

IMPACT OF ERP SYSTEM IMPLEMENTATION THROUGH AGILE PROJECT MANAGEMENT FOR UNIVERSITIES

Borovneva A.S. (Russian Federation)

Email: Borovneva511@scientifictext.ru

*Borovneva Aleksandra Sergeevna – Bachelor,
DIRECTION: INNOVATION,
INGENIERING BUSINESS AND MANAGMENT FACULTY,
BAUMAN MOSCOW STATE TECHNICAL UNIVERSITY, MOSCOW*

Abstract: *the article is devoted to the issues of implementation the leading platform for integration of information flows inside and outside organization in recent decades enterprise resource planning system. The article discusses impact of enterprise resource planning system execution through agile project management for higher educational institutions and discusses advantages and disadvantages of enterprise resource planning system implementation through the use of Agile project management.*

Keywords: *enterprise resource planning, agile, ERP implementation, systems for educational institution.*

ВЛИЯНИЕ ВНЕДРЕНИЯ ERP-СИСТЕМЫ ПРИ ИСПОЛЬЗОВАНИИ ГИБКОЙ МЕТОДОЛОГИИ УПРАВЛЕНИЯ ПРОЕКТАМИ (AGILE) В УНИВЕРСИТЕТАХ

Боровнёва А.С. (Российская Федерация)

*Боровнёва Александра Сергеевна - бакалавр,
направление: инноватика,
факультет инженерного бизнеса и менеджмента,
Московский государственный технический университет им. Н.Э. Баумана,
г. Москва*

Аннотация: *статья посвящена вопросам внедрения ведущей платформы для интеграции информационных потоков внутри и вне организации за последние десятилетия, ERP системы (англ. Enterprise Resource Planning, планирование ресурсов предприятия). В статье обсуждается влияние внедрения системы планирования ресурсов предприятия посредством гибкой методологии управления проектами (Agile) для высших учебных заведений, а также обсуждаются преимущества и недостатки внедрения системы планирования ресурсов предприятия с использованием гибкой методологии управления проектами (Agile).*

Ключевые слова: *планирование ресурсов предприятия, Agile, внедрение ERP, системы для образовательных учреждений.*

INTRODUCTION

World experience in development and use of business software shows that the most effective way to automate management tasks of complex organization, such as industrial, commercial enterprise, service company, state institution or university - lies through creation of a single information platform. At the same time, the leading platform for integration of information flows inside and outside organization in recent decades has been and remains Enterprise Resource Planning (hereinafter - ERP system).

For each organization consider implementation of ERP, initially, there are two questions. The first question is definition of an ERP application for an organization's needs such as needed modules, type of ERP. The second question is what approach will be used to manage the implementation of the ERP system. At the moment, there is a rather static set of steps that can be taken to successfully implement an ERP system and nowadays more and more organizations go beyond of the static steps. For each organization, approaches, rules that can be taken for implementation are different and very individual.

Universities nowadays are living according to the laws of business: earning on their own, so it is common situation when students are considered as customers. With rising tuition costs, universities now have to provide better services, to offer more to students and parents in order to be attractive for the future minds of the country. And use of IT is one way to optimize processes [1].

If you look at the market of educational automation systems at the present time you can see that it is quite sufficient. Nowadays a lot of companies provide different services to satisfy various needs of universities. There are those universities that successfully automated their own business management processes by their own specialists, especially technical universities. For a modern university management system better to be an ERP system a system of "enterprise resource planning" level. The main purpose of which is to provide management functions, accounting and resource planning of educational institutions [2]. The use of ERP systems for integrated planning and accounting of enterprise resources in educational institutions increases the efficiency of the organization's management system, since it directly contributes to the improvement of two of the four basic management functions: organization and control [2].

MAIN PART

The basis of ERP systems is principle of creating a single data warehouse containing all corporate business information and providing simultaneous access to it of any necessary number of employees of the enterprise, endowed with relevant powers. It is known that this should not only increase efficiency of production of the enterprise, but also to reduce internal information flows, thereby reducing the cost of providing them [5].

It is very important for each organization to find an approach to create a working atmosphere for installing an ERP system. And for universities, this

issue also consequential, as it is important to introduce all innovations smoothly and clearly for various types of users from directors to students. Such project management methodology as agile helps to carefully adapt all the participants of the process, to include in the general work on installing ERP and help in understanding the changes that taking place.

Agile is an implementation methodology based on an iterative model and includes a set of methods. The essence of the methodology consists of using 4 basic values (shown in Table 1) and 12 principles declared in the Agile manifesto [3], the adherence to which is intended to significantly facilitate the implementation of information systems.

Table 1: Agile basic values. Items on the left are valued more than those on the right

Agile Manifesto		
Individuals and interactions	Over	Process and tools
Working software documentation	Over	Comprehensive
Customer collaboration	Over	Contract negotiation
Responding to change	Over	Following a plan

Considered as a counterbalance to the classical cascade model, waterfall model (sequential design process) of information system implementation, Agile gives a clear idea of the implementation process and describes the implementation of the basic components of the manifesto.

1. Agile allows for faster business impact.

Sprint is a short repetitive development cycle, which each time creates some kind of value for customer [5]. For example, in two weeks, the developers team make certain improvements and give the client, university, a ready-made result (built into the productive system, and not into some kind of prototype). For comparison: if a methodologist performs the work, then you must wait for the end of the project, that is, the results may appear, for example, in a year. And thanks to sprints, customer constantly sees the stream of “small results”, thanks to which the speed of “delivery” of the finished product or solution increases, and an effective feedback loop occurs, which influences the further development of the system.

2. Agile allows to regularly prioritize tasks.

Customer with the appearance of some new business problems, can quickly add them to the development plan, swapping places with lower priority tasks.

3. Agile assumes the closest interaction with the university

The very essence of this methodology is that on a regular basis (with a period equal to the length of the sprint) meeting of the entire working group are held,

there is close communication with the client, including his consulting, correcting ideas about his needs, clarifying whether his vision has changed at all and in what direction. And this allows in the shortest possible time to change their development plans and get the corresponding results at the end of the next sprint.

4. Agile markedly increases team engagement.

After all, the team always sees a certain end goal and against this background sees its result. This is especially important for developers who need to understand the ultimate goal of doing their job. For comparison: With the usual development method, in a project with a duration of 1.5 years, there are often situations when a developer does not see the final result at all, loses the meaning of his work, “boils in his juice” for six months - and at the same time nobody touches him. When using Agile, this simply cannot be: the team tells what has been done, what is planned to do next, what results have been obtained. The final results are on the surface, openly discussing what happened and how it will affect the business. All this is very important, including for resource management, for interaction with teams, including HR. The increase in the involvement of people gives quite tangible results: the risk of “the outflow” of resources decreases, dissatisfaction and delusions find a way out, and the loyalty of the employees of their company increases. Other means of obtaining these results are extremely difficult, and in Agile they are a natural side effect of the way work is organized [6].

DISCUSSION

At the moment there are a lot of articles describing the impact and effect of the introduction of ERP systems in the university. Such authors

As Twiddle M.B. and Nichols D.M describe the experience of implementation, advantages and disadvantages. There are also quite a few articles that consider an Agile methodology for the introduction of ERP, but these articles are based on the experience of introducing Agile in the industrial area. The key authors on this topic are: Cockburn, A., and Highsmith, J. In this article consider the impact of the implementation of ERP system through using the principles of the Agile. And the main emphasis is placed on the influence of the Agile methodology, as the chosen approach for the implementation of ERP system in educational institutions. Since the influence, impact of ERP systems for universities is considered in many articles, by such authors as Christensen, C. M., and Eyring, H. J. The question of the effectiveness of the methodology for introducing an ERP system for universities is almost not considered except for the article by the authors Twidale M.B. and Nichols D.M. to whom there are references in this article.

CONCLUSION

If there is need for university to be more innovative, responsive and adaptable – then university can implement ERP system and examine the barriers to agility, flexibility. Therefore, it is needed to design new processes that are more Agile.

This design activity itself will require innovation and agility. It requires analysis of what is done now and why it is done, and mixtures of creativity and engineering design pragmatics to develop new processes.

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