

## **Implementation of Enterprise Resource Planning (ERP) Software in Medium and Large Companies: Case Study of a Private Company in Erbil**

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**Abstract:** The aim of writing this paper is to analyze how ERP system directly and effectively implemented into organization. The researchers discussed the way how ERP software implemented to the medium and large sized organizations. ERP software puts together and integrates various parts of organization to take high quality, efficiency and performance. High level of using data and information with computer based system is one of the keys to success for any organization. Another point of view in this research is that researchers focused the high risk of this software implementation to the medium organization. The ERP implementation process is a difficult and complex system because it directly affects the framework of organization. During this research, researchers interviewed with Chairman of Malatya Pazari Merchandise Company in Erbil and got his opinion and ideas about the requirements of ERP system to Malatya Pazari Merchandise Company. Qualitative study was conducted by the researchers by using personal interview technique. This research may help individuals, vendors and organizations which they want to use ERP software in their organizations. ERP software implementation leads to better strategic planning. ERP system ensures certain methodology and systematic way for organization.

**Keywords:** Enterprise Resource Planning (ERP) Software, Implementation, Systems, Erbil

### **1. Introduction**

In the globalized business environment, organizations need to improve, develop and become competitive in different markets. Organizations should research and find out better solutions to carry on their businesses since 1960s as many computers based business solutions were being used. Computerization brought significant benefits to the organization to achieve in their goals.

Organizations must adapt changes to survive by taking radical steps and decisions. Organizations under the name of institutionalization have to generate new ideas and perform long term strategic plan for the future, and using limited resources more efficiently and effectively. Today's competitive environment, firms aim to become preferred company to its clients where firms have led to development, but it depends on many factors such as quality, price, delivery time, customer relationships. ERP system provides superiority to companies in

term of these factors. ERP systems are more powerful, intellectual and complex software system where they play an important role in organization as well as organizations' life cycle. ERP provides effectiveness to organization. They combine and pick up each departments functionality and activities like production, service, communication, sales, logistic, IT etc. ERP systems lead the best way that can help companies to become more competitive, improved and sophisticated.

ERP is the package which includes different kinds of modules for each profit and nonprofit organization such as hospitals, restaurants, hotels and other institutions. The purpose of ERP and their modules provide many alternatives and choices for customers to efficiently and effectively use their resource to achieve goals, influentially challenge and compete with other competitive firms. Many small, medium and multinational corporations use ERP software to collect more information and use their knowledge more efficiently and actively. Corporations become more valuable in front of vendors and customers by using ERP software system.

Our aim in this study is to show how ERP system affects organizations' performance. In this research we analyzed and evaluated the structure of organization before and after ERP implementation period, advantages and disadvantages that ERP brings to organization. The last part of the study is the case study for Malatya Pazari Company. The case study is covered how ERP system implement to the organization in the beginning of period till the final stage of the implementation process.

## **2. Literature Review**

Advantages of ERP system made SMEs to adopt and provide better services to existing customers as well as future customers. According to Ngai, et al., 2008, Rabah, 2012, Business Process Reengineering, cooperation and the perception of top management, entanglement of users, knowledge and training of employees, efficacious project management and cooperation from the vendors play key role in implementing ERP systems. Cloud computing in integration of ERP is difficult to SMEs as this involves huge cost. Usage of clouds for activities in computation can be a revolution in Information Technology which happened after invention of e-Commerce and Web as per McKinsey.

ERP implementation avoids difficulty in coordinating with other departments within the organization as it integrates all departments without having separate software for their requirements which results in splitting of information and impossible to get correct information in a timely manner. ERP integrates all departments in an organization with centralized database which gives access to the users as per the request and authority on information. The market of ERP would the biggest, rapid growing, prominent in industry of applications as per one of the famous market analyst firm AMR.

As per Raymond et al., (2001), technology adoption is challenging to SMEs. ERP implementation Cost is more to SMEs than big organizations and they cannot afford rigorous training. The difference between big companies and SMEs should be defined transparently to get positive results of ERP systems according Huin, S. F. (2004). It is the responsibility of vendors to create customized products and organizations are also able to identify their need which can solve confusion between them. According to (Saumyendu Ghosh, 2002), the advantages of implementing ERP are different from one function to other.

The study conducted by Upadhyay and Dan identifies the factors of implementing ERP successfully are clear goals and objectives of implementation, sufficient training to users, efficient team of project implementation, accepting the change, sufficient support from vendors and involvement of outside consultants. According to Gable et al, 1998, less expensive hardware like cables, switches and servers, database in software have decreased. According this, SMEs may benefit with this trend due to heavy competition among vendors of ERP and their insight to cater the needs of SMEs.

### **3. Research Methodology**

In this work, researchers used qualitative research method. The goal of this research is to demonstrate financial position of a company (Malatya Pazari) before and after ERP implementation process. The qualitative research determines to the explanation part and study. In the explanation part, we studied on ERP implementation process and steps. In the second part of research, we focused on Malatya Pazari Company's position while implementing ERP system and integration of existing system with ERP software.

### **4. ERP Implementation Process**

The implementation process is started after installation of ERP system. The implementation process comprise from the beginning of choosing proper hardware, planning, integrating, training until the system is in use. The implementation of ERP is the most difficult and complicated portion for organization. ERP implementation takes time to install and apply to the project (Chau, Davison, Scarbrough and Wong 2005). Many projects during the implementation of ERP package has collapsed because of lack of basic strategic planning, inadequate expression from vendors to customers, selecting wrong ERP package and system software. The slump rates of ERP change from 35% to 65% percent. (Parthasarthy 2007,35). In addition ERP implementation can be very difficult, complexity, costly and time consuming for special large corporation, if they cannot take professional support from ERP suppliers or technicians. For organizations purchasing ERP system is not meaning key to success or perceived. A good implementation plan is the key to success for organization.

ERP implementation steps include:

1. Examine and analyze all organization skeleton and system. Make sure the system skeleton has been successfully completed and ensure all conditions to implementation success are in place.
2. Chose and install proper hardware for system. Before trying to setup software, its necessary to confident that the safety and reliability of the hardware.
3. Technical support service must install software and make sure that the software run and installed correctly, then tested a few times.
4. Technical support team must teach and train users about the software and transactions needed to run the system.
5. Identify and create safety, orders and significant permission to the users, and make sure that the system efficiently and effectively used by users.
6. Make sure that all data and information are powerfully and righteously used.

## **5. Advantages of ERP Implementation**

The benefits of the ERP software system have been abutment according to the area of finance, accounting and management information. ERP software provides integration between each department in any organization, ERP increase coordination between various departments. An ERP system improves fertility, efficiency and productivity of accounting, financial, managerial and statistical reports in corporation. It provides easy and new technique for creating reports with better righteous data. ERP systems help institution to get rid of manual accounting systems because manual accounting system reduces time efficiency and make more mistakes. Computer based system (ERP) reduce cost and make organization more attractive for customers. ERP systems help us to use data and information more efficiently and effectively because customers usually want to know what and when they have stocked products and how long it will take to arrive. ERP software is important for organization in their daily business activities. “Operational benefits are gained by automating business processes and enabling process changes, they can offer benefits in term of cost reduction, cycle term reduction, productivity improvement, quality improvement and improvement customer service (Kurtulus, 2007).

In figure 1 it shows that, how ERP system effect on companies performance before, during and after implementation process. In the figure 1 the performance of companies are going to reduce during the implementation process because the structure of company all changed, before ERP the structure of company was centralized. Also the adaptation procedure creates problem for employees of organization. After implementation & during training process the performance of organization rapidly become more efficient than before ERP implementation because decision makers make better controlling, planning and forecasting. After implementation process all information on database is become accurate and reliable.

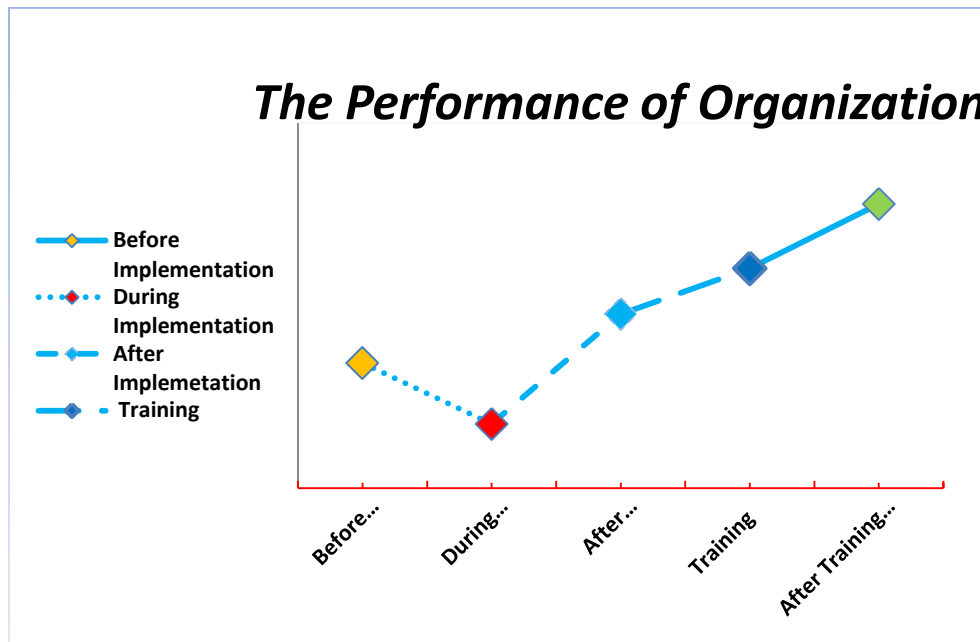


Figure 1: The Performance of an organization before and after ERP implementation.  
Parthasarathy, S. 2007, p.42

## 6. Disadvantages of ERP implementation

Although ERP system offers many significant advantages, there are a number of disadvantages as well. One of the main disadvantages of ERP is the cost. Therefore only large and multinational corporations can take benefits of this technology. Many small and medium sized companies they cannot benefit from this technology. Many large companies challenge other companies when they implement ERP system correctly. Another disadvantage of ERP is that after establishing software the employee of organization inefficient and ineffectively use this technology because companies have trying to save money by reducing the cost of training. The success of this technology depends on how the employees adapt and realize it. The implementation of ERP software to the organization may take several month and required huge amount of money for implementation. Apart from those disadvantages another main problem is that many large and small companies they cannot successfully implement ERP system because of its so complexities and expensive. Because ERP implementation process covers large outgoing for the getting of the software, implementation, training, maintaining and consulting costs (Davenport, 2000; Mckie, 1998). Another point is that during the adaptation process the structure of organization moves to the new system environment, workers of organization need to change working style according to the new system; apart from this it affects employee relationship and sharing information among departments and taking extra responsibilities (Appleton, 1999).

## **7. ERP Implementation at (MALATYA PAZARI) Company and Interview with Chairman:**

(Malatya Pazari) is a merchandise and distribution company established in Erbil (2012). Approximately it has 30 employees. The company staffs scope the chairman, financial manager, production managers, book keeper and business managers. They do not have enough knowledge about ERP software. The relationship between the company's staff has built on trust and faith and fully authorized by chairman. The company accepted standard module which generally suitable for small and medium sized companies used such as stock, sales, financial and accounting statement and production.

### **1. What type of ERP modules was chosen?**

As we are a merchandise company, the ERP package contains all modules for merchandise business. Inventory management, purchase, sales and distribution, finance and general ledger modules are being used effectively at the moment. As most of our customers are not using computers, we are not using the order module in sales and distribution module although we have implemented.

### **2. How long does it take to implement the ERP to entity?**

Actually, the implementation of ERP is directly related with the volume of the entity, and business field. Because before the implementation there are some steps of determination like the structure of the organization, usage levels and areas of Information Technologies which is being used and which will be used after implementation will be important and these steps will make the implementation period take a bit much. Generally for a medium size company, implementation process takes between 3 – 6 weeks to finish completely.

### **3. How long does it take your employee in adapting to this system?**

After implementation process, the training period begins. Sometimes during the implementation period, help is taken from the accounting department of entity to train them and reduce the implementation period. Time period of adaptation of employee is related to how they were close to the former/traditional system. It may take much time to force people to leave habits and start working with new procedures after using traditional system for several years. Small and medium size companies' employees take around 8 weeks for adaptation of new process.

### **4. How did ERP system affect your organization structure?**

Organization structure must be separated into before ERP and after ERP period. Because with trial of implementation of ERP, Accounting Information System was also developed, and today for most of the organizations which are using ERP and information technologies, accounting department is working like data process department of entity. With the implementation of ERP,

structure of organization will change completely. Before implementation of ERP, structure was centralized and information technologies were being used less but after implementation structure became decentralized and information technologies became more used.

**5. What are your weaknesses with previous system?**

Previous system was based on trust. It was all manual and we did not have much chance than trusting the employees. Because any transaction forgotten to be recorded on system was impossible for us to be determined, because the system was not double entry system, and such mistakes were impossible to determine. But ERP brought the double entry system to entity and any mistake at recording of transactions could be found, determined easily because of this entry system.

**6. What are your strengths with new system?**

We make better controlling, planning and forecasting. Today, after ERP implementation, we are closing daily transactions every day. And because of that all information on database is accurate and reliable. This is giving us more chance at effective controlling. And when we are sure about the results of controlled amounts, planning and forecasting became easier for us. This is the strengths of the new system.

**7. What were the benefits of ERP system that bring to your organization?**

First of all, the ERP brought automation, an updated organization structure with decentralization, access to the information / data is more easy and accurate. Preparation of financial statements and reports takes much less time than manual accounting.

**8. Did the ERP system satisfy your organization requirements?**

Because of some technical difficulties in Erbil, still we cannot use 100% of ERP structure. But if we compare before and after, of course ERP is satisfying us.

**9. What kind of disadvantages and risk that ERP system brings to your organization?**

ERP means keeping all information and data in digital world. Today if you don't invest in digital world, it means your data and information is not secure. ERP brought additional investment costs to information technologies at our entity although we are a small sized company. Risk is; as we are small sized company, we have a limited budget and we cannot afford the amount required by the ERP consultant to keep our data all secure and this is making our data a bit insecure. I can say that that is the only disadvantage of ERP implementation for our entity at the moment. But it is not much important when we compare with the advantage of the ERP and we have some precautions for these issues like backup of database for every 10 minutes

**10. What kinds of problems were faced before the implementation of ERP software to your organization?**

Before ERP implementation, it was taking much time for us to prepare the financial reports. As this entity is Partnership Company, we had to prepare some financial reports to discuss about the financial status of the company for decision making. And we were not sure about how the information of reports was accurate and reliable. But after implementation of ERP it is taking less time to prepare the financial reports and we know that the information of the reports are accurate and reliable, because during the accounting period all information which is being recorded on database is being check at least twice by different departments, employees of the entity.

**11. What kinds of problems were faced during the implementation ERP software to your organization?**

We decided to implement the ERP after starting our business. Actually this was a mistake, because till the implementation period around 2 fiscal years were passed and accounting department of entity was out of control for the amounts of accounts. Before implementation, one by one, we had to control the ending balances of accounts on chart of accounts to be sure that they were accurate and reliable, than for beginning balances of inventory cost was restructured and all these were done while the entity was continuing its business transactions. This was the most important problem for us during the implementation of ERP.

**12. What kinds of problems were faced after the implementation ERP software to your organization?**

Traditions, actually this is the highest handicap in business life. Even you believe that the system you finished to implement is the most effective for your business, your employees will not think like that and it will take much time for them to leave their traditions. And this period decreases the effectiveness of the ERP and new implemented system. Our aim was previously to reduce this time period.

**13. Did you believe that training program provided adequate information to your employee during ERP implementation?**

Yes, after the training program all employees started to work on ERP without any problem freely.

**14. How would describe your company's financial position before and after ERP implementation?**

Financial position before and after ERP is directly related with data processing. Before the ERP implementation, all records were kept manually and there was no integration between the departments of the entity, and that was causing duplicate entries, and loss of control at financial



structure of the entity. But after implementation of ERP, accessing the information came easier and the information/data became more accurate and reliable. This made the financial status of entity more accurate now. We know the information about the inventory, cost of inventory, cost of the goods sold and balances of accounts, amounts of receivables and payables are reliable, and reliability of these amounts are what an investors want to have.

**15. What are the differences between current position and new position of your company?**

We can focus on the financial status of entity more after implementation of ERP than before. With this implementation, we have more information on inventory control, receivables control and cost of inventory. All these controls give us to have more chance on the competitive business field, and this took us to upside from our current financial position.

**16. Why do you want to use ERP software?**

Generally ERP is being used at most of the entities in Turkey, and when we transferred our business to Kurdistan, we decided to continue with traditional system, but after the growth of business and other conditions of Kurdistan, forced us to implement ERP as soon as possible. And of course as I mentioned above we know that after ERP implementation, we are going to have more control on the process of information and data, and this will affect decision making and forecasting positively. These issues forced us to use ERP.

**8. Discussion and Conclusions**

In Iraq many individuals and entities are usually unconscious about ERP because of ERP projects are long term projects, the installation and implementation ERP software package take long time to get efficiency, also another reason is that the lack of communication and trust between customers and vendors and the cost of the ERP project.

In this Research, we discussed and demonstrated how ERP software integrated and implemented to the Malatya Pazari merchandise and distribution company. We can say that Malatya Pazari is medium sized merchandise company, so the duration of the installation and implementation of ERP software for medium sized companies a bit complex (Yin, 1994). We analyzed the previous condition of Malatya Pazari before and after installation and implementation of ERP system. Technical service team focused on the main problems which occurred in the previous system, and they identified and analyzed the company's financial condition, and they determined ERP modules which needed for Malatya Pazari. After analysis and selection of ERP package, we discussed about the significant implementation steps during ERP installation part. Finally we interviewed with chairman of Malatya Pazari, and he shared his ideas, requirements, and opinions about the company and employee condition before and after ERP implementation process.

According to chairman of the company, Company decided to install and implement ERP software to the system, during the implementation process, it came across significant problems such as lack of company's substructure, inadequate and ineffective company's hardware system, lack of knowledge about accurate and reliability of company's previous information, data and reports, incorrectly recorded balance sheet and chart of account in previous system. Before the new system, all records were kept manually and there was no integration between the departments of the company. After ERP implementation, some problems occurred such as the company employees did not adapt and adopt the new system quickly and take time during employee training, the deficiency of willingness and effectiveness of employee at the beginning of implementing new system.

After the hard and long implementation process, the company and their personnel adapt the new process and they take benefits of the ERP system, such as the new system gave them high quality of financial reports and effectively and efficiently use company's scarce resources. ERP system made company more attractive to customers and became more competitive against competitors.

In the last stage of implementation process, ERP system modified the company structure. Decision makers did not take financial reports righteously and on time with previous system, but after implementing the new system, the company's financial and managerial reports became more reliable and effective, established new roadmap for company and cost of production was reduced. The main point of the new system was reduction of frauds in the company. Finally in this study, we demonstrated how ERP software implemented and impact to the Malatya Pazari manufacturing and distribution company. In briefly we mentioned the financial and managerial framework before and after implementation ERP system to the Malatya Pazari.

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