# 5. Conclusions and Recommendations

## *5.1 Conclusions*

### 5.1.1 Nature of the Organizations and Type of ERP solution

Both public sector and private sector organizations have been analysed in this study. Some of these are extremely large in size and few of the medium scale organizations also have been analysed. Usually large scale ERP suppliers target large and medium scale organizations only. Majority of the studied organizations have implemented SAP. This goes in line with the fact that SAP leads the world ERP market with a greater distance. Most of the large scale organizations in the world use SAP applications.

It was not possible to find any sort of correlation between the nature of the organization or type of application with the success or failure of the project. SAP has been successfully implemented in some of the large scale multi national organizations while it had not given expected benefits in other similar large scale organizations. However the amount of process reengineering done has some relationship with the application implemented. This is discussed in detail in next chapters.



### 5.1.2 Objective behind move to ERP

It is interesting to find out why companies implement ERP. For studied cases there were number of reasons like need for a common IT platform, need for cross functional integration and need for standardizing business processes. In almost all the ERP implementations studied, one common objective is cross functional integration. This is common for both public and private sector. Cross functional integration essentially makes some degree of process improvements. However in certain cases need for standardizing and improving business processes have been identified as a separate and core project objective. Analysis suggests that these situations where BPR is considered a main objective have provided a better vision for the process improvements compared to situations where process improvements have been carried

out just to support ERP implementation and this has allowed carrying out process improvements in a more organized way.

Improved business processes have allowed organizations to gain competitive advantage in the market through improved performance and quality. Therefore this could bee regarded as a strategic business tool. This could be the ultimate objective of any commercial organization through the huge investment on an ERP system.

### 5.1.3 Implementation Methodology and Extent of BPR

Different methodologies that have been followed for ERP implementations include:

- First do BPR based on company's desires, then implement an ERP to meet these practices;
- Implement BPR to meet industry best practices (as much as possible) defined by ERP and with this implement ERP;
- Customize ERP to meet existing company practices.

Among the analyzed cases all these different methodologies could be identified.



In some cases the internal organizational structures and processes are extremely complex making in very difficult to introduce a standard application. Organizations such as universities and public sector governing bodies such as municipal councils belong to this category. In these situations doing BPR based on company's own analysis and implementing a customized solution has proven to be more successful. In most of the other situations doing BPR to meet industry best practices has provided better results. Customizing a standard ERP solution has not provided good results in many situations.

### 5.1.4 Success or failure of BPR and customizations

None of the studied organizations has achieved successful results without substantial process improvements. Doing process improvements to meet industry best practices defined by ERP system hasn't been really essential in achieving the success. However some process improvements to move with newly implemented technology has been

essential for the success. Old way of doing things hasn't been really given results with a new system equipped with technology.

If a company goes for a large scale ERP implementation it is always safe as well as advantageous to move with industry best practices. It has been extremely difficult to successfully implement a large ERP solution unless substantial amount of business practices were not improved inline with ERP supported industry best practices. At the same time some cases suggest that just adopting this methodology won't guarantee the success. It has to be planned extremely carefully and change management need to be an embedded component of BPR. Industry best practices are the practices adopted by lot of organizations and gained successful results. Large ERP vendors study these practices and incorporate them to their solutions. Therefore these could be regarded as practices that have proven the success.

Those organizations who have attempted to keep their existing processes have tried to implement the system with customizations. However, generally customizing large ERP systems haven't given very good results. This is applicable for situation where there was BPR, but according to company needs as well as the situations where there is no considerable amount of BPR. For this approach of doing large scale customizations to a standard solution to be successful there has been a need for a huge additional investment for customizations and seems to give results only in extremely large cases. When the implementation is for a large group, defining the initial system together with the supplier with some customizations has certainly given benefits as this allows incorporating the company's expertise in the business also into the solution. Cost of this is manageable due to the application of the system in number of branches. However medium and small scale organizations cannot afford to do this. Based on the studied cases, smaller organizations would certainly benefit with an ERP specific BPR approach.



### 5.1.5 Have Organizations achieve major process improvements with ERP?

Analyzed cases suggest that most of the organizations have preferred to change their existing business processes to industry best practices provided by ERP. Some other organizations that didn't move with ERP practices have done BPR in their own way.

This implies that what ever the methodology is, most organizations have achieved substantial improvements in their processes through the ERP implementation project. Out of the successful cases almost all organizations have reengineered their business processes to meet industry best practices defined by ERP vendor or based on their own process study. Organizations who have opted not to do process improvements initially didn't manage to get the implementation successful. All the successful implementations thus have achieved major process improvements through the ERP.

### 5.1.6 Ability of organizations to withstand the change

Process changes have huge impact on organizations and those who can manage this effectively have gain the success. Some studied organizations have tried to directly bring in changes without a proper preparation and ended up in a total mess. Change management is vital in the process if incorporating process improvements into an organization. Process improvements have basically affect positively in well manage cases while poorly managed organizations have ended up in a complete chaos. To face the change the organizations need to have a clear vision with respect to the project and all the possible out comes should be analysed and plan appropriate actions accordingly. Those who followed these basic principles have ended up in gaining many advantages. An ERP implementation brings enormous amount of changes to working practices in an organization and the staff has to undergo huge amount of changes to their day to day work. Handling the staff correctly is probably the main challenge in most of the implementations.

## *5.2 Recommendations*

Based on the selected case analysis and ideas collected from ERP consultants, some recommendations for the industry could be deducted.

### 5.2.1 Decision to implement ERP

Studied organizations also had number of factors as their project objectives. When analyzing successes and failures of ERP implementation it can be seen that those who identified need for standardizing business processes or need for reengineering business processes have gained better results. This could be due to the fact that ERP systems usually demand substantial process improvements and those who intended for this change are likely to be well prepared for this huge change in the total business than others. Therefore it could be recommended that when taking the decision for implementing an ERP, study the organizational business practices and see if a change in business practices would result in improved performance and if the company is ready for it. The key is ERP implementation is not a S/W project, rather it is a process improvement project.



### 5.2.2 Selecting an ERP system

It is very much recommended to implement process reengineering with ERP, however if it is impossible due to a valid reason it is necessary to select a system that is flexible enough for customizations. It is further recommended to establish that the cost of customizations result in rewards that justifies the additional cost.

### 5.2.3 Implementation methodology

In the case of large standard solution like SAP or ORACLE, it is very much recommended to implement BPR to meet industry best practices defined by the particular system. This enables the company to revise their business processes to meet world class standards and also eliminate most of the technical complexities in implementation. However at the same time readiness of the organization for such a change should be assessed carefully. Making the organization ready to accept the change should be considered as a part of the effort of ERP implementation. .

### 5.2.4 Planning and implementing process improvements and change management

Without this step getting right it is very unlikely to get a successful ERP implementation. Mainly this include designing the correct processes with new system, gap analysis to identify essential deviations from standard practices, making people ready for the change, making other resources available for the new processes at the right time and recruiting required additional resources.

Process design and GAP analysis step needs to be performed by experts in company business processes with the involvement of ERP specialists. It is very much recommended to form cross functional teams comprising of key resources from all functions of business to take part in this stage. After the completion of this step it is recommended to analyze how these changes going to affect all employees and they need to be prepared for this change. New resource requirements, both human and physical need to be planned at this stage.

Change management is an absolutely vital step. It is strongly recommended to Create the correct mindset among people who are undergoing the changes at a very initial stage. The staff needs to be transformed in to a force that is ready to accept any new challenge and also think on behalf of the company at a positive attitude.



### 5.2.5 Towards a framework for successful ERP implementation

An attempt has been made here to come up with some guidelines using the lessons learned from analyzing successful and failed cases though it is impossible to come up with a globally adoptable feamework.

**Select the most appropriate ERP system**

A deep study of company's needs, current performance, expectations of different state holders and possible challenges should be carried out prior to selecting the supplier. It is recommended to get short listed candidates to map their solution to company needs and see if they are in a position to offer what company is looking for.

**Select the correct methodology on handling processes**

The industry best practices have been identified through extensive market researches and these practices have given good results in many countries. On the other hand old

business practices in many Sri Lankan organizations have proven to be ineffective. Ttherefore process reengineering is a recommendable step to be taken in an ERP implementation and moving towards industry best practices defined by ERP is further recommended if implementing a standard ERP solution.

**Prepare employees for the change**

Resistance from employees is common in ERP implementations. Therefore making people ready to face the change is highly recommended.

**Formation of the implementation team**

ERP implementation team should consist of key competences of all business functions of the organization. Further it should represent top management of the organization as well.

**Mapping the solution and Preparing business process blueprint**

This is something that should get absolutely right. It is strongly recommended to bring in knowledge of all representatives of different functional units as well as ERP consultants to this process.

**Implement process reengineering**



By the time this step starts all or at least vast majority of the employees should have understood the necessity of doing this. Integrity should have developed among employees and instead of the old functional views, all employees should think as a whole organization and see the business in a process based approach. Reengineering business processes should essentially be a collective effort of all levels of employees.

**Training employees**

It is not only the ERP users that need to be trained, it is essential to understand that non ERP users also going to experience changes in their job functions and they should also be trained.

**Testing the system**

With the involvement of the key users system should be thoroughly tested before going live. This should include different testing methods such as integration testing stress testing etc. in addition to basic functionality testing.

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# Appendix 1

***MBA Project - Framework for published case analysis and interviews***

1. **What were the objectives of the project?**

2. **How the preparation took place for process improvements?**
   a. Did a cross functional team formed to study current processes?
   b. Was there a company wide study to identify weaknesses in processes?
   c. Did necessary improvements identified (Independent of SAP processes)?

3. **Change management**
   a. What was the procedure followed to prepare employees for changes?
   b. In addition to functional training programs, what special training programs conducted for employees?



4. **Mapping solution**
   a. Were the existing business processes substantially different from the practices demanded by ERP supplier?
   b. Were the improvements suggested for processes improvements (if any) match with ERP supported processes?
   c. When deciding the final solution what was accepted as appropriate for processes
      i. ERP supported practices (Industry best practices)
      ii. Existing practices in the company
      iii. Some other processes identified as most appropriate by the cross functional teams

5. **BPR (Business Process Reengineering/Revision)**

a. Was BPR regarded as an important concept by the organization at the time of implementing ERP?

**6. implementation**

a. What were the main challenges?
b. What was the role of consulting involved in implementation?
c. Were there customizations carried out?
d. What is the reason for requiring customizations
    i. Unsuitable business processes in ERP or
    ii. Insufficient functionality in standard ERP solution?

**7. Deviations from original plan**

a. Cost
b. Time
c. Scope
d. Identified reasons for deviations



**8. What was the general feeling of staff about new processes and system?**

**9. benefits of the system**

a. What are benefits from the new system?
b. Is there a cost benefit analysis?
c. Is there a ROI analysis?