

Research on Enterprise Management Informatization with ERP

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Abstract: Nowadays, with the continuous development and progress of society, the competition among enterprises is becoming more and more fierce. How to gain competitive advantage in information management will be the most important thing for the development of enterprises. At present, in the process of enterprise management, resource integration and data analysis will consume a lot of time and energy, which will not only waste the limited resources of enterprises, but also lead to the work efficiency of enterprises. ERP is a management mode with advanced management concept, which will promote the change of enterprise management mode, promote the change of enterprise management concept, and improve the management level of enterprises. This paper mainly studies the problem of enterprise management informatization under ERP environment, and uses scientific and reasonable research methods to study the role and influence of ERP in enterprise management informatization. A comprehensive study is carried out in order to improve the construction and development of enterprise management informatization, increase the work efficiency of enterprises, and enable enterprises to gain advantages in the fierce market competition.

1. Concept and Role of ERP on Enterprise Management Informatization

ERP, i.e. Enterprise Resource Planning, is mainly employed by enterprises to manage and integrate resources from various links and departments, then to make comprehensive and reasonable decisions and plans for resource utilization and needs accordingly. As a kind of widely used management tool by contemporary enterprises, ERP integrates factors involving enterprises, suppliers and clients, which enables enterprises to manage and monitor their resources effectively, and then finally to improve enterprises' operation and management efficiency. ERP has many channels to collect accurate information efficiently and timely, therefore ERP will help enterprises to standardize business administration, save operation cost, improve management responsibility of each position and realize the implementation of centralized management.

2. Existing Problems of Enterprise Management Informatization with ERP

2.1 Managers' Thoughts are Outdated; They Pay Less Attention to ERP and Fail to Formulate Unified Strategic Planning.

The management layer of an enterprise plays an absolutely dominant role in its development and transformation. Especially in the era of information, influence of management layer on enterprise is absolutely.[3] Actually, many enterprises misunderstand the management informatization, believing that management informatization is a kind of management which manage enterprises with management software. However, relationship between business management and management software is inseparable. Management layer in some enterprises fail to establish accurate development direction, formulate overall planning to implement related management modes, and include ERP system into their long-term development strategies. Meanwhile, management layer in some enterprises do not learn actual operation status when implement ERP system, and do not communicate with each other efficiently on the implementation scheme of ERP. The above

mentioned problems indicate management layers of enterprises pay less attention to the implementation and development of ERP, resulting that ERP could not be implemented efficiently. Furthermore, managers attach importance to their future development, decision-making, and budget during the operation; this results that they will consider the cost budgeting during the decision-making process. As society develops rapidly and technology makes progress constantly, it is hard for manual cost accounting to keep up with the times. This will result that enterprises attach high attention to the cost, but ignore the issues like work efficiency and quality.

2.2 Management Layer is Blind to the Development Prospect of ERP, and Fail to Realize Comprehensive Application of ERP.

ERP (i.e. Enterprise Resource Planning) was developing from order point system, to time phased MRP, to closed loop MRP, to MRP II, and finally to ERP. ERP is not only a kind of brand-new theory and mode of management, but also a kind of advanced computer management system, which offers a complete set of solution for enterprises to realize informatization, then help enterprises to strengthen their market competitiveness and raise the standard of management. However, ERP deviates from enterprises' optimal management to some extent. For example, enterprises still employ traditional business process, but not innovative management mode and business process, resulting that each links could not be optimized. This is one of the important problems encountered by ERP when enterprises implement informatization.

Table 1 Global Market Size and Growth Rate of ERP Software during 2012 - 2018 (Unit: Billion Yuan, %)

Data \ Year	2012	2013	2014	2015	2016	2017	2018
Market Size	459	475	489	501	514	526	539
Growth Rate	4.1%	3.5%	2.9%	2.5%	2.6%	2.3%	2.5%

According to Table 1, driven by downstream market, ERP software develops steadily around the world since 2012. This offers opportunity for all walks of life around the world to learn and accept ERP.

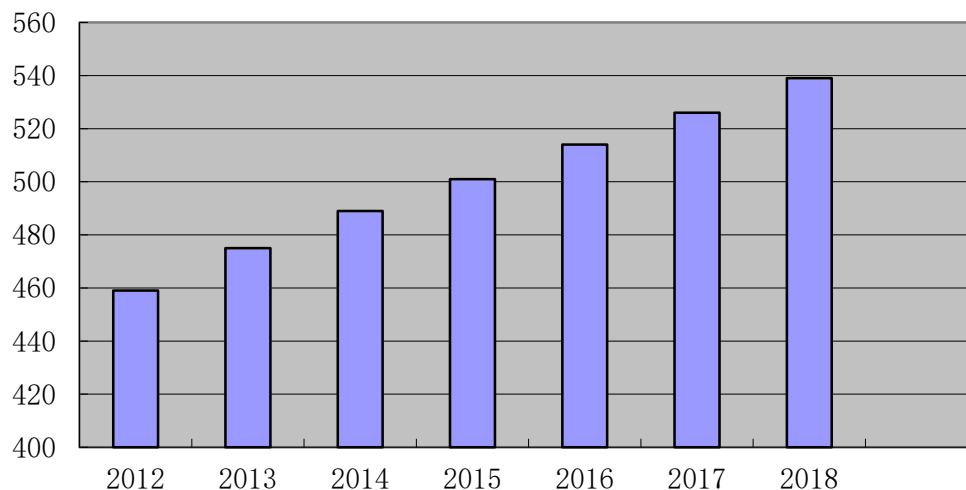


Figure 1 Global Market Size and Growth Rate of ERP Software during 2012 - 2018 (Unit: Billion USD, %)

Data Source: Summarized by Research Institute of Perspective Industry of Forrester

According to Figure 1, market size of ERP software will keep relatively rapid growth rate, and it will cover all walks of life like enterprise, government body, and medical institution. Meanwhile, such growth will drive the demand on IT technical personnel. Research Institute of Perspective Industry forecasts that global market size of ERP software will continue to develop rapidly in the future five years, that its market size will reach 63.8 billion US Dollar in 2024.

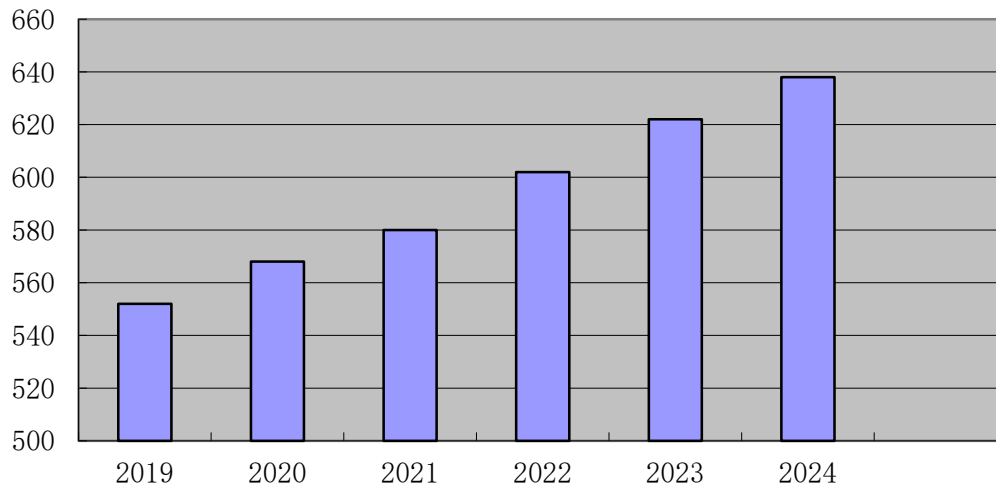


Figure 2 Forecast on Global Market Size and Growth Rate of ERP Software during 2019 - 2024 (Unit: Billion USD)

Data Source: Summarized by Research Institute of Perspective Industry of Forrester

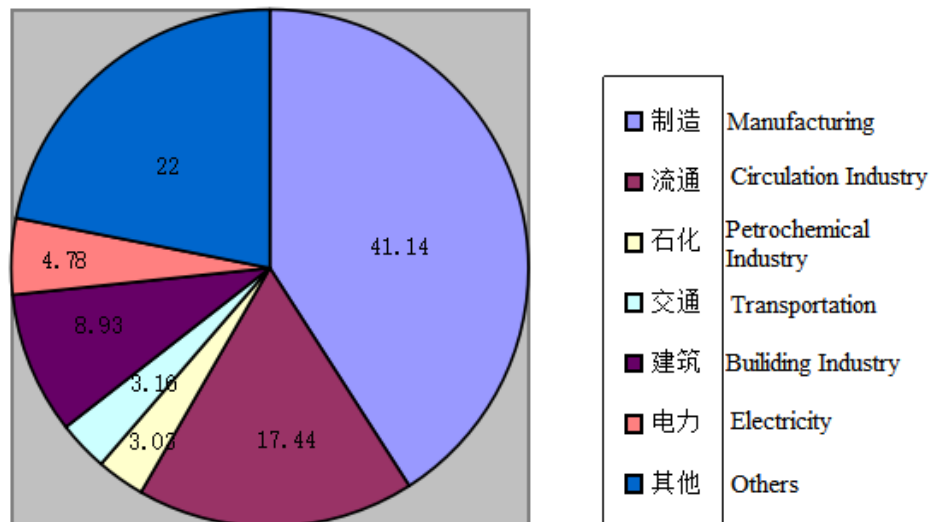


Figure 3. Parallel Market Structure of ERP Software in China in 2017 (Unit: %)

Data Resource: Summarized by Huajing Industry Research Institute

Figure 3 indicates that in China, ERP is mainly employed by manufacturing and circulation industry, that its proportion reaches 41.14% in manufacturing industry and it is 17.44% in circulation industry. Comparing data on Figure 3 with the one in Figure 1 and Figure 2, it could be found that application of ERP is not wide in China, that it is mainly used in manufacturing industry. But for other countries, ERP has been applied to all walks of life. Especially in the era of economic globalization and rapid development of internet, ERP is widely employed by internet industry. In China, functions of ERP fail to play their roles. This because China's enterprises are not familiar with ERP and its market; they do not well use ERP to do related management. ERP is a kind of information management system for enterprises in manufacturing industry. However, ERP is also a kind of management software takes management accounting as the core and is able to integrate real-time information from different departments or companies in different areas. It is worth comprehensively applying ERP to develop enterprises.

2.3 Lack of Professional ERP Management Personnel and Operating Capability.

Management level is the important factor to ensure the efficient implementation of project. Most enterprises encounter problems such that project schedule is delayed, capital operation has problems when they use ERP. All of these problems are the results of bad management level. Meanwhile, enterprises fail to do related research, analysis and accurate overall planning as well as fail to do comprehensive assessment on the value and problems ERP system may bring to enterprises before implementing ERP. This may result that ERP may not be implemented regularly and implementation of projects may deviate from related plans. This will finally affect the implementation quality of the whole project.

Furthermore, many enterprises pay less attention to cultivate professionals, that they don't provide advantageous compensation and social benefits for professionals. To some extent, this exacerbates brain drain, and is bad for enterprises' talent cultivation plan. Professionals are the key for enterprises to realize management informatization, therefore it is vital to cultivate professionals. During the production, ERP system will be integrated with enterprise's operation and management. To maintain efficient operation, personnel who master both information technology and knowledge of operation and management are needed.

3. Countermeasures for Enterprises to Realize Management Informatization with ERP

3.1 Management Layer Should Pay more Attention to Enterprise Management Informatization with ERP and Formulated Detailed Strategic Planning.

Support and attention from management layer to the project is the primary condition for its smooth implementation. For enterprises, the demand to implement ERP should be in keeping with targets of informatization. Enterprises should analyze the importance of ERP from the perspective of their development strategies, then do related market research, data analysis and feasibility analysis of the future development of ERP. Project will develop further only when the pre-market research is well done. Investment is the precondition for enterprise development. However, many enterprises pay less attention to their constructive investment, but only focus on investment in production and operation. This mode is wrong. Whether enterprise's production and operation are correct highly depend on whether enterprise makes correct management decision or whether they have advantages on market competition. Therefore, enterprises should attach importance to the influence of ERP on enterprise management informatization, and increase their investment in it.

To develop further, enterprises should formulate a series of plans and set up targets, which will help enterprises to develop various projects and businesses smoothly. To implement ERP project, enterprises also need to draw up detailed plans. 1) Before implementing ERP project, enterprises should analyze their actual demands based on their own development status to learn the core direction. It is also necessary to evaluate enterprises' internal economic strength. 2) Schedule of project planning should be reasonable and flexible, that it could be adjusted as the actual situation changes during its implementation process. Schedule should keep the status of dynamic regulation to satisfy with enterprises' dynamic demand on their management informatization. 3) Implementation of project requires comprehensive and detailed planning, which covers targets, schedule, plans and supervision. Project planning is the beginning of the implementation of ERP. And development strategies should contain both overall direction and detailed planning such that resource planning of enterprises should take internal and external environment factors into consideration.

3.2 Make Employees be Familiar with ERP; Improve Their Proficiency.

Innovation plays a vital role in enterprises' development, that enterprises who employ innovative management develop better. The emergence and development of internet affect enterprises' management modes and human resource management greatly. This requires enterprises to establish and perfect their ERP system to realize scientific management and allocation on human resource. At first, develop related training on the basic theories and actual application of ERP. ERP is reached

after long historical development and evolution. Basic theories of ERP will help employees to understand ERP well. Train employees with actual operation. Interpret points which are easy to go wrong to employees and offer opportunities for them to operate the ERP. Furthermore, training teachers will play key role in helping employee master ERP. And these teachers could be employees of the enterprise or technicians or expert from ERP software company. It could be decided based on the actual situation. Secondly, human resource department should examine from time to time. Examining how good employees have mastered the contents of training and related application will urge employees to learn related knowledge further as well as help employees use what they have learned on actual operation; this will improve their work efficiency and quality accordingly. Finally, do knowledge comparison and performance appraisal among employees. The effect of training is that employees' work efficiency will be improved; and employees' work could be reflected through performance appraisal by checking whether they are familiar with the business flow or act excellently in job. Introduce competitive mechanism, enhance employees' consciousness of risk and spirit of competition, and mobilize employees' enthusiasm.

3.3 Manage Human Resource Effectively; Get Ready for Talent Demand.

Talents are the best resources for enterprises. Enterprises could not survive and develop without talents. Therefore, it is vital to cultivate talents. And enterprises should not only perfect training system, but should update training contents to make them keep pace with the times. Meanwhile, enterprises should mobilize employees' enthusiasm to attend training as well as cultivate excellent person to realize reserve of talents. First of all, set up diversified talent cultivation plan. Plan is a kind of instrument developed to set objectives, steps and solutions for the task which should be completed within a period. In short, it is to arrange something in advance. Talent cultivation should also be planned in advance, that detailed plans, including long-term, medium-term and short-term plans should be formulated in advance. Long-term plan should be developed from the perspectives of enterprises' overall planning and long-term targets, to combine talent cultivation with enterprises' overall targets. Only plan which conforms to enterprises' development planning could be reliable and efficient and will economize on manpower and financial resources. For medium-term and short-term plans, they should be set up based on the actual situations of each department; and its contents should include detailed links of implementation to ensure smooth implementation of each department's plans. In brief, plans should cover both the entirety and locality, then carry out orderly and step by step. Secondly, provide platform for employees to pursue advanced studies and development. Knowledge is infinite; and learning is the process which is filled with difficulties and lasts long. No matter to learn ERP system or enterprise management informatization, learning basic contents are the beginning. However, some employees may want to study further, and they hope they have the opportunities to study further or create opportunities to study. What they want are not only the contents which could meet with the demands on job, but something beyond the job. And it could be material as well as spirit. To satisfy with these employees' demands, enterprises should offer opportunities for them to learn overseas. This is because ERP develops early in other countries, and their techniques and equipment are relatively advanced, which will make employees learn and experience the effect of using ERP system to realize enterprise management informatization. Then what they have learned will contribute to enterprises' technology development in future. Finally, improve employees' social benefits. Enterprises' management is ultimately the management on human. Enterprises should not only manage employees' job, but also manage their living needs. To be specific, "five social insurance and one housing fund" or even "six social insurance and one housing fund" are the basic social benefits regulated by the nation. In addition to these benefits, enterprises could develop other welfare for their employees based on their own conditions. And these welfare could be invisible, spiritual or material. Awarding employees who perform excellently during study and working will not only manage employees but will also employ competitive mechanism invisibly to encourage employees to attach importance to master contents of learning and job.

3.4 Formulate and Perfect Follow-Up Measures to Ensure the Implementation of ERP.

Establishment of ERP system will help enterprises to realize efficient operation and will provide information management platform for enterprises to realize systematized forecast, control and operation performance assessment. Many links have to be done to establish and perfect ERP system. Once ERP system is set up, operation test should be done to ensure that the system is reliable and practical. Test is done to check expected goals as well as check problems which may be encountered during the actual operation, which will greatly avoid influences of problems on actual work. It is fact that both system and equipment could wear down during long-term operation. Therefore, enterprises should maintain ERP system which contains both software system and hardware at fixed periods to ensure the normal operation of system and to predicate further job in advance.[16] In a word, related detection and maintenance measures should be done when ERP is used to ensure normal operation and avoid unnecessary cost for enterprises.

In conclusion, information collection and integration of ERP could help enterprises to do prospective analysis and forecast. Information analysis is the key to use information. Information sharing is the important bridge for enterprises to develop. To make operating decision, enterprises should not only collect information, but also share information in real time. And ERP will link various departments together, realize real-time information sharing, and fully learn problems and development status of each department, which will help enterprises to make comprehensive and efficient decisions.

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