Research on the Application of ERP in Enterprises in the Information Age

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Abstract. With the advent of the information age, advances in science & technology, and the strengthening of economic globalization, enterprises are facing increasingly fierce competition. How to implement information and quickly meet the individual needs of customers has become the key to success. This article defines ERP of the information age, analyzes the necessity of enterprises implementing ERP, with an emphasis on the present situation and existing problems of enterprise implementing ERP, and discusses the strategies that should be taken by enterprises to implement ERP in the information age.

Keywords: information age; ERP; enterprise; application

1. ERP of the information age

ERP (Enterprise Resource Planning) is a comprehensive and systematic management platform built on the basis of information technology that uses modern enterprises' advanced management ideas to fully integrate enterprises' all resource information and to provide enterprises with policy-making, planning, control and management performance assessment[1]. ERP system integrates modern computer technology and advanced management ideas and becomes the operation mode of modern enterprises. It reflects the requirements of times for enterprises to rationally allocate resources and maximize wealth creation and has become the cornerstone of enterprise survival and development in the information age.

ERP is not only an information system, but also a management theory and management thought [2]. It uses all the resources of enterprises, including internal resources and external marketing resources, to create optimal solutions for enterprises manufacturing products or providing services and ultimately achieving their business objectives.

2. The necessity of enterprises implementing ERP

At present, Chinese enterprises face fiercer competition in international and domestic market. Compared with foreign famous enterprises, Chinese enterprises are obviously inadequate in many ways, while their level of management and information is the weakest link. Enterprise information construction is an urgent task. ERP representative of information construction has become a weapon that breaks through the bottleneck of enterprise development. As a core component of enterprise information construction, ERP not only helps enterprises establish an information management system but also through business restructuring, organizational restructuring and management restructuring changes the extensive and backward situation of China's traditional enterprise management as soon as possible. Therefore, information transformation and ERP system application are the need to face global competition and the necessary means to enhance management capabilities.

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China's economy is in the transition and development stage. Although enterprises develop rapidly, their scientific management level lags behind their development level. Improving management ability is to raise the existing management level and business processes of enterprises. The implementation of ERP system can help enterprises on the basis of the original achievements in reform, exploit their internal and external resources and reduce a lot of intermediate costs, and improve their market competitiveness [3].

3. Status of ERP application in Chinese enterprises and problem analysis

3.1 The present situation of Chinese enterprises implementing ERP

From late 1990s to the early 21st century, the introduction of ERP became the focus. The range of ERP application was further expanded to secondary and tertiary industries from manufacturing. Through constant practice and exploration, the ERP application has significantly improved during the period. China has carried out MRPⅡ/ERP research and application for more than 20 years, and gone through different stages from preliminary application to popularization, from MRPⅡ to ERP, from ERP technology research to ERP product development and further to ERP industry. But on the whole ERP application in China is still in the initial stage, and wide application has not yet achieved. China's ERP software market is currently comparatively disorderly, which is manifested mainly in product prices and project management. In the software implementation process, in order to occupy the market software companies excessively yielded to unreasonable demands put forward by enterprises and in the program design process stabilized enterprises' original backward process. However, foreign ERP software lack localization and do not fully comply with China's system and culture. Furthermore, they are expensive and beyond the reach of general enterprises, and after-sales service of some enterprises is not timely.

Seen from the social environment, Chinese government and relevant departments lacks adequate understanding of the seriousness of backward enterprise management; social intermediary organizations are inadequate; enterprise management and information consulting organizations are too small in quantity and cannot correctly guide enterprise information construction.

Enterprises still lack adequate understanding of ERP system. Some enterprises have vague understanding of ERP, and confused the concepts of "ERP software " and " ERP system ". They just think investment of certain amount of capital in purchasing computer hardware and some ERP software can solve some problems of the enterprises. Some companies go with the tide, spend money on outside packaging, and become blindly optimistic, leading to many enterprise risks. Most enterprises believe that, ERP is a foreign product and has not been reformed by China's actual conditions. Moreover, MRP II systems of many enterprises fail to work well so that they put forward "is ERP suitable for Chinese enterprises"? [4] The success rate of using ERP is relatively low.

3.2 Problems of Chinese enterprises implementing ERP and cause analysis

3.2.1. Lack information demand analysis

In the process of implementing information due to the lack of necessary information demand analysis, enterprises tend to blindly buy much management software for different purposes and hope through software applications to improve enterprise management. Unfortunately, before buying the software they often ignore the adaptability of the software for the management and blindly believe the promise made by consultants that business process reengineering will assist enterprises in realizing information. However, after business process reengineering they found that many businesses simply can neither be achieved nor applied in the system.

3.2.2. Fail to formulate strategic planning

Many blind factors are often hidden behind information project failure. Domestic enterprises lack effective knowledge of realizing the strategic management of enterprises. Enterprise information is information system, the establishment of which is dependent on enterprises' long-term development strategy. If enterprises neither develop information policies and strategies nor fully study the feasibility of information content but just hurriedly implement them, this informational mode itself is filled with great risk [4]. To obtain

information success enterprises must start from enterprise management needs and can only achieve the goal of enterprise information in accordance with unified planning step-by-step implementation mode.

3.2.3. Lack information demand analysis Lack information concept

Enterprises have a misunderstanding about information and think that "management software is not management, but software". In fact, management software is closely related to enterprise management. Without management, it is also impossible to achieve management software. Management software itself is an information method that integrates management methods, ideas, rules into software. If only considering management software as software, enterprises will not successfully implement information and enterprise managers will not give more support in this regard, which will eventually become a thing of enterprise information center.

3.2.4. Fail to select appropriate software manufacturers

The software implementation needs the coordination, which will determine the success of information implementation, between enterprises and software manufacturers. So when selecting software you cannot simply select the software, the more important thing is to select the software company. The selection of software companies can refer to these aspects: management software company matching enterprise size; Software maturity, flexibility and reputation; the maturity of software technology; implementation capability of software manufacturers; system design and engineering ability of software manufacturers; customization capabilities and demand matching ability of software manufacturers, which can fully evaluate the actual situation of software manufacturers and lay the foundation for the final selection of software and software manufacturers.

4. ERP system implementation strategy in the information age

The success rate of China's enterprises implementing ERP is not high at present. To change this situation, it is necessary to take appropriate measures towards the problems existing in the process of enterprises implementing ERP.

4.1 ERP feasibility study

Enterprises shall carry out feasibility study before implementing ERP. The first is market research, including investigating and comparing the market share of Chinese and foreign ERP software manufacturers in the Chinese market; analyzing advancement and applicability of software function and management thought; studying implementation status and effect of software in typical customers. The second, on the basis of market research, is to carry out software simulation demonstration on several primarily selected companies. according to the results of market research and simulation demonstration and considering China's actual conditions, enterprises' individual needs and software performance, service capabilities and business integrity of software manufacturers, product prices and service charges, source code, the company's future development prospects and software application, etc, enterprises should repeatedly conduct comprehensive review, invite relevant experts to participate in identification and finally determine to select which type of software.

4.2 Attention of senior leaders

ERP implementation is improvement in the whole enterprise process. Implementation process will face enormous resistance. It is impossible to succeed without attention of senior leaders. Only business decision makers fully understand ERP, chair and participate in system implementation and encourage all the staff to participate, they can overcome difficulties and achieve success.

4.3 Attach importance to staff training

ERP implementation and is closely related to each employee. Its success requires the involvement of every employee concerned. Meanwhile, in order to improve every employee's ability and make them reach the requirements of ERP, staff shall receive a comprehensive training. Only total employee involvement can play the benefit of ERP.

4.4 Strictly control the progress of implementation

When implementing ERP, enterprises shall first make overall planning, which shall be carried out in an orderly manner. Implementation of ERP system can be decomposed into a series of specific tasks, including establishment of project management and project monitoring system. Before the implementation, the work plan shall be made clear among the relevant departments that shall take responsibility and make promise. After the system begins to run, the corresponding inspection and monitoring indicators shall be developed to ensure the system's normal and efficient operation.

4.5 Pay attention to enterprise requirements and software flexibility

The implementation process must adhere to the principle of combining policies and systems, enterprises' reasonable requirements and software flexibility. For a variety of reasons, there are always some disadvantages in enterprise management. However, the enterprise is difficult to change the existing practice in a short time, which requires software flexibility and implementation flexibility. Of course, when paying attention to flexibility, it is necessary to make enterprise's actions comply with the relevant laws and regulations as much as possible.

4.6 Emphasize data collection and sorting

Data accuracy has a bearing on the success of ERP implementation. Before data input, first, data preparation standards shall be designed. It is necessary to achieve uniform data and ensure data accuracy and consistency, and data sharing, in order to achieve the desired goals. Second, in the implementation process it is necessary to strengthen   basic data management and the system of internal control responsibilities. In implementation process, implementation personnel should guide enterprises to collect basic data at this stage. After optimized and restructured, the basic data can enter the system. Otherwise, the results of ERP system may not meet enterprise requirement planning.

4.7 Evaluate the effectiveness

ERP implementation evaluation was conducted on the basis of the completion of the project. Comprehensive and systematic analysis and evaluation of the purpose, effectiveness, impact and implementation, etc help to improve investment efficiency and macro-decision-making and management level. It is necessary to use the appropriate evaluation criteria, which shall be compared with the original system and similar enterprises. This comparison should be built on the basis of quantification. First determine the index system, and then collect data, finally use the corresponding mathematical evaluation model to calculate, compare the results with the corresponding results of the existing system, and obtain the specific quantitative value system improvements.

Today some enterprises are facing increasingly fierce market competition at home and abroad. The purpose of implementing ERP is to compete more effectively. In the highly competitive information age, the successful implementation of the ERP helps maintain the present and long-term competitive advantages of enterprises and enhance their competitiveness.

5. References

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