



ERP - ACCOUNTING DEMANDS AND INFORMATION TECHNOLOGY SUPPORTING

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Abstract

While enterprises focus on using information from the ERP(Enterprise Resource Planning) system as the output of the process for decision-making in business, the relationships between input-processing - output has not been properly evaluated in quality of Accounting information and Information Technology's processing techniques. This paper will show the analyses and researching on the impact of ERP related to Accounting, Information Technology. ERP should be a comprehensive analysis of the process oriented input-processing and output. Accounting demands and information technologies should be developed in ERP environment to meet the service quality information for making management decision. The effectiveness of using ERP system will be increased when the enterprises apply the new operating The ability of connecting data from different databases or another sources in ERP systems will help us demonstrate the necessary for "Accounting demands and Information Technology supporting" in ERP environment.

KEY WORDS (FIVE WORDS): ERP, Accounting, Information Technology supporting, AIS-Accounting Information System, Data Mining.

INTRODUCTION

Accounting standards have clearly recorded data, the transactions take place in the process. The recognition of economic business processes required to comply with strict chronological order and clear decentralization of authority. Information Technology partially meet the requirements of ERP accounting software, ERP output have supported business in analyzing, managing and making decisions. We had a lot of studies to assess the quality of ERP software systems and apply the research result in the ERP environment, but we had very little survey about the quality of ERP input.

According to some study from 1996-2007, Wang, Neely.M.P, and Cook.J have summarized in the affected component for the quality of information systems, which are management responsibilities; cost and maintenance of information systems, databases; research and development system; products; product distribution; human resources management; and legal issues (Neely and Cook, 2008), and some basic principles to create reliable systems, it includes :

- Safety – we can manage access to system data and control system via decentralization.
- Privacy - supply of information is limited to tightly control through the distribution system access.
- Accurate processing - data collection is accuracy, completeness, timeliness
- Ready to active system.

IT(Information Technology) has developed appropriate methods to meet each requirement of accounting. In particular, accurate processing stage is an important step of process, data should be collected accurate, complete and timely. When the input has been met a risk, ERP systems can not do well and give good results. When the information seems





to be a product, we need to improve the quality of the system by increasing the quality of information at the input of the process.

ERP - ACCOUNTING DEMANDS

Enterprise resource planning (ERP) is business process management software that allows an organization to use a system of integrated applications to manage the business and automate technology, services and human resources. ERP software integrates all facets of an operation, including product planning, development, manufacturing, sales and marketing.

ERP software is considered an enterprise application as it is designed to be used by larger businesses and often requires dedicated teams to customize and analyze the data and to handle upgrades and deployment. In contrast, small business erp applications are lightweight business management software solutions, customized for the business industry.

ERP, Accounting and Information technology are some difference fields, this paper will show their coordinate closely relationship. ERP will require changing the business cycle, accountants need to record transactions clearly.

Recording transactions–database storing

Depending on transactions occur, accountant records relevant information. Transaction contents are stored in the system to become the database. The recognition is very important. If transactions are not recorded properly process and quality control of information, all data mining process on this database are not reliable.

Statistic data record - statistic analysis

The task of accounting that reflects the accurate and complete transactions in business. In addition, the statistical analysis was meaningful to aggregate information to serve for business decision making.

With the exactly statistics, enterprises can establish closely business plans and contingency plans as reality as possible. Businesses can reduce inventory costs, improve productivity and spin capital quickly. Business statistical analysis help business-oriented enterprise and selection methods work effectively.

Finance Statement – Management report – Consolidated financial statement

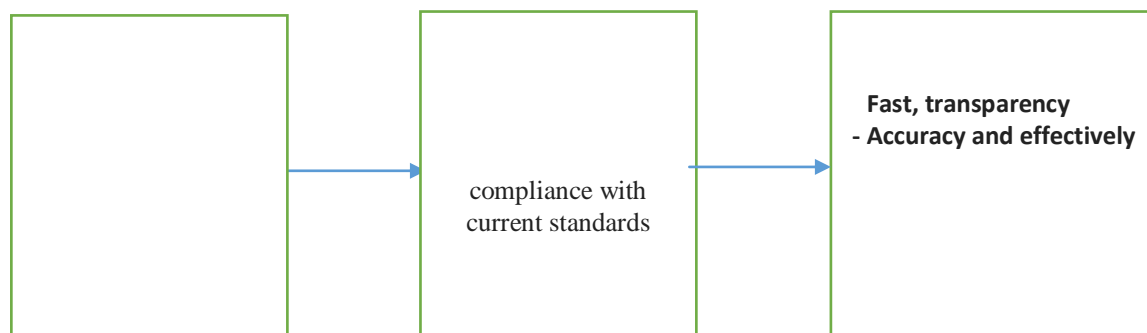
System report has available templates, accountants need to aggregate data and put it up reporting statement based on criteria have been defined. However, the reported figures have intimate contact with each other, and the amount of information required to handle are increased about aggregate scale, uptime and demands of business information. Accurate information and quickly analysis data is a competitive factor to be considered in the development of business strategic.



Accounting standards updates and making decision support

Accounting information are required on time - accuracy, and reliability information in compliance with current standards. Making decision support develops as accurate as trusted.

Fig 1. The accountant demands of transactions management



ERP - INFORMATION TECHNOLOGY SUPPORTING

ERP active supports for management accounting in the multi-dimensional data analysis, thereby enterprises can be positively evaluated in business performance. IT supports for system augment ability shown in the ability of data connecting from different sources, different databases and they are integrated into the same system.

Corresponding to the requirements of accounting, IT has the appropriate response such as:

Establishing data structures and algorithms stored information

IT has built data structures, and algorithms to record information and manage database systems. Depending on businesses demands, IT would be supported the development of different data structures. When deploying software-based build this database, the data mining is a special technology in enterprise. Changing application or management software need to be updated on current data structure to a new suitable data structure before deploying new software applications.

Sharing heterogeneous data in centralized management database will limit conflicts, overlaps in operation.

Building software applications via programming languages, transfer protocol

Accounting has some internal principles and standards, which IT needs to understand and develop the application of information processing. When policies have been changed, IT systems need to be updated on timely supporting. Building active data structures will support IT to savings cost and optimizing update time to the system.

By the programming language and system information transmission protocol, IT support transactions accountants to remote processing, financial savings and uptime. Management efficiency and timely are increased.

Programming for calculating indicators on the accounting statement

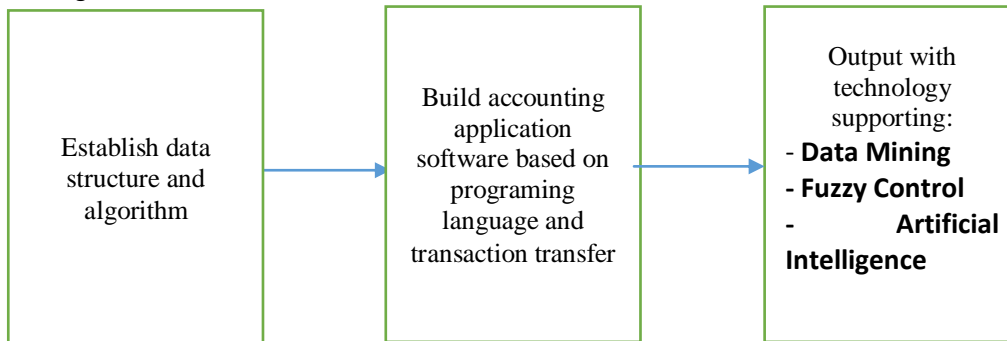
IT support for integrated accounting and reporting data through software tools such as statistical data analysis, established financial statements, prepared management report and completed consolidated financial statements. We can finish all works in rapidly, timely, clearly, anytime, and anywhere.

Some supporting technologies

In addition to the technical hardware and software support, IT also uses some modern techniques to help businesses quickly get more effectively and more reasonable data to make decisions.

- a. **Data Mining Technology**
- b. **Fuzzy control**
- c. **Artificial Intelligence**

Fig 2. INFORMATION TECHNOLOGY SUPPORTING



DEVELOPING ERP IN BUSINESS

Enterprise resources can be divided into three main types of financial resources, human resources and material resources. The ERP component can be mentioned:

- **Management Process**
- **Processing software**
- **Database**
- **Humans**

According to the derived form, ERP is divided into 2 categories including ERP self-design and ERP available design.

ERP self-design:

The ERP users have ordered consulting firms to design the specific ERP system for the enterprise. The ERP systems are designed according to the requirements of enterprise management.

Advantages: easy integration with existing systems management.

Disadvantages: small-scale systems often need a lot of time and operation, also expert advices to have a high level ERP system.

ERP available design:

Enterprise have researched and chosen a compliant ERP software. They can develop the system deployment.

Advantages: ERP systems are usually designed with large scale, accumulate experiences of economic groups and counseling of many experts for a long times.

Disadvantage: We can not immediately integrate ERP to current management system because it's too hard to synchronous the data structures in operating. Enterprises often have to accept changing their business processes due to the standard procedure made from the ERP software. However, the standard procedure was applied to the ERP system may be



not necessarily consistent with the business. On the other hand, each enterprise has its own characteristics in management style, and the regulatory environment, it also help enterprise to increase the business competitiveness in the market.

The impact of ERP systems can change management processes, influence on the business strategic, and corporate culture. Enterprises should wisely choose the development route of ERP system.

Benefits of using ERP systems:

The effective operational system is significantly increased:

- Development of planning reserve,
- Reduce inventory costs
- Increased handle operating and control information.

Customers have received the transparency and clearly information. Enterprise becomes more sharply in changeable market

Furthermore, data collection method has been changed through the modern communication systems between the clients and suppliers. Collecting data will be helped to reduce entry errors. Moreover, enterprise can apply some new analysis indicators.

Limiting the use of ERP systems: analysis and new targets

Processing management and using ERP is an inevitable trend, but the process have not yet been standardized clearly. The report mainly focuses on the financial statements, while ERP is designed the ability to establish management reports. Enterprises need to rebuild and standardize business processes to handle and manage in competitive market.

PROCEDURES FOR PUSHING INFORMATION INTO SYSTEM

According to study by the Association of Certified Fraud Examiners (ACFE) in United States, statistical reporting of financial fraud include: concealed liabilities, record untruth revenue, mispriced assets, recorded the wrong year, non-disclosure the important details,... All statistics are recorded by transactions system inputs. So, we should be interested in the quality inputs.

We need to develop procedures to control the quality of information before putting information into the system.

Procedures for control input process should be proposal:

Develop procedures for each transaction

Procedures for each transaction should be developed and computerized as much as possible, such as create barcode system for cargo, and cargo details could be entered by the barcode scanner when goods are imported or exported to warehouses or transfer station.

With this method, the product transportation can be monitored from the supplier to the customer. Automated approving system should clearly be done in transparency and standardized.

The quality of accounting information is extremely important issue because it directly has an affects on the quality and efficiency decision of users.

Initialize the preliminary information

Initial data of transactions are entered into the system, the accuracy, timely compliance with standards of the time arising and recognized transactions are ensured.



Automated approving system

Internal control system has obeyed some basic accounting principle regulars and inner guidelines. Original vouchers have been changed to computerized document, it has been considered and approved on prescribed specific time by the automated approving system.

If the processing time limit had expired, the warning system was setup to avoid the stagnancy for the next stage of transaction.

CONCLUSIONS

Accounting has the precision requirement of data as well as the recording method, IT has to meet that requirements by building structured information, using the techniques of data mining, fuzzy logic and artificial intelligence.

The quality of accounting information are considered in 3 stages: inputs, process and outputs. Applying the ERP system in enterprises, we have many organizations and research reports often analyze and enhance the role of output ERP data. Because of automated process, the quality of information should be considered from the input. The article refers to some procedures to control inputs stage.

It will help the outputs quality be improved, and more reliable. Then, increasing the role of ERP in business management as well as demonstrate the effect that ERP systems provide.

REFERENCES

- Björn Johansson, Pedro Ruivo,(2013),Exploring Factors for Adopting ERP as SaaS,Procedia Technology, ,Volume 9,Pages 94-99.
- Brazel, J. F. & Li, D.,(2005),The effect of ERP System Implementation on usefulness of Accounting Information,Journal of Information System.
- Brazel, J. F. & Li, D.,(2008),The Effect of ERP System implementations on the Management of Earnings and Earnings release Dates,Journal of Information System,Volume 22, Issue 2,Pages 1-21.
- Cristina Lopez, Jose L. Salmeron,(2014),Dynamic risks modelling in ERP maintenance projects with FCM,Information Sciences,Volume 256,Pages 25-45.
- Edith Galy, Mary Jane Saucedo,(2014),Post-implementation practices of ERP systems and their relationship to financial performance,Information & Management,Volume 51, Pages 310-319.
- Grabski, S., Leech, S., & Sangster, A. ,(2009),Management Accounting in Enterprise Resource Planning Systems,Oxford: Elsevier.
- Henri Teittinen, Jukka Pellinen, Marko Järvenpää,(2013),ERP in action — Challenges and benefits for management control in SME context,International Journal of Accounting Information Systems,Volume 14, Issue 4,Pages 278-296.
- Huseyin Ince, Salih Zeki Imamoglu, Halit Keskin, Aliekber Akgun, Mehmet Naci Efe,(2013),The Impact of ERP Systems and Supply Chain Management Practices on



Firm Performance: Case of Turkish Companies, *Procedia - Social and Behavioral Sciences*, Volume 99, Pages 1124-1133.

Jingxing Wei, Y.-S. Ma, (2014), Design of a feature-based order acceptance and scheduling module in an ERP system, *Computers in Industry*, Volume 65, Issue 1, Pages 64-78.

Moon, Y. B. (2007), Enterprise Resource Planning (ERP): a review of the literature., *Int.J.Management and Enterprise Development*, Volume 4, Issue 3, Pages 235-246.

Moutaz Haddara, (2014), ERP Selection: The SMART Way, *Procedia Technology*, Volume 16, Pages 394-403.

Neely, M. P. & Cook, J., (2008), A Framework for Classification of the Data and Information Quality Literature and Preliminary Results (1996-2007)., *Proceedings of the Fourteenth Americas Conference on Information Systems*, Toronto.

Nguyen Bich Lien, (2012), Xác định và kiểm soát các nhân tố ảnh hưởng chất lượng thông tin kế toán trong môi trường ứng dụng hệ thống hoạch định nguồn lực doanh nghiệp (ERP) tại các doanh nghiệp Việt Nam,, <http://doan.edu.vn/do-an/luan-an-xac-dinh-va-kiem-soat-cac-nhan-to-anh-huong-chat-luong-thong-tin-ke-toan-trong-moi-truong-ung-dung-he-thong-31634/> (accessed 14 March 2015).

Salim, R. & Ferran, C, ed, (2008), *Enterprise Resource Planning for Global Economies: Managerial Issues and Challenges*, IGI Global, Pages 77-93.

Tomás Escobar-Rodríguez, Lourdes Bartual-Sopena, (2014), Impact of cultural factors on attitude toward using ERP systems in public hospitals, *Revista de Contabilidad*, Available online 12 July 2014.

