Environmental and Cultural failure factors of the ERP

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Abstract

In this study we are going to exhibit the common reasons behind the ERP failure, the study will use scan methodology for some research papers and some case studies that talk about the ERP failure, and choosing the most important reasons existed. The factors used in this paper are in the Cultural and the environmental areas. ERP is an IT-related project, because of that most of people think that the failure of the ERP project will be mostly from the IT Factors, on the contrary the Environmental and the Cultural factors are the most critical factors that affect the failure or the success of the ERP project.

ERP Background

The evolution of ERP systems closely followed the spectacular developments in the field of computer hardware and software systems. During the 1960s most organizations designed, developed and implemented centralized computing systems, mostly automating their inventory control systems using inventory control packages (IC).

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Then Material requirements planning (MRP) systems were developed in the 1970s which involved mainly planning the product or parts requirements according to the master production schedule. Following this route new software systems called manufacturing resources planning (MRP II) were introduced in the 1980s with an emphasis on optimizing manufacturing processes by synchronizing the materials with production requirements. MRP II included areas such as shop floor and distribution management, project management, finance, human resource and engineering. ERP systems first appeared in the late 1980s and the beginning of the 1990s with the power of enterprise-wide inter-functional coordination and integration.

 Based on the technological foundations of MRP and MRP II, ERP systems integrate business processes including manufacturing, distribution, accounting, financial, human resource management, project management, inventory management, service and maintenance, and transportation, providing accessibility, visibility and consistency across the enterprise.

During the 1990s ERP vendors added more modules and functions as "add-ons" to the core modules giving birth to the "extended ERPs." These ERP extensions include advanced planning and scheduling (APS), e-business solutions such as customer relationship management (CRM) and supply chain management (SCM). Summarizes the historical events related with ERP.[4]

Introduction

ERP is viewed as strategic investment that can provide significant competitive advantage with positive return, there have been numerous cases of ERP failures. There have been also stories reporting on the significant benefits achieved from a successful ERP implementation. [3]

Although ERP systems can bring competitive advantage to the organization, the high failure rate is a major concern. It is said that about 70% of ERP implementations fail to deliver anticipated benefits. And three quarters of these projects are unsuccessful.

These project are on average 178% over budget, 2.5 times longer than intended and delivered only 30% of promised benefits.**[2]**
Despite the popularity of ERP, The failure rate of ERP implementation remains high. According to survey of 117 organizations conducted by conference Board, 40% of ERP projects failed to meet the Business case. The result is corroborated by another study done by information technology (IT) management consultancy Robbins-Gioia LLC, which found that 51% of companies across a wide range of industries stated that their ERP implementation were unsuccessful.[2] Therefor the study of the factors that behind this failure came up and expanded to shed the light on them through the ERP implementation process to avoid the failure expected.

What do we mean by ERP Failure

There is no unique definition for failure or success in ERP system implementation. Each author describes failure or success from different viewpoint, but it can be classified in two categories one focus on the project itself and the related issues like (cost-time) the second focus on the achieved outcomes and goals that satisfy the stakeholders. [2] and We can also divide the ERP failure into two levels of failure the first one is complete failure in which the ERP canceled before its implementation process finished due to the first category which is related to the cost or the time-consuming issues or it may be obsoleted after the implementation immediately due to its failure functionality with its outcomes. the other level is partial failure into which the ERP is implemented and work but has partial problems related to the two categories mentioned before.

Dependable case studies for determining the failure factors

According to a study done by [1] this study examine five cases of ERP Implementation failure of five Chinese companies CosmeticCo, PharmaCo, ElectricCo, FurnitureCo and StoneCo.

The selection of these five companies was based on three criteria. First, they have to be Chinese Companies that implemented foreign ERP system. Second, they have experienced unconquered problems during their ERP implementation. Third, they are in different regions of China. [1].
We will examine the cultural failure factors and explain it.

Environmental issues perspective

We mean by the environmental factors the factors that related to the hierarchy structure, management, procedures, policies, communication issues and geographic advantages and disadvantages. That can affect the ERP implementation process.

Cultural issues perspective

When we talk about the cultural issues in the ERP implementation we must put in our mind the cultural differences between the organization who will apply the ERP and the service provider or the system provider (vendor). So many problems faced ERP Implementation especially when the vendor has different cultural background of the organization.
Companies in the developing countries look for the foreign vendors especially from the developed countries because they are looking for the best practices that exist in there ERP solution while the local vendors have some considerations about their ability to provide ERP solutions with the best practices that exist worldwide.
On the other hand the local vendors are mostly well-known with the cultural problems that may face the ERP system implementation in the country.
In this part we will provide the most common cultural problems related to the ERP implementation with Real data from case studies done before.

Project Management issues

One of the most important factors that determine whether the ERP project will achieve success or not is the right project management.

A project manager with knowledge, experience, discipline and communication skills is critical factor to achieve the ERP Implementation success. Changing the project manager during the implementation process may cause troubles which eventually may cause the ERP failure if they were not solved correctly and properly.

According to StoneCo failure case study, StoneCo's project Manager changed twice during the ERP implementation process. The original project manager left for a software company that was a vendor to StoneCo. The second manager lacked necessary capability to handle the project.

In recent survey conducted by Umble and Michael[6].three principal reasons for the failure of all IT-related projects were identified by IT managers : (1) poor planning or poor management (77%),(2) Change in business goals during the project(75%) , (3) lack of business management support(73%).[5]

Clarifying the detailed requirements from the beginning

The analysis process in the beginning should take its time to exhibit all the detailed requirements. Because the right well-known requirements will make it easy to select the system provider and the service provider and before that the system itself. Also it will give you strong position within the implementation process to ask the vendor for the requirements, the cultural requirements should be taken in account.

According to StoneCo case study, StoneCo is a member of a large group company which specializes in stone exporting, mining process, engineering, and stone supply and sales. As the company grew, StoneCo decided to implement an ERP system as a solution. StoneCo selected Intentia AB as system provider and chose Legend Advanced system LAS as service provider.

StoneCo discovered that the purchasing and finance modules in the **MOVEX ERP system** did not support Letter-of-credit (L/C) payments. For an export-oriented company like StoneCo, **L/C** payments are indispensable.

The finance and accounting report format that MOVEX generated was also different from Chinese government's requirement which is a cultural issues that must be recognized before.

Service provider's abilities

When the organization start selection process for its future ERP system it should make sure that the service provider has a complete knowledge about the system. Here we have to clarify that not all service providers are familiar with the system provider's products. [1]

According to CosmeticCo failure case study, the service provider LAS, was not familiar with the **MOVEX** software and did not follow the standard implementation procedures as software supplier required.[1]

One of the effective methods of making sure about the service provider's ability is to contact the system provider for giving advices and opinions about service provider's abilities.

Also the organization should know and be sure if the service provider is familiar with the system provider's product or not by investigating the historical information about the service provider.

Language

When organization stakeholders decide to select an ERP vendor they focus on the abilities of the system and they sometimes condones the importance of the language differences. While this point is the first issue that determine if the ERP system will work successfully or not. Because the employees need to know how the system work very well and the language should not be obstacle. So there are two ways to solve this problem, either translates the system to the employee's language or to educate the employees.

According to CosmeticCo case study, the ERP software package **MOVEX** was not totally translated into Chinese. The English words in the user interface confused employees. So this was one of the important factors that contributed in the failure. [1]

According to StoneCo case study, a lot of English words appeared on the **MOVEX** user interface, and the software's user help was in English. The reports generated by **MOVEX** always had some poorly translated words that made no sense to employees.

The software format

Most of the times the ERP software comes as a Package, so the format of this software was formed before the customer asked about it, while there are cultural differences between vendors and the customer then different format issues will come up.

We mean by the "format" for example the financial tables, reports generated, standards of data representation.

That must be compatible with the standards of the customer cultural.

According to CosmeticCo failure case study, the formats of the financial tables and reports generated by **MOVEX** were different from what the Chinese government required and incompatible with the Chinese finance standards. Moreover, the numbers and signals in the finance reports were overlapped and became unrecognizable. As a result, **MOVEX** generated manufacturing and purchasing reports at lower speed than the previous manual methods. [1]

Keeping up with the changeable environment

This factor mostly deals with organization that needs to keep up information about the finance, weather changings.

According to FurnitureCo failure case Study, the FurnitureCo is one of the largest office furniture in China. The company decided to implement **ERP** system in 1997.

The company selected **SAP R/3** system. FurnitureCo had more than 10,000 products whose costs needed to be managed by cost control module of **R/3** system. The cost of the products had to be calculated frequently because the prices of raw materials changed daily.

However, the **R/3** System they implemented could only calculate the costs by using quota planned a priori, while the actual purchasing changes due to the market price fluctuation could not be gathered into the system.

Problems associated with the cost-control modules caused a lot of headaches for FurnitureCo. In 1999 FurnitureCo decided to switch to a local **ERP** system with "King Dee's **K/3**" system. " Yu Min, The chairman of the board of FurnitureCo said, "SAP **R/3** is terrific. It is like a Ferrari sports car which runs great on highway But, it cannot run fast on china's bumpy road. Besides, you cannot find a Ferrari auto shop when it has a problem. Would be better to buy a made-in-China economy car." In November 2000, a **K/3** system totally replaced the **R/3** system in FurnitureCo. The **K/3** system was well accepted by managers and employees. [1]

Well-preparation for the BPR

The preparation for the **ERP** implementation is critical and most **ERP** implementation failures come from this side. The preparation must be on the both sides from the service provider and from the organization itself. Organization adopting Enterprise Resource Planning are also adopting standard ERP-vendor-specific process model for engineering their requirement. [7]

Thus the organization should be prepared for the **BPR** (business-process-reengineering) process that involved in the **ERP** implementation.

According to PharmaCo study, the company was not well prepared for implementing **ERP**. The company's managers did not fully understand that implementing **ERP** involved **BPR.** The service provider Riamb Software Tech. had never implemented the Oracle product "Oracle was the system provider for the project". As a result, they had purchase some service consulting from Oracle. Then they selected a new ERP consulting Company, HAND, a Chinese **ERP** service provider and Oracle's close business partner. [1]

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Radical Organizational Change

Some organizations make radical organizational Change in the organization scale for some reasons including Market competition, so if the organization has the intention to make this change in the future, it should put in mind that this change may cause failure to its ERP even though its existed ERP is working successfully.

According to ElectricCo case study, in early 1998 the company chose the symix an American ERP provider as ERP provider for its ERP project. The intended customers of symix are American middle-sized companies, and ElectricCo scale is similar to American middle-sized companies. In August 1998, ElectricCo changed from a state-owned Enterprise structure into subsidiary company structure to adapt the changing market. The new ERP system could not respond to this tremendous organizational change. Until July 1998, the ERP implementation went smoothly, including the data collection, **BPR**, and logistics organizing. However, the radical change in the company in August 1998 left the ERP almost useless.

The symix ERP system was not flexible enough to adapt the sudden organizational change. Finally, an agreement was achieved between ElectricCo and symix, and the ERP project was ended. [1]

Conclusion

According to the factors we have seen the Cultural and the environmental issues are the most important that should be taken in account also the preparation and well-identified requirements are important also .while the technical issues can be solved easily the cultural and the environmental can be critical failure factors.

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