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UBL ICETD
2013

The Second International Conference on Engineering and Technology Development

2nd ICETD 2013

27, 28, 29 August 2013, Bandar Lampung, Indonesia

PROCEEDINGS

In Cooperations With :

APTIKOM

INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

SURYA INSTITUTE

Hosted by :
Faculty of Engineering and Faculty of Computer Science,
Bandar Lampung University (UBL), Indonesia

2nd ICETD 2013

The Second International Conference On Engineering And Technology Development

28 -30 January 2013
Bandar Lampung University (UBL)
Lampung, Indonesia

PROCEEDINGS

Organized by:

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PREFACE

The Activities of the International Conference is in line and very appropriate with the vision and mission of Bandar Lampung University (UBL) to promote training and education as well as research in these areas.

On behalf of the Second International Conference on Engineering and Technology Development (2nd ICETD 2013) organizing committee, we are very pleased with the very good response especially from the keynote speaker and from the participans. It is noteworthy to point out that about 80 technical papers were received for this conference.

The participants of the conference come from many well known universities, among others : University Kebangsaan Malaysia – Malaysia, APTIKOM – Indonesia, Institut Teknologi sepuluh November – Indonesia, Surya Institute – Indonesia, International Islamic University – Malaysia, STMIK Mitra Lampung – lampung, Bandung Institut of Technology – Bandung, Lecture of The Malahayati University, B2TP – BPPT Researcher – lampung, Starch Technology Center – Lampung, Universitas Islam Indonesia – Indonesia, Politeknik Negeri Malang – Malang,University of Kitakyushu – Japan, Gadjah Mada University – Indonesia, Universitas Malahayati – Lampung, Lampung University – lampung, Starch Technology Center – Lampung, Universitas Riau – Riau, Hasanuddin University – Indonesia, Diponegoro University – Indonesia, King Abdulaziz University – Saudi Arabia, Parahyangan Catholic University – Indonesia , National Taiwan University– Taiwan, Surakarta Christian University – Indonesia, Sugijapranata Catholic University – Indonesia, Semarang University – Indonesia, University of Brawijaya – Indonesia, PPKIA Tarakanita Rahmawati – Indonesia, Kyushu University, Fukuoka – Japan, Science and Technology Beijing – China, Institut Teknologi Sepuluh Nopember – Surabaya, Researcher of Starch Technology Center, Universitas Muhammadiyah Metro – Metro, National University of Malaysia – Malaysia.

I would like to express my deepest gratitude to the International Advisory Board members, sponsor and also to all keynote speakers and all participants. I am also gratefull to all organizing committee and all of the reviewers who contribute to the high standard of the conference. Also I would like to express my deepest gratitude to the Rector of Bandar Lampung University (UBL) who give us endless support to these activities, so that the conference can be administrated on time

Bandar Lampung, 29 August 2013-08-26

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Choosing The Right Software In Supporting The Successful of Enterprise ERP Implementation

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STIMIK Mitra Lampung

Abstract- *Enterprise Resource Planning is an integrated information system that involves many parties in the company's resources. Success factors in implementing ERP in addition to management is also supported by the implementation of adequate software. Critical success factors in the implementation is not perfect because it basically creates tension between resources are bridged with a ERP software integration appropriate to support the company's productivity. This paper outlines a summary of the procedures and how to implement ERP software to support the success of the previous research. Factors that led to the financial costs of ERP implementation risks are also considered in the selection of this software. Survey methodology used in this study as well as the implementation of measures that should be used as guidelines for software development-ready. The results showed that the full-time project managers choose the right, training personnel tend to bring a successful project implementation. This is impacting on the integration and application of software risks that will be applied to a particular time period. Given this research is expected the decision makers in the organization can improve enterprise information systems implementation in terms of implementation of software systems in accordance with company objectives.*
Key Words *- right software, ERP implementation, financial costs, project managers, critical success factors*

Introduction

Implementing ERP to help successful business needs some critical factors. According to Umbel at al (2003) some numerous authors have identified a variety of factors that can be considered to be critical to the success of an ERP implementation. The most prominent of these are:

1). Clear understanding of strategic goals : ERP implementations require that key people throughout the organization create a clear, com-in order to satisfy customers, empower employees, and facilitate suppliers for the next three to five years. There must also be clear definitions of goals, expectations, and deliverables.

2). Commitment by top management : Successful implementations require strong leadership, commitment, and participation by top management. Since executive level input is critical when analyzing and rethinking existing business processes, the implementation project should have an executive management planning committee that is committed to enterprise integration, understands ERP, fully supports the costs, demands payback, and champions the project.

3). Excellent project management : Successful ERP implementation requires that the organization engage in excellent project management. This includes a clear definition of objectives, development of both a work plan and a resource plan, and careful tracking of project progress. The project scope must be clearly defined at the outset of the project and should identify the modules selected for implementation as well as the affected business processes. If management decides to implement a standardized ERP package without major modifications, this

will minimize the need to customize the basic ERP code.

4). Organizational change management : The existing organizational structure and processes found in most companies are not compatible with the structure, tools, and types of information provided by ERP systems. Even the most flexible ERP system imposes its own logic on a companys strategy, organization, and culture. Thus, implementing an ERP system may force the reengineering of key business processes and/or developing new business processes to support the organizations goals.

5). A great implementation team : ERP implementation teams should be composed of top-notch people who are chosen for their skills, past accomplishments, reputation, and flexibility. The implementation team is important because it is responsible for creating the initial, detailed project plan or overall schedule for the entire project, assigning responsibilities for various activities and determining due dates. The team also makes sure that all necessary resources will be available as needed.

6). Data accuracy : Data accuracy is absolutely required for an ERP system to function properly. Because of the integrated nature of ERP, if someone enters the wrong data, the mistake can have a negative domino effect throughout the entire enterprise. Therefore, educating users on the importance of data accuracy and correct data entry procedures should be a top priority in an ERP implementation. ERP systems also require that everyone in the organization must work within the system, not around it. Employees must be convinced that the company is committed to using the new system, will totally changeover to the new system, and will not allow continued use of the old system.

7). Extensive education and training : Education/training is probably the most widely recognized critical success factor, because user understanding and buy-in is essential. ERP implementation requires a critical mass of knowledge to enable people to solve problems within the framework of the system. If the employees do not understand how a system works, they will invent their own processes using those parts of the system they are able to manipulate

8). Focused performance measures :

Performance measures that assess the impact of the new system must be carefully constructed. Of course, the measures should indicate how the system is performing. But the measures must also be designed so as to encourage the desired behaviors by all functions and individuals. Such measures might include on-time deliveries, gross profit margin, customer order-to-ship time, inventory turns, vendor performance, etc. Project evaluation measures must be included from the beginning. If system implementation is not tied to compensation, it will not be successful. For example, if all managers will get their raises and bonuses next year even if the system is not implemented, successful implementation is less likely.

9). Multi-site issues : Multi-site implementations present special concerns. The manner in which these concerns are addressed may play a large role in the ultimate success of the ERP implementation. The desired degree of individual site autonomy may be a critical issue which depends on two factors: (a) the degree of process and product consistency across the remote sites, and (b) the need or desire for centralized control over information, system setup, and usage. One of the objectives of an ERP implementation may be to increase the degree of central control through the

implementation of standardized processes. Alternatively, the imple-mentation may be undertaken in order to provide the remote sites with capabilities that allow them to fine tune their processes to their unique situa-ions.

1. Manajemen Berbasis CSF

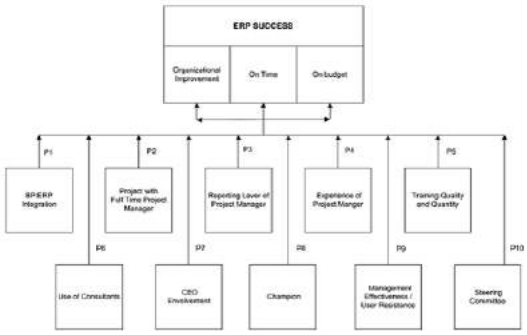

Figure : Management Model Based On CSF
(Source : Bradley (2008))

Based on some critical factors above, Bradley (2008) has examined the literature that exists on the implementation of Enterprise Resource Planning systems. Bradley (2008) has found specific recommendationswere proposed and tested to the findings of research are summarized in three categories: 1). Implementation management techniques used at successful firms, but used less or not at all at unsuccessful firms. 2). Practices considered in the literature to be essential to success, but which did not differentiate between successful projects and unsuccessful projects. These factors may be necessary for project success but do not appear sufficient to guarantee success. 3). Management practices supported in the literature that are not supported in the case studies.

There are some successful factors to be mentioned here :

1). Project manager : Choosing the right full time project manager can be central to project success. Managers of successful projects had more project management, business and ERP experience than managers of unsuccessful projects. Monetary or non-monetary rewards were not found useful to motivate project managers. A personal sense of accomplishment and recognition of performance seems to be adequate incentives.

2). Training : Training was regarded as important by both successful and unsuccessful projects. Importance on training was shared by all projects, but successful projects rated training quality higher and spent more on training.

3). Champion : The use of a champion in a significant role is important to project success. Projects reporting a significant role of a championweremore successful than those without champions or where the champion did not play a significant role.

Beside some factors above, Bradley (2008) also explored there were some factors that did not much differentiate between success and failure as explained here :

1). Consultants : Both successful and unsuccessful projects used consultants. Management of these firms expressed that the impact of the consultants on the project was favorable. However, consultant use did not differentiate between firms that experienced on time and on/under budget performance or organizational improvement and firms that did not.

2). Role of management in reducing user resistance : Both successful and unsuccessful implementation projects perceived management as effective in reducing user resistance.

3). Steering committee : Both successful and unsuccessful projects used a steering

committee to review and control the project. While this practice is supported in the literature and appears to be used broadly, use of a steering committee does not assure project success.

2. Steps In Selecting The Right Software

With so many ERP options in the marketplace today, selecting a package for your business can be an overwhelming task. Since ERP should be a transformational business initiative providing key competitive advantages to your company, the decision shouldn't be taken lightly or made with incomplete information. There are seven steps to help you choose the right software for your organization, according to www.techrepublic.com/blog/tech-decision-maker/7-steps-to-choosing-the-right-erp-software/

1. Conduct a process review and analysis. Since ERP is first and foremost a business initiative, you should first define and document your current business processes, pain points, and strengths. These processes and requirements should eventually be used for potential software vendors to demonstrate their product's capabilities within the context of your business needs.
2. Evaluate the technical fit. Although ERP should be a business rather than a technology initiative, it's also important to understand how a potential software solution will align with your current infrastructure.
3. Understand the total cost of ownership. During the sales cycle, ERP software sales reps are interested in downplaying the costs and risks associated with purchasing their software. However, it's a lot easier to accept potential costs early in the process rather than after you're already committed to a particular solution. Be sure to uncover "hidden costs" associated with ERP, including implementation costs, hardware upgrades, backfilling your project team resources, software maintenance, etc.
4. Develop a realistic implementation plan. While you're still in the sales cycle, you should take vendor implementation duration estimates with a grain of salt. It's important to develop a comprehensive project plan that includes not just the activities required to install the software, but the ones that are required to ensure that the solution is fully functional, tested, and accepted by end-users. This plan should be developed prior to your final software decision so you fully understand the cost and resource commitments required to make the project a success.
5. Track the potential business benefits of the new system. If you don't measure it, you likely won't achieve it. ERP projects are no different. Chances are your organization is looking at ERP as a way to reduce costs, increase revenue, or scale for growth, and you should estimate and measure benefits against these metrics if you are going to realize the full potential of ERP.
6. Keep some options open. While this may sound more like dating advice, it's also relevant to choosing an ERP package. Contrary to common belief, there are more than just two to three primary ERP software vendors. Although two to three software vendors constitute a majority of market share and marketing dollars, there are at least 70 viable ERP software solutions in the market, all with varying degrees of functionality and strengths. Too many companies choose a solution based on brand name or based on what competitors are doing. Instead, organizations need to consider the options that are going to best meet their unique business

requirements and sources of competitive advantage.
7. Look for objective and independent advice. Conduct research on the internet or hire an ERP consultant if necessary. In any case, don't assume you have all the answers if you don't have experience with ERP. Find other sources of independent ERP advice to validate what you're hearing from software sales reps.

3. Systems Procedure

Today, ERP systems are expected to reduce costs by improving efficiencies through computerization and to support decision-making by providing accurate and timely enterprise-wide information. Poston and Grabski (2001) has done research and found, after accounting for within-firm variances, no significant improvement associated with residual income or the ratio of selling, general, and administrative expenses in each of the 3 years following the implementation of the ERP system. Further, there was a significant reduction in the ratio of employees to revenues for each of the 3 years examined following the ERP implementation.

ERP systems can be complex and difficult to implement, but a structured and disciplined approach can greatly facilitate the implementation. These steps have been integrated from several works as investigated by Umble et al (2003), as explained here :

1. Review the pre-implementation process to date : Make sure the system selection process has been satisfactorily completed and all factors critical to implementation success are in place.
2. Install and test any new hardware : Before attempting to install any software, it is essential to make sure that the hardware is reliable and is running as expected.
3. Install the software and perform the computer room pilot : A technical support person from the software supplier will often install the software and run a few tests to make sure it is installed correctly.
4. Attend system training : Software training will teach users the keystrokes and transactions required to run the system.
5. Train on the conference room pilot : The conference room pilot exercises the systems and tests the users understanding of the system. The project team creates a skeletal business case test environment which takes the business processes from the beginning, when a customer order is
6. Establish security and necessary permissions : Once the training phase is finished, during the conference room pilot, begin setting the security and permissions necessary to ensure that everyone has access to the information they need.
7. Ensure that all data bridges are sufficiently robust and the data are sufficiently accurate : The data brought across from the old system must be sufficiently accurate for people to start trusting the new system.
8. Document policies and procedures : The policy statement is a statement of what is intended to be accomplished; the procedural steps to accomplish that statement may be detailed in a flowchart format.

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