science. 2008;4(2):58-64]. (ISSN 1545-1003).

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1 Introduction

Under the environment of IT, accountant's calculation work may be completed by the network, the information processing highly automates, thus accountant's calculation function is gradually desalinating, and center of gravity transfers to the management function. The integration financial control system based on the Internet makes the accounting information become the opening information system in the enterprise public information platform. The openness of the network environment causes the tradition manual operation and the internal accountant controls expire in the certain degree. Different internal users will pull and read the accounting information according to the authorized right. And the exterior user is also possibly authorized to go into the system interior and directly to pull and read the accounting information^[1]. The massive accounting information is transmits through the network communication lines, and it may be illegally intercepted, steals even tampers with. It is more possible that the network accounting information system will suffer "the virus" to invade or "the hacker" to attack^[2]. Therefore, accountant controls must carry on a bigger change, and then can meet the impact which IT brings to.

2 Accountant real-time controls and its way

2.1 Accountant real-time control

The Accountant real-time control is means that in the IT environment the finance and accounting personnel carry on the real-time contrast and the real-time analysis to the operational process of the

enterprise by the modernized technology method^[3]. It is intervention enterprise's the promotion management service through instructs, adjusts, restrains links and so on, to realize the enhancement management benefit thus and realize this ultimate objective of to achieve the value rises in value^[4]. The accountant real-time control is mainly performance to surmount the space and time, and carries on the dynamic control and the coordination^[5]. Its goal lies in the solution of problems, such as the accountant systematically records the account not in time, calculates the account not in exact, the accounting report not in time ,and so on, which are bring by the accounting information transfer lags.

The Real-time accountant control system^[6], firstly, requests all links of this organizations and agencies operation to have been the close relation with the accountant control system. Secondly, it requests all processes change of this organizations and agencies operation to have been real-time rapidly reflected into the accountant control system. Finally, it requests the result of financial inventory accounting processes to have been feed back to each kind of demand men of accounting information as soon as possible, and feed back to all levels of superintendent of the enterprise. And then it enables them to make rapidly the decision-making and the response, and improve the service or the management and enhance the achievements.

2.2. The accountant real-time control way

The accountant real-time control way specifically includes process control, Dynamic control, the cross space and time controls^[7]. The main content of accountant real-time control firstly are these economic work related with each item of accountant essential factor which Including monetary fund, Real asset, Foreign invests, Engineering project, Purchases and pays money, Finances, The sale with receives money, Cost expense, guarantee Economic works and so on, this is the basic content which accountant controls, also is the first level control content of the accountant real-time control. the second level content of the accountant real-time control is controlling to the accountant real-time control system which Including system development and maintenance, systematic security, software security, data security, operation control, input control, output control, processing control and so on. The third level content of the accountant real-time control include two aspects: multi-dimensional control to the value chain and abundantly controls to the accounting information^[8,9].

In order to make the accountant control become truly the management tool which causes the enterprise value to rise, it needs system and comprehensively studies the IT environment of real-time control, the accountant flow makes again, Accountant real-time control method, Accountant real-time control patterned. Finally it is guaranteed the goal of accountant controls will be able to realize. the real-time control frame system of Modern enterprise accountant is at least composed by four parts, mainly includes the IT environment of real-time control constructs, Accountant flow makes Again, Accountant real-time control method and Accountant real-time control pattern^[10].

3 Establishment the service data warehouse constructs the IT environment

The IT environment of real-time control usually includes network, Database and management software (including accountant software). The network provides the information transmission and the sharing foundation. The database is the gold treasure house of the memory and management data. The accounting information system (AIS) is method to carry on gathers, Processes, Report to the operational active information of the enterprise^[11]. The IT environment of the real-time control is carrier of accountant flow, accountant real-time control method, accountant real-time control pattern. Therefore, the IT environment is in the strut and foundation status of the real-time control frame system. Under the IT environment, the accounting information system should be the accounting information system of service actuation. It is composed by the service data warehouse, the service information processing rule and the internal network. It can integrate the traditional automation accountant system with the various services function information system, and realize real-time gathering and processing to the financial information and non- financial information through an integrated frame and realize gathering of information real-time, processing, and memorizing and transmission, and then satisfy the different information demand of each

kind of information users^[12].

Whether the information which the information user obtains is in-time and accurate, it is decided by whether in-time and accuracy or not the data in the service data warehouse is. And then it is the foundation data gain, but the foundation data gain is carries on in the service scene. Therefore whether in-time and accurate or not the user information is, it is directly decided by the service data gathering in first-hand of a various services department.

4 Establishment and consummation business computer interior network

Under the instruction of perfect information processing rule, the accounting information system of the service actuates can be allowed to integrate the primary data of the memory service event and to rich the service data warehouse^[13]. The information the department level accounting information system collects is for the processing information which has the department specific use or the fragment which intercepts event attribute. In the accountant system of the event actuates, the system structure is simpler and it may directly record the event attribute. The majority of events data will be depositing in primitive and uncrossing way.

It is an important precondition to establish and consummate the business computer network. And this network will cover each department of the enterprise and realize the interconnection and data sharing between various departments. Consummation enterprise interior network includes three aspects. Firstly, it must be able to guarantee the long-distance information transmission. The scope enterprise's service activity is very widespread. It would be assure the service information of the enterprise transmit in real-time to the service data warehouse of the enterprise. And it must be done to establish the security network of good long-distance transmission. Secondly, the information sharing between various departments of the enterprise would be guarantee, and various business agencies can promptly transmits the information to the service warehouse. At the same time, it also can real-time collect the essential feedback information from the service warehouse^[14]. So the effective auxiliary decision-making will carry on to the service activity. Finally, it must be able to guarantee the security of the entire information system. It includes two aspects of the internal security and outside security. The internal security is to guard against the enterprise interior personnel tamper with the information in evil intention. And the outside security is to guard against hacker's invasion.

5 Making again of the Accountant flow

If the enterprise actual flow can be effectively abstracted, it usually has three kind of main flows: the service flow, the accountant flow and the management flow. Among them, the accountant flow is the important constituent in the enterprise flow. It is the bridge which connects the service flow and the management flow. It is responsible to gather the data from the service flow^[15]. By processing it will produce the information which the enterprise needs to manage the operate activity, and then it will support the enterprise's management.

When the accountant flow has become the secret work which separates with the service flow, the business management personnel can possibly change the service flow but actually not link up with the finance and accounting personality causes more and more big barrier between the finance and accounting personnel and the business management personnel. Thus it will form the nonessential anxiety between the service process management and the finance and accounting work. And it is unable effectively to display to affect the accountant real-time control. Therefore, if the accountant real-time control question will be study, the accountant flow making again must be study. The real-time control view which instructed by the service flow making again thought must be established. It will use IT fully to organic fusion among the accountant flow, the service flow and the management flow. And it will insert the flow into the IT environment and Insert the finance and accounting personnel into the management process. It can guarantee timely, complete, accuracy and usefulness of the information gathering and processing. Under the coordination of control pattern and method, it can fully displays the dynamics and quality in Accountant real-time control. It can

realize to enhance the efficiency and the benefit the enterprise manages, and then it will guarantee goal which the value raises in value.

5.1 Accountant flow making again based on IT

5.1.1 Establish the accountant flow based on service

In new accountant flow, when the service event occurs, the service information of various business agencies is designed directly to input to the service database in maintaining the original of the primitive certificate. The information the financial department and other each department need all withdraw from the service database. Like this, it has guaranteed the homology of the financial data and the management data, and then it can make a better coordination between the accountant flow and the service flow.

5.1.2 Establishment the accountant flow favoring for the management

The financial budget and the analysis are the link which can most manifest the assistance management decision-making function of the accountant flow. Modern management requests the accountant flow feedback real-timely the actual data and the contrast of it with the budget data, and adjustment promptly the budget goal. Therefore, to establish the accountant flow which favor for the management in the new flow can realize the real-time feedback of the financial data, and it can carry on the real-time contrast and analysis between the actual data with the budget. So it guarantees the smooth implementation of the management decision-making.

The development of IT, especially the application of the data integration technology and network technology, provided the reliable guarantee for the processing complex data question. The IT has been able to bring a bigger revolution to the domain of financial inventory accounting. The accountant making again flow shows as Fig.1:

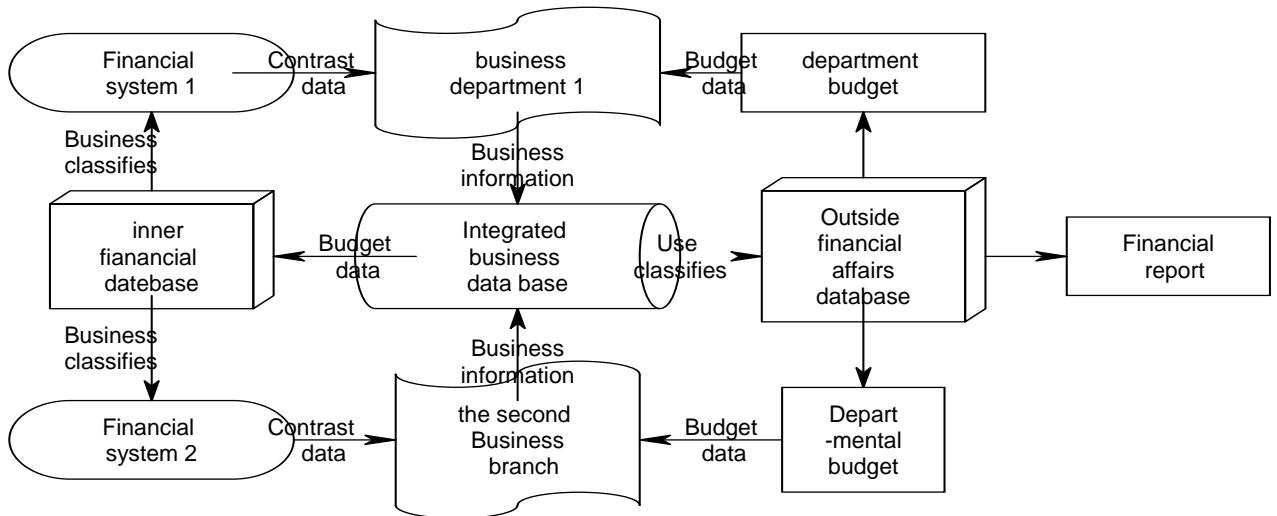


Fig.1 Rebuilding accountant flow

In new accountant flow, the business agency develops the office work by the opening departmental budget, and real-timely submits the service information to the integrated service database. The interior and exterior financial database separately withdraw the service data from the integrated service database according to their own collection rule of information, and forms the financial data based on the business agency's financial system by processing^[16]. And then it withdraws data message correlated with the service from the internal finance database, and promptly feeds back to the business agency. The business agency adjusts own service goal according to the basis real-time feedback correlation data.

5.2 The character of the new accounting flow

5.2.1 The characteristic of accounting data

Firstly, the service data is not directly input to the accounting information system, but it is input to the service integration database. Like this it has guaranteed the service data integrity. Secondly, the data in the financial database directly originates from the integrated service database and moreover has carried on the classification according to the difference between the internal use and exterior use finance data. The internal finance database is directly faces the service flow and the management flow^[17]. The financial data output from the financial database which classifies by the different business agency is strong pointed and can effectively carry on the auxiliary decision-making to the operation management.

5.2.2 The characters of the real-time monitoring

Firstly, in the new accountant flow, through the association of internal Internet, the service data may be promptly transmitted to the service database and be unified to input by the financial department. Like this it has saved the time for the data processing and the feedback. At the same time it has also saved the financial department's manpower and enhanced the efficiency of the financial department's working. Secondly, as a result of the service data prompt transmission and processing, the financial data based on business agency output from internal financial database may also real-timely transfer to the business agency and provide the basis for the policy-making adjustment of the business agency

5.2.3 Making again to the financial department structure

Because the primary data input work carries on in the business agency, the data input work of the finance and accounting personnel will be able greatly to reduce. At the same time, because the new accountant flow is based on the economic work actuation, the auxiliary policy-making function of the financial department to business agency also can full manifesting. Therefore it is the necessity to be established the corresponding financial group in view of the different business agency. The division of labor in the financial department could even more be clear. Considering the importance of the database and the data processing principle to the accountant work, besides the financial group based on business agency, but the accountant database maintenance group also will be supposed to establish, and so on.

6 Design of the Accountant real-time control pattern

Along with the IT development and the widespread application, the demand of the modern enterprise to accountant control is more and more high. The Accountant real-time control pattern is refers to the accountant controls application pattern which demand by the real-time control concrete constructs in view of the enterprise^[18]. It is carrier by the IT environment the implementation, and it is supported under accountant real-time control method and the making again in the flow. It is the safeguard mechanism which the accountant real-time control displays its control affected in the modern enterprise.

Generally says, the basic pattern of the accountant real-time control may divide into two kinds: A kind is the aileron control pattern, shows as Fig. 2, it is refers to the real-time control to the entire process of the enterprise manages moves (to Process of purchase, Stores in a storehouse, Produces, Sells, finance and so on). Its characteristic is that, Looked from the core enterprise interior, constructs the best integration flow of financial service in a line. In IT environment and the support of the accountant real-time control method and accountant personnel, to real-timely control to the thing flows and fund flows to the entire management process. And it coordinates various departments to have the foreword operation, and maximum limit reduces the stock. So it enhances the turnover of capital and guaranteed the efficiency and the benefit enhancement of the enterprise manages. Looked from the enterprise, it constructs a value chain to take the core enterprise as the main body, and coordinates the commercial relations between the enterprise. Through the information flow, and realizes the entire value chain increment.

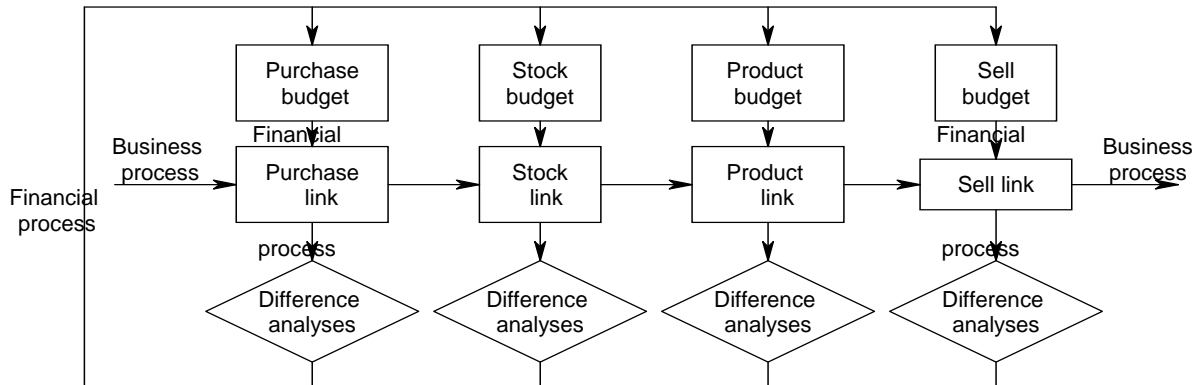


Fig.2 taileron accountants real-time control pattern

Another kind is the pitch control pattern, it is refers the real-time control which carries on to between fund movement of the enterprise group under surmounts the space and time. Its characteristic is that In IT environment and the support of accountant real-time control method and accountant personnel, will make the enterprise group member distribute in different local and city and even different nation connects in together through the information flow, and real-timely gains the fund dynamic information of entire enterprise group, and found out and keeps abreast of the overall fund situation, carries on the real-time control to Settles accounts between member's fund and fund settlement of Exterior bank service and so on. It grasps the fund to flow to and the fund current capacity and the speed of flow of his regulation enterprise group. So it enhances the efficiency of fund use.

7 Conclusions

Along with the computerization accountant's production and the development as well as present network accountant's starting, the accountant's calculation function obtained full manifesting. At the same time, more and more experts devote fully to realize accountants manage function. At present the accountant real-time control is also only restricted in one idea, but not a kind of theory. The Accountant real-time control theory is the theory which has the broad application prospect. Especially along with the IT technology development, it will certainly be the important policy and the method which the enterprise implements to control. But at present it actually also has very many questions to need the further research, for example, the choosing of service data, the concrete design proposal of service database and the transformation from the service data to the accounting data and so on.

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References

[1] Yan Da-wu, Zhang Rui-jun,(2003),The newly theory of accountant controls—Research on accountant

- real-time control, Accountant research, No.4 ,pp:3-9
- [2] Zhao Shuan-wen, (2005),The present situation and countermeasure of internal accountant controls [J],Finance and accounting research, No.3 ,pp:36-37
- [3] Wang Son, Li Fang, (2004),The software integration of internal accountant control method, The monthly publication of finance and accounting., 46-47
- [4] Dent, Jeremy F. (1996), Global competition: challenges for management accounting and control. Management Accounting Research. Volume: 7, Issue: 2, June, pp. 247-269
- [5] Yang Zhou-nan, Zhao Na-hui, Gao Ning, (2003),The application of IT in accountant and audit service,Beijing: Qinghua University publishing house, pp. 47-69
- [6] Qiao Peng, Li Xiang-rong, (2002),Accounting information system, Beijing: Qinghua University publishing house, pp. 24-38
- [7] Xia Bin,(2003),The research of enterprise accountant controls Under IT, Present age economic science, No.6 ,pp:69-74
- [8] Zhang Ying-ming, (2002),Research on the internal control of accounting information system Under IT, Sichuan accountant, No.1 ,pp:3-5
- [9] Xu Xue-feng, (2005),Accountant controls under IT, Special zone economy, No.5 ,pp:336-337
- [10] He Li-wei, (2003),The accounting information system of event actuates Under IT,Economical forum, No.10,pp:78
- [11] Sarbanes-Oxley section 404,(2003),management assessment of internal control and the proposed auditing standards. KPMG March
- [12] Abernethy, Margaret A, Brownell, Peter.(1997), Management control systems in research and development organizations: the role of accounting, behavior and personnel controls. Accounting, Organizations and Society. Volume: 22, Issue: 3-4, April 5, pp. 233-248.
- [13] O'Connor, Neale G.; Chow, Chee W.; Wu, Anne. (2004), The adoption of "Western" management accounting/controls in China's state-owned enterprises during economic transition. Accounting, Organizations and Society. Volume: 29, Issue: 3-4, April - May, pp. 349-375.
- [14] Chan, K. Hung; Lew, Albert Y.; Tong, (2001),Marian Yew Jen Wu. Accounting and management controls in the classical Chinese novel: A Dream of the Red Mansions. The Journal of International Accounting. Volume: 36, Issue: 3, September, pp. 311-327.
- [15] Kane, Edward J;DeTrask, Kimberly. (1999), Breakdown of accounting controls at Barings and Daiwa: Benefits of using opportunity-cost measures for trading activity. Journal of Pacific-Basin Finance. Volume: 7, Issue: 3-4, August, pp. 203-228.
- [16] Xia Bin, (2003),Study on the accountant control o the enterprise under IT. The science of present economy,No.6 ,pp:69-74.
- [17] Xu Xue-feng, (2005),Talk about the accountant control under IT, Special administrative region economy,No.5 ,pp:336-337.
- [18] Zhang Ying-ming. (2002),IT Research on the inner controls of Accounting Information Systems under IT,Sichuan accountant,No.1,pp:3-5.