

Advantages and Limitation of ERP Software Solution for Non-Profit Humanitarian Organizations

ProMAC 2019 13th International Conference on Project Management, Yangon, Myanmar
Khaing
University of Computer Studies, Yangon, Myanmar.

Enterprise Resources Planning – ERP is a software solution for business process and manage the resources in organizations. At the same time, ERP systems can bring an enormous benefits to Non profit organizations. NGOs was faced the managing administrative systems, financial systems and personal (include employees and volunteers) across different countries and cultures. This can be able to overcome stringent transparency obligations and multinational regulations. ERP solution built for Non profits can help the organization to achieve three main benefits: Accountability, Transparency and Efficiency. ERP allowed the automation of its department' activities, made information available to users at the right time, supporting more accurately their decision making needs. However, the implementation of ERP systems don't cover all processes for their organization. Most of the organizations have recognized this limitations and felt the need to implement the specific solutions to their organizations. So, we need to analyze the advantages and limitations of ERP systems in the Non profit humanitarian organizations environment in order to understand how this environment uses ERP systems and solves the challenges of integrating information spread over the organizations. ERP System emerges as management systems that allow the administration of an organization's resources in and integrated manner by automating departments in real time. They provide decision makers with an overview of the organizations' situations. The major difficulties in the implementation of ERP system is the long period. It is critics accuse of in ever evolving environments.

Keywords and phrases: Enterprises Resources Planning, ERP, Non profit organization, NGO, ERP solution

1. Introduction

An enterprise resource planning (ERP) is an enterprise-wide application software package that integrates all necessary business functions into a single system with a common database. Enterprise resource planning (ERP) systems integrate and streamline the business processes of an organization across departmental and geographical borders. ERP is an enterprise-wide information system that integrates and controls all the business processes in the entire organization. ERP is a packaged business software system that enables a company to manage the efficient and effective use of resources (materials, human resources, finance, etc.) by providing a total, integrated solution for the organization's information-processing needs. Therefore, it allows easy and immediate access to information regarding inventory, product or customer data, and prior history information.

The basic concept of ERP systems is focused on standardization and synchronization of information, and as a result, improved efficiency. The benefits of ERP systems include coordinating processes and information, reducing carrying costs, decreasing cycle time, and improving

responsiveness to customer needs.

Most Information systems are faced the problems of fragmentation of information are the difficulty of obtaining consolidated information and the inconsistency of redundant data stored on more than one system. ERP system solve these problems by aggregating, in one integrated system, the various business processes and support of organization[5].

Non-profit organizations are continually challenged by shrinking budgets and an increase in the need for services offered. Effectively managing your finances can be complex and time consuming as not-for-profit organizations are required to keep accurate records, provide financial transparency, and adhere to ever-changing regulatory compliance. To meet these challenges, many non-profit organizations are implementing enterprise resource planning (ERP) solutions designed to give organizations the ability to easily create and manage budgets, automate data entry and reconciliation, reduce human error, and provide detailed financial reporting.

Trusted by non-profits nationwide, ERP Solutions has extensive experience working with many types of not-for-profit organizations to

reduce costs, increase efficiencies, and help maintain regulatory compliance. They are adept at understanding business processes, analyzing operations and identifying pain points to deliver accounting solutions that reduce or eliminate paperwork and administration overhead.

Million of nonprofit organizations are present around the world. These organizations include churches, civic leagues, private foundations, public charities, humanitarian organization and more.. Every organization possess an area of operational activities. These are many assembling resources and distributing them to everything that comes in between the process.

ERP solution can help non-profit organization to greatly improve decision making with financial information and to accurately view their financial health at any time from any where.. ERP solution can help to streamline administrative processes and automate workflows and safe and secure.

2. Background

Nonprofit organization serve many stakeholders which includes donors, funding bodies, government agencies, and of course the receivers who benefit from these programs. Number of small NGOs work for various social causes but not all have adequate resources to help their cause. A cost effective ERP system can automate management of human resource, financial resources and also share required resources. ERP Systems emerged as a way to automate repetitive processes and provide managers with a global vision and real-time all operations, solving the problems of disintegration and fragmentation of information. The problem of fragmentation of the information is felt, as is the case of other activities, within the nonprofit organization. In this organization, ERP Systems have a particular relevance for the diversity of applications and specific systems for various functions. The predominance of legacy systems, of difficult upgrading, maintenance and incompatibility, makes its updating more complex . The major ERP System suppliers drove their efforts towards the coverage of support processes, i.e. to the back office, where the processes are similar in a variety of industries. The international chains, or larger units and groups, have adopted

ERP Systems traditionally used in other industries.

SAP is market leader. With regard to the specific processes of the nonprofit organization, primarily front office, for example, Donation collection, stock and supply, volunteers management, specific solutions are adopted, often from suppliers who do not offer integration with the back office and the implemented ERP System. Beyond the intended integration between the back office and front office, ERP Systems can be used strategically, since they allow connectivity between organizations, i.e. among intermediaries.

2.1 ERP system solutions

The basic concept of ERP system is focused on standardization and synchronization of information and improve efficiency. There are many of ERP solutions

- All business processes supported in one system
- Use the Cloud or on-premise
- Global and 24/7 access to their dashboards
- Fully integrated with other add-ons.

Integrated solutions help non-profits organization:

- a) Easily create and maintain budgets
- b) Automate data entry
- c) Provide detailed financial reporting and transparency
- d) Manage memberships within the organization successfully track donations from donors.

2.2 Advantages of an ERP software solutions

The benefits of an ERP software solutions help greatly in management of grants, funds, commitment, budget and fundraisings. They are :

- Creates transparent processes across the organization
- Modernizes back-end administrative processes through rule-based workflows
- Offers secure back-end tracking, processing and reporting of donations for audit and regulatory purposes
- Improves decision making with quick, real-time financial information
- Reduces data redundancy for more effective programs

- Minimizes errors by automating processes

2.3 Limitations of an ERP software solutions

Despite great recognition and acceptance of ERP Systems in organizations, some criticisms have been directed to these types of systems, whether from a technical standpoint or from a business perspective [3]. Organizations that adopt these types of systems end up having the processes designed in a standard form. A less expensive ERP System solution and with a smaller implementation period, therefore less parameterized [1]. One of the major difficulties in the implementation of ERP Systems is the long implementation period that such systems require [4,6,12]. In large organizations, an implementation may last from 3 to 5 years, which critics accuse of being, in an ever-evolving business environment, too long a period.

A criticism of the ERP Systems is the use of outdated technology, although some recent efforts have been made like Business By Design (SAP) and SaaS systems providing Web 2.0 facilities (SAP, Oracle, ...). In fact, some ERP Systems do not make graphic and modern interfaces, as users would like. The current object-oriented systems do not offer the benefit of integration that is possible in ERP Systems [3]. Also the fact that this technology is based on individual users, forcing the payment of individual licenses for use of ERP System, results in a high cost of system use (TCO Total Cost of Ownership), which makes the system update difficult for most up-to-date versions [13].

Another criticism of ERP Systems is its hierarchical rigidity and centralizing control and management. ERP Systems assume that the information should be managed centrally and that organizations have well-defined hierarchical structures. Some critics of these types of systems claim that empowerment should be increasingly applied to organizations and the employees should be perceived as independent agents. To overcome these criticisms, the vast majority of organizations

have well-defined hierarchical structures and it is possible to implement an ERP System for each business unit, thus overcoming this limitation [3].

3. The ERP systems in the project management

Enterprise Resource Planning (ERP) software products were first developed to serve the manufacturing industry, and intended to assist organizations control, track, and coordinate activities in multiple locations. Enterprise Resource Planning system is the centralization of data, improved tracking, live updates, and numerous other capabilities will save the money in the long run and make employee's jobs significantly easier. More recently, ERP tools have found application in the project management field, and vendors offer packages which enable project managers to deal with plans, schedules, resource assignments, budgets and estimates in an integrated way, linked to valid and current corporate information. Although ERP solutions tend to be costly and require lengthy implementations, vendors are developing shortcut versions that are cheaper and tailored to project management. Ideally, an ERP system that is used as the backbone of the project management system would facilitate more efficient communications, integrate interrelated functions, reduce data duplication, and provide real-time operational visibility.

A good project manager to help make the ERP implementation a success. An ERP project manager needs to be experienced at problem-solving, working with deadlines, and communicating with various departments. The main responsibilities of a project manager are:

1). Determine the objectives of the implementation

Before the implementation starts, the project manager should know what the key objectives for a successful implementation are. These should be shared to anyone working on the implementation and updated/changed as needed. It is important for the manager to stay focused on these throughout the implementation as well.

2). Calculate and monitor time and budget spent

Determining where time is best spent (and by who) is key to moving each step along efficiently. Keeping costs in a feasible range for the company is also critical as skyrocketing costs never bring good news. Rather, they are usually an indication of problems.

3). Keep all needed departments and executives up to date on all stages

Any changes, progress, or lack of progress should be shared with important team members. Not only for accountability, but also to discuss any changes or modifications to the objectives, budget, or timing.

3.1 Project Management for ERP

Project management for ERP projects is little different from Project Management for any IS projects, and traditional frameworks for project management have been applied to ERP projects. Project management is an aid to project managers because it helps them to standardise routine tasks and reduce the number of tasks that could potentially be forgotten. It also ensures that available resources are used in the most effective and efficient way. The application of project management principles allows senior managers to establish and use more appropriate measures of success, to quantify value commensurate with cost and to optimise the use of organisational resources. There are nine knowledge area of project management for ERP:

- 1). ERP Project Integration Management
- 2). ERP Project Scope Management
- 3).ERP Project Time Management
- 4). ERP Project Cost Management
- 5). ERP Project Quality Management
- 6). ERP Project Human Resource Management
- 7). ERP Project Communication Management
- 8). ERP Project Risk Management
- 9). ERP Project Procurement Management

3.2 Key elements of Project Management for ERP implementations

ERP Project management is divided into two key elements –ERP implementation partner project manager (part of the ERP implementation partner

team) and internal ERP project manager.

The ERP project managers will have responsibility for guiding the implementation through the various phases, managing scope change, budget control, ensuring decisions are made in a timely manner and reporting progress to the business. A internal project manager will make a huge difference to the timely delivery (within budget) of ERP software implementation. A project manager to avoid the following challenges:

- Slow decision making;
- Poor planning of meeting agendas;
- Unnecessary scope changes;
- Unclear scope or poor communication to ERP implementation consultants;
- Poor delivery of legacy data.

The key skills required for ERP project manager:

- Good communication skills;
- Good general business knowledge (accounting, operational and technology);
- Highly organised;
- Operates well under pressure;
- Has the buy-in of senior management;
- Is well respected by peers.

The key skills required for internal ERP project manager:

- Budget vs Actual billing;
- Scope changes;
- Communication between the ERP implementation partner and business;
- Making sure that the ERP implementation partner gets access to the right people, the right technology, and the right data in a timely manner;
- Company representation at project meetings;
- Expectation setting;
- Assist with change management;
- Help create system documentation as required.

4. The ERP systems in the Non-profit Humanitarian Organization

ERP used for many service sector in literature like healthcare, financial services (banks, insurance companies), higher education, public sector, utilities, wholesale distribution or retail, telecommunications, etc. These organizations have to manage the consumption of unexpected and donated materials. Using available materials instead of buying or manufacturing finished

products, they face new challenges to comply with donor restrictions and unexpected materials receiving. The accounting and financial solutions, combined with logistics management capabilities, create an attractive system for humanitarian aid organizations.

4.1 Advantages

- Single point of data entry.
- Efficient transfer of information between organizational units.
- Centralized business data.
- Standardization of data structures and coding conventions.
- Consistent interface across all business functions.

All of these advantages result in the project management team being able to make better, faster decisions with fewer errors because they are seeing the complete picture.

4.2 Disadvantages

- Expensive to purchase and implement.
- Require customization.
- Inflexible. rigid structure that caters to the financial team rather than the project controls team.
- Can drive inefficiency as users try to find ways to continue to complete their tasks while populating the system for the benefit of others.
- Difficult to stop using it once you start.

5. Case Study

ThaBarWa Center (in Thanlyin, Myanmar) is a non-profit humanitarian organization working for a noble cause. It is also the sanctuary for persons from all regions of Myanmar who seek refuge for care, attention and desire to practice meditation. It is also the place where volunteers can donate their skills, time, energy, labor, money and materials to gain merit and practice meditation for a worthy cause, and to look after the welfare of the residents. Functions of these organizations are:

- Administration – Mediation Center , Building Type, Building, Room and land management
- Human Resources – Donar, Volunteer, Monks, General Workers, Admin Staff, Education Staff, Healthcare Staff.
- Finance – Treasure, Accounting, Analytical budget, General ledgers
- Project – Project type, Stakeholder, Cost evaluation
- Purchasing – Purchase requisition, Order, Buy, Insepction, Receiving
- Operation – Donation, Inventory, Yogi, User Tracking, Event, Healthcare Service, Library

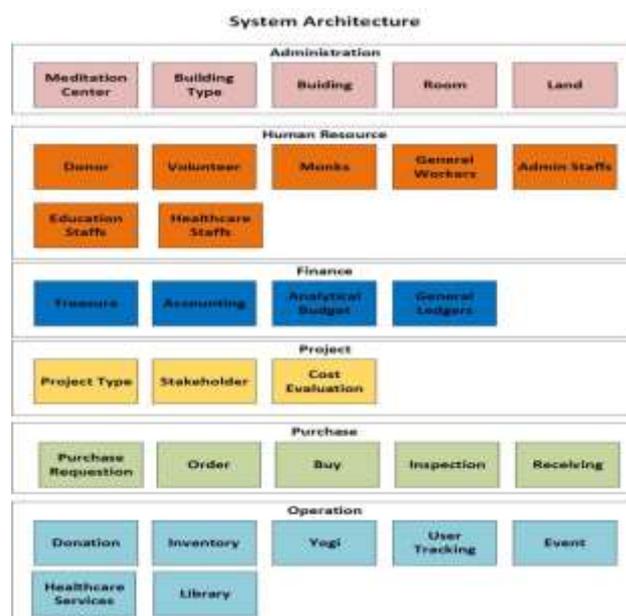


Figure 1- Organization System Architecture

These organization faced the problem of the disintegration of the various implemented systems. The research processes in the area of information system has been the quantitative analysis, the research using the case.

The research processes in the area of information systems has been the quantitative analysis, the research using the case study method, with qualitative data collection, has become increasingly accepted in the area of the Information System. This appears to stem from a growing recognition of the potential to help researchers understand the interpretations and meanings that govern activities of organizational interpreters, as

well as how technology is interpreted and used. The research presented followed an interpretative approach. This interpretative option permits that a group of people, including managers, directors of administration department, operation department, or staff, in an organizational context, can express, conceptualize and assess the objectives defined by the research. The research method adopted the interviews with the Chairman of NGO organization, as well as the heads of the logistics, human resources and financial areas of the department, in order to find inefficiencies and inconsistencies in the information used and facilitate the analysis of the processes involved. Interviews with key elements of the organization are a way of ensuring an experienced vision of who is inserted in it and could induce a faster knowledge of what is analyzed.

5.1 Questionnaire Survey

A questionnaire survey for key users was also used. Respondents are users of organization, heads of each department in each organization unit, with the aim to understand the users' satisfaction in relation to the information system/information technology (IS/IT) implemented in the group. The process was completed through documentary analysis of data collected in the organization units and by direct observation of the use of installed applications. With the aim of analyzing the applications available and its application in the nonprofit organization, solutions and proposals put forward by the leading ERP supplier of integrated applications management were also examined. As a way to collect opinions and suggestions on the information collected, as well as the analysis of the same, a panel of experts in the field of IS/IT was consulted.

The following are the questions that guided this research.

Question 1 – Can ERP Systems cover all processes of the organizations within the NGO Environment?

The intent of this question was to determine to what extent an ERP System is capable of supporting the whole range of activities coherently structured by an organization, in an integrated manner or not, and if more than one ERP System coexists in the same organization.

Question 2 – What business processes are not

covered by ERP Systems and in what way are those limitations reflected in the companies of the NGO sector? The second question's objective was to evaluate the response of the organizations regarding the established limitations, i.e. if the ERP Systems do not cover all the processes of the organization, then what processes are not covered and how could that impact the performance of the industries' companies.

Question 3 – What are the main solutions for the integration of information systems currently offered by the software industry? The third question's purpose was to know the integration solutions regarding the non-total coverage of the processes of the ERP Systems and the spread of applications in the group studied.

6. Conclusion

From the analysis of the replies to the questions investigated, it is possible to conclude that an ERP System hardly automates the activities of all departments of an organization, covering, usually, only the support processes (back office). This limitation is also highlighted in the NGO, where specific solutions are adopted, often from the specific department head who do not offer integration solutions with the remaining implemented applications. The impacts of non-coverage of all processes by the ERP System and the need for implementing specific applications, affect a critical success factor for the group.

On the other hand, the group does not use the integration of cross-organization cooperation processes between the main tour operators online, which affects another critical success factor of the group: continuous improvement of processes. The internal team of IS/IT generally carries out the integration of applications. Of the various options for integration, the specific department staff mainly uses offline integration, without the benefits of real-time information integration. However, for the group studied, in these specific cases, the non-integration in real-time is not yet a problem, since applications are integrated with the ERP back office system, therefore time doesn't have the same urgency. The group felt that the cost of physically performing real-time integration was not worth the benefits results.

Acknowledgements

This research paper was supported by University of Computer Studies, Yangon (UCSY), Myanmar. We thank our Rector Dr. Mie Mie Thet Thwin and our colleagues from UCSY who provided insight and expertise that greatly assisted the research paper, although they may not agree with all of the interpretations of this research paper. We thank our Department Head Dr. Nang Saing Moon Kham for comments that greatly improved the manuscript. We also thank “anonymous” reviewers for their so-called insights.

References

- Agha H., Baqar1 and Dr. Prashant Kumar Pandey *Supple Database design for Enterprise Resource Planning (ERP) Application*. International Journal of Computer Science and Telecommunications [Volume 3, Issue 5, May 2012]
- Akkermans H., Van Helden K., *Vicious and virtuous cycles in ERP implementation: a case study of interrelations between critical success factors*. European Journal of Information Systems, pp. 35-46, 2002.
- Alshawi, S., Themistocleous, M., & Almadani, R. (2004). *Integrating diverse ERP Systems: a case study*. The Journal of Enterprise Information Management , 17 (6), pp. 454-462.
- Baki, B., & Çakar, K. (2005). Determining the ERP package-selecting criteria: the case of Turkish manufacturing companies. Business Process Management , 11 (1), pp. 75-86.
- C.P. Holland and B. Light, *Global Enterprise Resource Planning Implementation*. Proceedings of the 32nd Hawaii International Conference on System Sciences, pp. 1-10, 1999
- C.P. Holland and B. Light, *A Critical Success Factors Model For ERP Implementation*. IEEE Software, pp. 3036, May/June 1999
- Davenport, T. (2000). *Mission Critical: Realizing the Promise of Enterprise Systems*. Boston, Massachusetts: harvard Business School Press.
- Emin Gundogar, Aysegul Aydin. *An ERP application in A Non-profit organization: Turkish Red Crescent Society*. International journal of management & Information Systems- Fourth Quarter 2010 Volume 14, Number 5
- Gold-Bernstein, B., & Ruh, W. (2005). *Enterprise Integration - The essential Guide to Integration Solutions*. Addison Welley.
- Gunson J., Blasis J., *The Place And Key Success Factors Of Enterprise Resource Planning (ERP) In The New Paradigms Of Business Management*. Ecole des Hautes Etudes Commerciales, Universite de Geneve, Paper No: 2001.14,2001.
- Ilfinedo, P., & Nahar, N. (2006). *Prioritization of Enterprise Resource Planning (ERP) Systems Success Measures: Viewpoints of Two Organizationaal Stakeholder Groups*. Proceedings of the 2006 ACM symposium on Applied computing , pp. 1554-1560.
- Lee, j., Siau, K., & Hong, S. (2003). *Enterprise Integration with ERP and EAI*. Communications of the ACM , 46 (2), pp. 5460.
- Motwani J., Subramanian R., Gopalakrishna P., *Critical factors for successful ERP implementation: Exploratory findings from four case studies*. Computers in Industry, pp. 529–544, 2005.
- Muscattello, J., & Chen, I. (2008). *Enterprise Resource Planning (ERP) Implementations: Theory and Practice*. International Journal of Enterprise Information Systems , 4 (1), pp. 63-83.
- Murphy, K., & Simon, S. (2002). *Intangible benefits valuation in ERP projects*. Information Systems Journal , 12, 4, pp. 301320.
- Pang, L. (2001). *Manager's Guide to Enterprise Resource Planning (ERP) Systems*. Information Systems Control Journal , 4, pp. 47-52.
- Shang, S., & Seddon, P. (2002). *Assessing and Managing the Benefits of Enterprise Systems: the Business Manager's Perspective*. Information Systems Journal , 12, pp. 271-299.
- Sumner, M. (1999). *Critical Success Factors in Enterprise Wide Information Management Systems Projects*. Proceedings of the 1999 ACM SIGCPR Conference on Computer Personnel Research , pp. 297-303.
- Themistocleous, M., Irani, Z., O'Keefe, R., & Paul, R. (2001). *ERP Problems and Application*

Integration Issues. Proceedings of the 34th Hawaii International Conference on System Sciences: An Empirical Survey (HICSS-34) , (9), pp. 1-10.

ERP system implementation and Tactic Knowledge Sharing. Proceedings of the world Congress on Engineering 2016 Vol I WCE 2016, June 29-July 1, 2016, London, U.K.

<http://gcon4.com/en/3-main-benefits-using-erp-solution-nonprofits-organizations>