

Peculiarities of Projects of Enterprise Resource Planning System Implementation

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Abstract The main purpose of the presented paper is to evaluate the importance of business and IT alignment under the agility conditions and to develop advanced support model of the ERP implementation projects, which would ensure active enterprises participation and better ERP implementation projects results.

Keywords – Enterprise Resource Planning, Business and IT alignment, project of ERP system implementation.

I. INTRODUCTION

In the fast Information Technology (IT) society of today, there have been various changes in the organization behaviour. The enterprise is forced to be able to perform well under the abundance of information and hyper competition conditions. The basis of the enterprise survival in the market and the core development factors are innovation, improving efficiency, reducing costs and increasing competitive advantage by effectively managing knowledge. The information has become a strategic corporate resource and encourages business to invest in the knowledge management.

There is today an obvious demand for continuous improvement and alignment in enterprises but unfortunately many organisations do not have proper instruments (methods, patterns, best practices etc.) to achieve this.

Different measures are used to support the information and knowledge management processes and one group of them are variety of IT and information solutions such as Enterprise Resource Planning (ERP) system. Nevertheless, whether enterprise can integrate information technology with its organization, overall management, in order to advance its core competition ability, lies on the effective knowledge management during the ERP implementation process. However, there are number of examples where enterprises, who invested in the ERP systems and informationization, fail to fully realize their original purpose. In fact, the ERP implementation projects success rate mostly depends on the level of the enterprises participation in these projects.

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However, the problem of enterprises involvement and active participation in the ERP implementation projects occurs.

The main reasons of lack of active enterprises involvement are weak ERP projects knowledge, passive interest in this area and transferring the responsibility for the project results to vendors and consultants. Actually, consultants' and vendors' target is to enable appropriate knowledge transfer, but enterprises have to be ready to receive this knowledge and to use it to improve ERP implementation project results.

What is more, existing ERP implementation models are imperfect and do not fully adaptive. Therefore, enterprises ERP implementation projects should be encouraged as well as supported by improved and complex models, which would encourage enterprises involvement.

This paper aims:

- to evaluate the importance of business and IT alignment under the agility conditions
- to develop advanced support model of the ERP implementation projects, which would ensure active enterprises participation and better ERP implementation projects results

II. BUSINESS VALUE OF BUSINESS AND IT ALIGNMENT

In an environment marked by continual transformation, competitive organizations increasingly rely on the business and IT alignment based on agility. To survive and thrive, enterprises must capture and exploit new business and IT opportunities before competitors do [7].

Business and IT alignment is closely associated with attempts to improve the business value of IT investments. Business and IT alignment and their agility show how organizations can successfully deal with unpredictable, dynamic, and constantly changing environments. Business agility refers to the ability of an organization to rapidly adapt to change in productive and cost-effective ways through two key capabilities: 1) timely adjustments to supporting business structures, processes, and systems and 2) effective organization and use of human resources [1]. The more agile enterprise is, the higher value and competitive advantage is. Obviously, those firms who leverage IT to create business agility will be the clear winners. IT agility enables business agility as well as business agility enables IT agility. Alignment



can only be successful if it comes from both sides [2]. Therefore, business and IT agility are inextricably linked.

From another point of view as it was mentioned by Hans Jonasson “knowing and understanding the business can be harder than understanding the IT are”. [5] Sometimes it is easier to teach a business person enough about systems to be successful then to teach a systems person about the business side.

Latest sources of information proves that IT needs to become more tightly integrated with the broader business, not just aligned with it, and that means embedding IT throughout the organization. Furthermore, in today’s

economic climate, where trust between business and IT in most companies has never been more fragile, possibilities to completely rethink IT have to be found, and IT have to be transformed into a strategic asset for the companies. Moreover, IT needs to become more tightly integrated with the broader business, not just aligned with it, and that means embedding IT throughout the organization [6].

All the above-mentioned transformations of corporate governance and business management to form a view of the business and IT have to be aligned as well as agile. That allows the company to create higher value only when there is excellence in three elements (see Fig. 1).

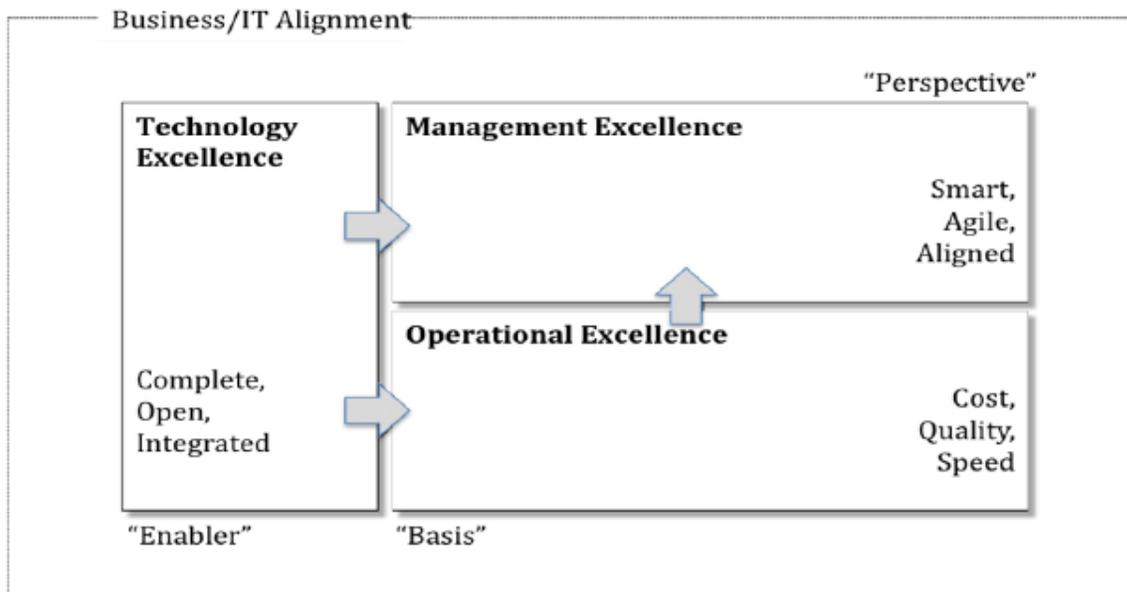


Fig. 1. Business/IT alignment [13]

Most people are familiar with the term operational excellence; optimizing cost, quality, and speed. It has become a prerequisite to fuel the next level of competitive differentiation - management excellence - which is characterized by three other attributes; smart, agile, and aligned. Neither can be achieved without technology excellence; an IT strategy that focuses on being complete, open, and integrated [13].

III. ERP IMPLEMENTATION PROJECTS: BUSINESS VALUE ENHANCEMENT BY MODELLING THEIR SUPPORT

As mentioned above, knowledge management is closely related to the use of IT in business. Hence, we can say that

one of the manifestations of knowledge management is ERP implementation projects which means business processes integration, facilitation and adding value to business.

ERP systems are software packages that enable the integration of transactions oriented data and business processes throughout an organisation [10]. ERP can be defined as “all in one” and as a strategic tool which helps companies gain a competitive edge [3]. ERP system is usually consist of many modules such as CRM – Customer Relationship Management, HRM – Human Resource Management, SCM – Supply Chain Management, EPM – Enterprise Performance Management, BI – Business Intelligence etc. adapted to a wide range of business segments. In most cases ERP software is flexible and allows company to add functionality to the system by adding new modules in the future.

ERP integrates all the enterprise processes, and thus allows controlling and optimizing the business and its individual processes. ERP allows companies to operate more efficiently

and move on to the next and higher quality stage. Companies which implemented ERP are able to perform better and improve the various performance indicators (see Table I).

Because these systems affect so many aspects of a companies' internal and external operations, their successful deployment and use are critical to organisational performance and survival. However, implementations of ERP systems are one of the most

difficult investment projects because of the complexity, high cost and adaptation risks. Unfortunately, number of implementations and surveys (Aberdeen Group 2010, Panorama Consulting Group ERP Report 2011, Lithuanian ERP implementation experts' opinion, ERP users' survey conducted by authors) show that failure rate is still high, number of enterprises fail to fully realize their original purpose and benefits from ERP implementation are under the expected rate [4], [8], [9].

Table I. Sample business benefits derived from ERP [4]

Definition of Maturity Class	Mean Class Performance
Best-in-Class: Top 20% of aggregate performance scorers	<ul style="list-style-type: none"> ▪ 21% reduction in operating costs ▪ 19% reduction in administrative costs ▪ 17% reduction in inventory* ▪ 16% improvement in schedule compliance* ▪ 17% improvement in complete & on-time delivery
Industry Average: Middle 50% of aggregate performance scorers	<ul style="list-style-type: none"> ▪ 14% reduction in operating costs ▪ 10% reduction in administrative costs ▪ 11% reduction in inventory* ▪ 14% improvement in schedule compliance* ▪ 14% improvement in complete & on-time delivery
Laggard: Bottom 30% of aggregate performance scorers	<ul style="list-style-type: none"> ▪ 9% reduction in operating costs ▪ 5% reduction in administrative costs ▪ 11% reduction in inventory* ▪ 13% improvement in schedule compliance* ▪ 7% improvement in complete & on-time delivery

The most common ERP implementation project problems are inadequate feasibility studies and organizational maturity level evaluation, change management and training issues, weak project management, inadequate ERP software, which does not meet the needs of company, selection, underlining only ERP technical possibilities, rather than the emphasis on the needs of business processes, poor top management support, over-expectations, passive enterprises participation and involvement etc [8]. Thus, the main risk factors are internal and depend on the companies' ability to use and manage existing and newly acquired knowledge in this field.

Contemporary market increasingly demands companies that are more flexible and can quickly react to business environment changes. The struggle for leader's position requires organizations to be innovative in searching for new possibilities and modern decisions. Countries, regions, areas of economy and separate companies become the systems more oriented towards projects. The

correlation between the results of business process and the maturity of project-oriented system does exist. Therefore, organizations are acknowledged with Project and Program management in planning and operations processes. The maturity in project-oriented organizations and nations can be estimated and evaluated in terms of productivity with the help of maturity models [9].

Evaluation of project management maturity (PMM) as well as organizational maturity level in order to apply the optimal software for reaching the raised objectives is an up-to-date problem. Many consulting agencies have been set up which can help organizations in evaluating their „level of maturity“ according organization's ability to manage projects [12].

Experience shows that enterprises' knowledge in ERP implementation project field is too narrow and lack of interest in ERP implementation project aspects is noteworthy. ERP users mostly rely on ERP vendors and consulting companies' consultants. However, it is worth noting that company inside information is very valuable and is helpful in every step of ERP implementation project. Each wrong step may destroy a bunch of successful previous steps independently whether it



caused by lack of information or by inappropriate allocation of resources etc. All those reduce return on investment and benefit take-up rate. For these reasons, authors believe that active participation in ERP implementation project is essential and to increase benefit take-up rate. Thus, it is not enough to rely solely on ERP vendors and consultants for high ERP implementation project results.

Implementing an Enterprise Resource Planning (ERP) system is expensive and time consuming. A substantial cost is associated with pre-implementation involvement and training designed to encourage acceptance and effective implementation of the system. Contrary to conventional wisdom, extensive organizational investments in shaping pre-implementation attitudes do not always achieve the desired effects. Despite extensive time, money and effort, length of time with the firm and position had a greater impact on attitudes toward ERP capabilities, value, acceptance and timing than high levels of pre-implementation involvement [11].

Numbers of ERP implementation promoting models were proposed. The main disadvantages of these models:

- Existing models are incomplete – usually few installation steps are proposed and short list of each step tasks is presented. It is not an appropriate kind of support for the enterprises with no or very little knowledge in ERP implementation projects field. Thus, such models can not fully support enterprises, which are eager to participate in ERP implementation project actively.
- Existing models focuses on specific area – usually they are vendors’ created models that focus on technical rather than managerial issues of ERP implementation. Thus, these models are created to support ERP vendors, but not ERP users.

Authors offer more complex ERP implementation project support model. This model is based on the active

Using this model, company acquires the knowledge in ERP implementation project field and is able to apply this knowledge to achieve maximum benefit.

IV. CONCLUSION

IT sector is developing rapidly and provides new opportunities for business. Dynamic business conditions stimulate IT application in business as it is an effective way to maintain business agility and to gain a competitive advantage.

ERP implementation project is one of the examples of the IT application in business, which encourages business processes integration, improvement and increases business value. However, experience shows that enterprises’ knowledge in ERP implementation project field is too

enterprise participation and involvement as well as maximizes ERP implementation project benefit take-up rate. Model consists of four stages – identification of investment opportunities, ERP implementation project planning, ERP project implementation, ERP exploitation (see Fig. 2).

In the identification of investment opportunities stage company assesses the level of need and preparedness to ERP implementation projects. Company can predict the level of benefit take-up by determining organizational maturity level. The higher level of maturity, the more benefit company gains.

In ERP implementation project planning stage project sketch is designed, detailed task list is made, responsible persons and their roles are appointed, risk management plan, budget plan, communication plan, change management, training plan, monitoring plan and corrective action plan is prepared.

In ERP implementation stage concrete action sequence of ERP software and ERP vendor selection is proposed, the role or project team during ERP implementation is described, effective training is characterized, importance of business process reengineering (BPR) is emphasised.

In ERP exploitation stage continuous process improvement approach is proposed and concrete ERP benefit realization level control and improvement methodology.

First of all, proposed model is informational as ERP user learns about various ERP implementation project aspects. Secondly, proposed model is support measure as different qualitative and quantitative tools (organizational maturity level concrete risk management methodology, force-field diagram as change management tool etc.) as well as concrete action sequence to increase the benefits of project are proposed.

Strengths of proposed model: complexity, informativeness, quantitative and qualitative tools, and most importantly, active enterprises participation in ERP implementation project promotion. Higher level of opportunity control of progress of project allow enterprises increase benefit take-up rate. narrow and they need support in order to participate actively and fully realize their original purpose of ERP software implementation. Thus, knowledge management problems in this field have to be resolved.

Authors proposed model is expected to support ERP users or enterprises implementing ERP and to achieve better ERP implementation project results as well as to increase benefit take-up level.

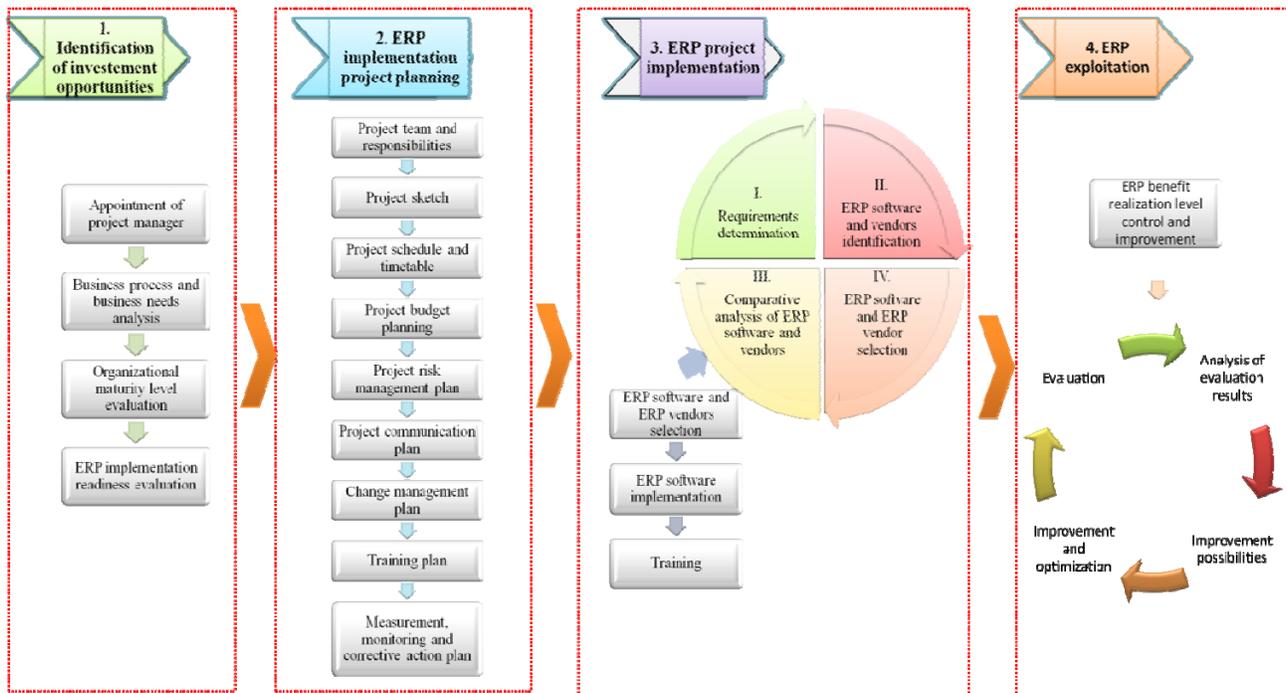


Fig. 2. ERP implementation project support model [Made by authors]

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