

MODELING AND ANALYSIS OF BUSINESS PROCESSES FOR ENTERPRISE MANAGEMENT

Kristesiashvili Khatia, Surguladze Giorgi, Okhanashvili Maia
Georgian Technical University

Summary

On the example of an enterprise objects, analysis of new information technologies was held to design a management information system. The basic problems existing in management of business processes in an enterprise were identified. Using an ERP system as a tool to manage enterprise resources was discussed together with a methodology of its effective implementation. Modeling of business process management problems in organizations are proposed, within the time frame where the ERP system being implemented using the BPMN tool and till it becomes fully functional.

Keywords: process modeling. ERP. Implementation methodology. BPMN.

1. Introduction

The thesis „modeling, analysing and managing the business processes of the enterprise" performs the management of the resources in the enterprise and full automation of the processes in the one system. For which is used ERP (Enterprise Resource Planning) system [1,2].

2. Modeling, analysis and managing the Business Processes

Enterprise management information technologies analysis was conducted, and classification has been done, critical analysis of these systems was conducted;

Effective enterprise resource planning and control problem was formulated which follows: Enterprises are not run in accordance with own strategy and plans, access to the right information in real time is usually absent and concerns are hard to be identified at early stages. Many opportunities are missed. Corporate objectives are not being achieved because workforce is not aligned with organizational objectives. Also, companies lack operational efficiency and productivity within and beyond the organization. Besides, they operate high costs that are caused by inflexibility, low process standardization, low efficiency and adaptability. Also, information and collaboration functions are not extended to a broader sense business. Without information technology companies have no visibility of organization, in particular meaning financial and management accounting functionality is lacking, nothing to say about business analytics. Eventually, this can lead to low profitability, weak financial control and risk management. Without integrating business processes and optimizing them companies face high integration costs and usually need to purchase a third party software which often turns out to be ineffective or causes overspending. As for the human resources management in an enterprise, companies find it really difficult to establish career and development plans for these top performers, persons which are truly valuable resource for the company, even if there exist such

plans, they are usually not clearly defined and thus – ineffective. In such way, performance of these top performers is not linked to compensation programs. Also in enterprises employees find it hard to access company information required for their daily activities.

The above problems can be solved in a number of ways separately, enterprises can spend lots of precious time working on solving such problems, but whatever solutions they find there is only one way that can successfully solve these problems all together, in an integrated way, the solution is an Enterprise system or an ERP (Enterprise Resource Planning) system.

Although that ERP systems are widely implementing in many organizations, companies face the problem of a lack of a unified methodology to implement ERP system but this methodology is the critical success factor for any organization.. In This paper performed the introduction of a new and efficient methodology, where is consider the fundamental errors of the different implementation methodologies. ERP system implementation project is divided into three levels: strategic, tactical, operational levels. For each level processes is modeled using BPMN standard.

3. Conclusion

In the Experimental part was considered Georgian importer organization (Figure 1) where ERP system was implemented using the new methodology. Every business process is modeled using the BPMN standard. To the organization were conducted the business process analysis and was reviewed the results, to determine how the system meets the needs of the company.

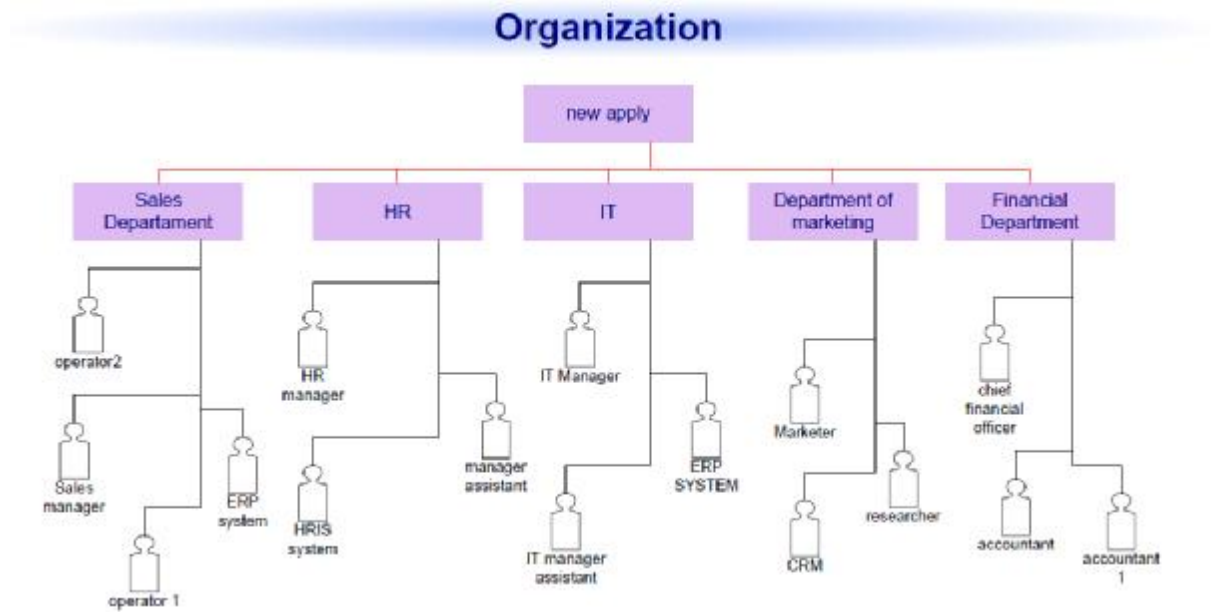


Fig. 1. structure of the organization after implementation of ERP system

For modeling used Bizagi Process Modeler-modeling tool and Interfacing BPMN For Visio (Figure 2.)

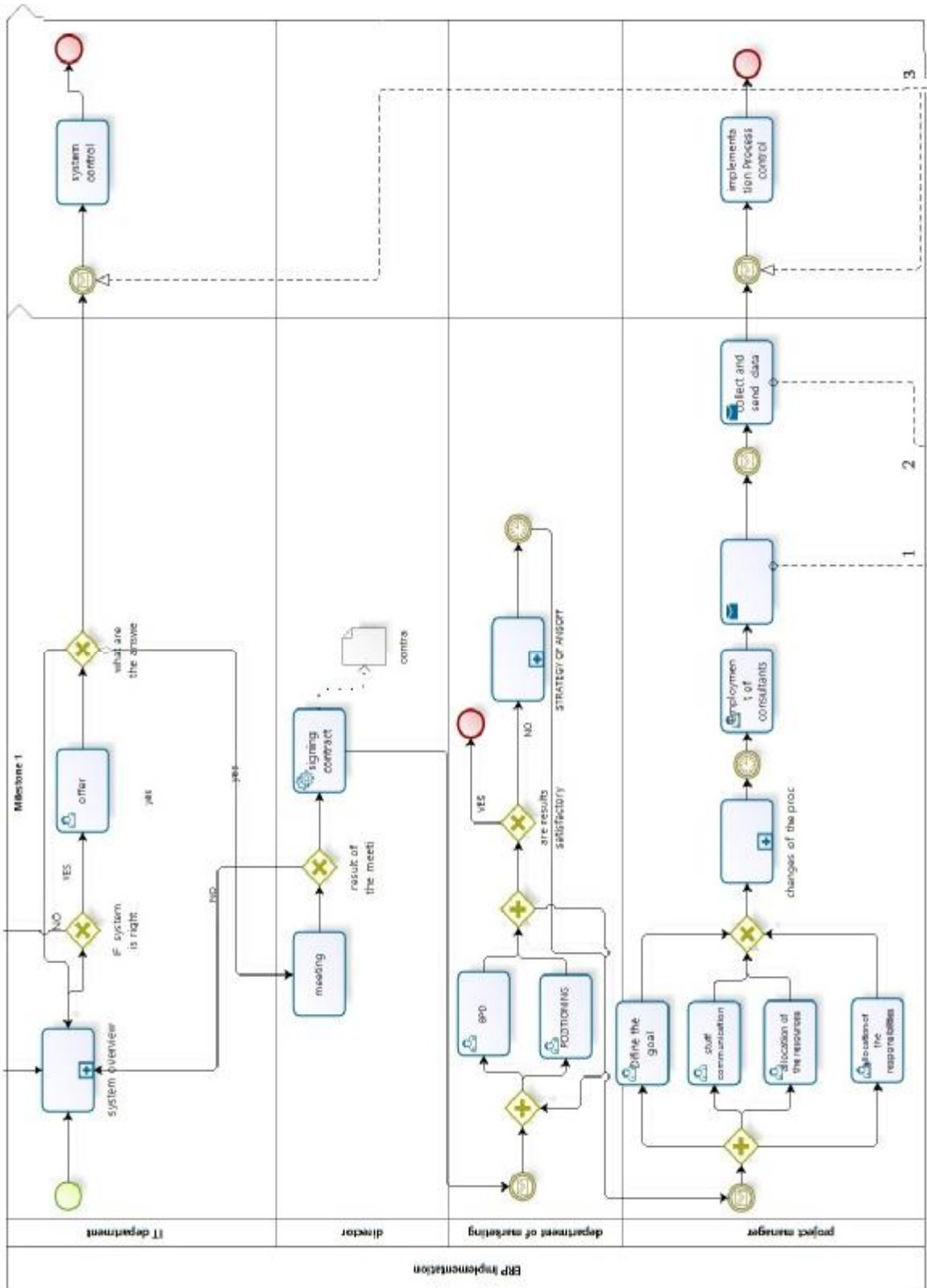


Fig.2-left. New methodology of the ERP implementation

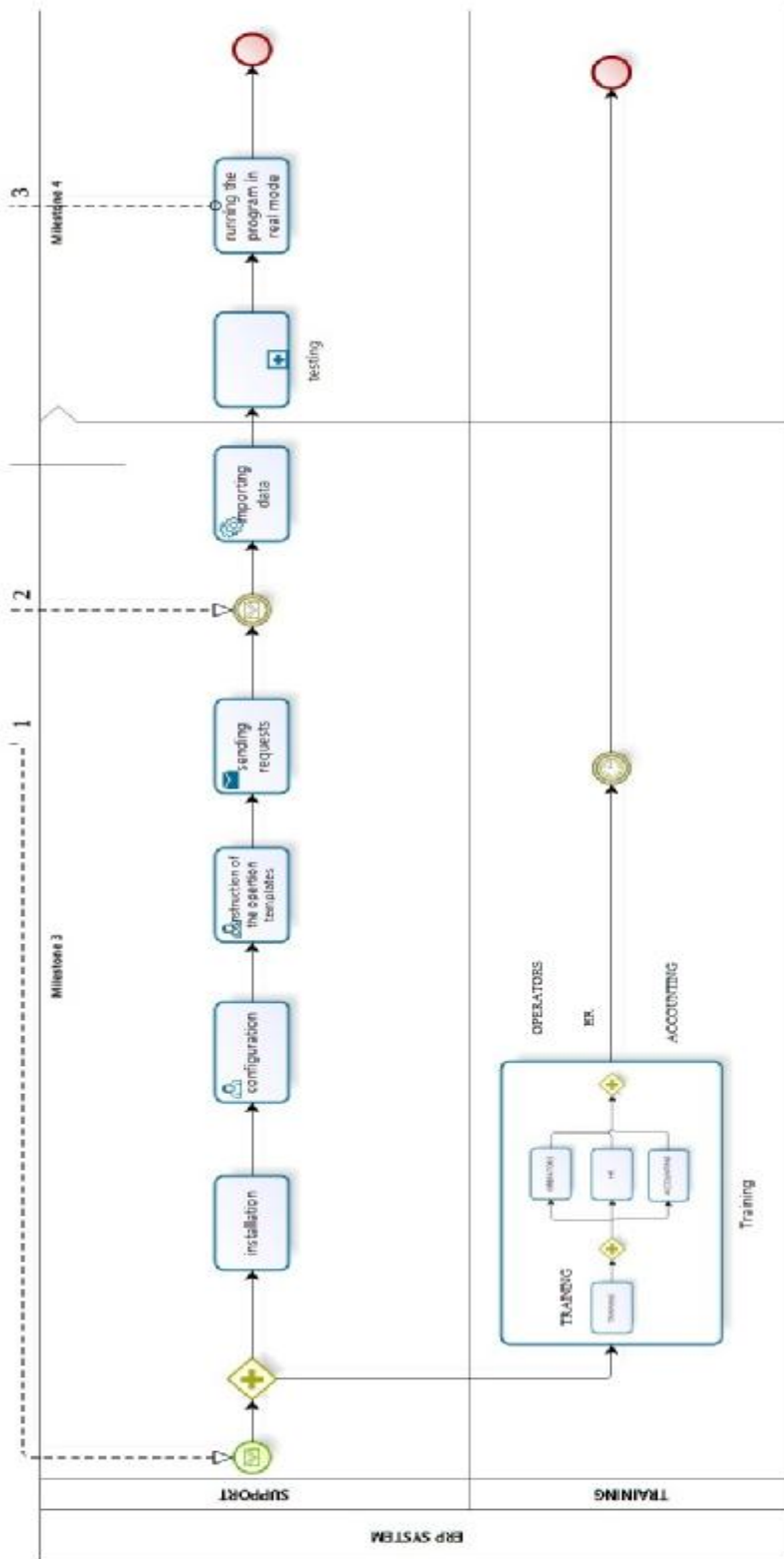


Fig.2-right. New methodology of the ERP implementation

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საწარმოო მენეჯმენტის ბიზნეს-პროცესების მოდელირება და ანალიზი

ხატია ქრისტესიაშვილი, გიორგი სურგულაძე, მაია ოხანაშვილი
საქართველოს ტექნიკური უნივერსიტეტი

რეზიუმე

საწარმოო ობიექტების მაგალითზე ჩატარდა მენეჯმენტის საინფორმაციო სისტემების შექმნის ახალი ინფორმაციული ტექნოლოგიების ანალიზი. ჩამოყალიბდა საწარმოო ბიზნეს-პროცესების მართვაში არსებული ძირითადი პრობლემები. განხილულ იქნა საწარმოო რესურსების სამართავად ERP სისტემის გამოყენება და მისი ეფექტური დანერგვის მეთოდოლოგია. შემოთავაზებულია ორგანიზაციის ბიზნეს-პროცესების მენეჯმენტის ამოცანების მოდელირება BPMN ინსტრუმენტით ERP სისტემის დანერგვის და მისი ფუნქციონირების დროს.

**МОДЕЛИРОВАНИЕ И АНАЛИЗ БИЗНЕС-ПРОЦЕССОВ
ПРОИЗВОДСТВЕННОГО МЕНЕДЖМЕНТА**

Кристесиашвили Хатиа, Сургуладзе Георгий, Оханашвили Маиа
Грузинский Технический Университет

Резюме

На примере производственных объектов проведен анализ новых информационных технологий для создания программных систем менеджмента. Сформулированы основные существующие проблемы менеджмента производственных бизнес-процессов. Рассматриваются вопросы использования ERP системы и методология ее эффективного внедрения. Предлагается моделирование задач менеджмента бизнес-процессов организации с помощью инструмента BPMN, во время внедрения и эксплуатации ERP системы.