

BUSINESS PROCESS MODELLING: A FOUNDATION FOR KNOWLEDGE MANAGEMENT

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Abstract: *Knowledge management (KM) is increasingly recognised as a strategic practice of knowledge-intensive companies, becoming an integral part of an organisation's strategy to improve business performance. This paper provides an overview of business process modelling applications and analyses the relationship between business process modelling and knowledge management projects. It presents the case study of Croatian leading banks and the insurance company, discussing its practical experience in conducting business process modelling projects and investigating the opportunity for integrating business process repository and organisational knowledge as the foundation for knowledge management system development.*

Keywords: *business process modelling (BPM), knowledge management (KM), Croatian financial institutions, ARIS.*

1. INTRODUCTION

Knowledge is the combination of data and information to which is added expert opinion, skills and experience [4; 2]. It comes in two dimensions: explicit and tacit. Tacit knowledge originates and is applied in the minds of the owners of knowledge and hence it is almost impossible to put into a document or a database, as well as difficult to communicate and share. Explicit knowledge is typically structured and retrievable. Explicit knowledge in organizations often becomes embedded in documents, repositories, organizational routines, processes, practices and norms. Organizational knowledge is a mixture of explicit and tacit knowledge and the role of KM is to make it available as an organizational asset. Organizational knowledge integrates a company's experiences, company-specific knowledge, culture, communications, decision-making procedures, as well as the detail of business processes [13]. Knowledge management is the organizational process for acquiring, organizing, and communicating both tacit and explicit knowledge. Knowledge management systems are information systems focused on creating, gathering, organizing, and disseminating an organization's knowledge.

Business process modelling is a methodology that enables enterprises to specify their business processes as a series of activities and transactions that together achieve some business objective. Business process modelling as an approach focuses on understanding the underlying business processes and developing business process repositories where business rules are one of the most important elements for the detailed and formalised description of all facts (knowledge) which are to be implemented during IS development [29]. Business process model builds up a company-wide knowledge base and could be the

starting point for knowledge management system development, but the projects that focus on knowledge management within the business process level are limited in practice.

From the above, it becomes clear that an approach that explicitly integrates KM activities in to the BPM methodology is still missing. Therefore, the focus of this paper is on process modelling with the purpose of knowledge management. It compares the theoretical overview of BPM application in different areas and the results of the empirical research, investigating how organizational knowledge embedded in business process repository is utilised within leading Croatian financial institutions. The paper is structured in the following manner: different KM concepts, approaches and applications are described in Section 2, giving the information about KM literature, researches and resources. The overview of BPM applications, emphasising the ability to use BPM as a tool for knowledge management is discussed in Section 3. Section 4 introduces the case studies of BPM projects in two Croatian leading banks and the insurance company. According to the experiences from the case studies, the results of BPM projects in the context of knowledge management are discussed in Section 5. Finally, in Section 6, conclusions and future research orientations are provided.

2. KNOWLEDGE MANAGEMENT IN BUSINESS PRACTICE: APPROACHES AND ASPECTS

Many KM concepts and instruments have been proposed to guide organizations to use their knowledge in a more efficient way. The state of practice of KM systems has been studied by a number of authors [38; 12; 8; 36; 31], mostly addressing the technological aspect e.g. software systems that support different KM activities. Knowledge management is still a young field with many definitions and approaches, thus, there is a need for a rigorous and systematic empirical research, addressing the relationship between the organizational, cultural and technological aspects of KM. Recently, several authors reviewed the various KM approaches, both in the literature and in business practice [40; 24; 20; 3; 32; 33; 23].

As KM has its origins in a number of related business improvement areas (such as BPR, TQM, IS development), many organizations have found that tensions exist between knowledge-oriented applications and the progression of organizational change. Therefore, an empirical analysis of knowledge management applications was conducted by Moffett, McAdam and Parkinson [33]. The authors have been involved in an industrial/university partnership research, this resulted in a large survey empirical analysis: the questionnaire was distributed to over 1.000 organizations across three industrial sectors. The findings from this research indicated that a strong relationship existed between KM and other organizational factors (organizational culture and internal technical culture), while further analysis revealed that factors internal to the organization were impinged upon by macro-environmental elements. As a part of the work for the CLEVER project, it was realised that collaborating partners needed to be able to evaluate "organisational readiness" for KM prior to considering how best to implement appropriate KM processes [37]. The experience from business practice shows that culture, organization, strategy, IT infrastructure, effective and systematic processes and measures are the key success factors of implementing KM in organizations. Akhavan, Jafari and Fathian [23] conducted a multi-case study research providing an integrated perspective of critical success factors for implementing KM. A multi-case analysis was based on the data collected from six great companies (Ernst&Young, Hewlett-Packard, BusinessEdge Solutions, Microsoft, Teltech and Siemens) which were successful in implementing KM system. Through studying and analyzing six real case studies a conceptual framework was developed. This framework can be applied as a roadmap by the leaders to establish KM system through their organization.

Maier and Remus [32] discuss the distinction between human- and technology- oriented KM approaches and propose a new concept called “process-oriented knowledge management” (PKM) as an integrating platform, bridging the gap between technology oriented KM and human-oriented KM. The authors define PKM as the management function responsible for the regular selection, implementation and evaluation of process-oriented KM strategies that aims at supporting and improving an organization’s way of handling knowledge in order to improve organizational performance. The implementation of these strategies can either start from a process management, or from a knowledge management initiative. The applicability of this concept was shown with the example of KM project in one of the five largest German universal banks. The case study describes and explains how to use process orientation as the theoretical basis that guides the implementation of KM strategies. Supported by this positive experience, a similar research was conducted in Croatian banks and insurance companies. The results of this research are presented in Section 4 and analyzed in Section 5.

3. THE OVERVIEW OF BUSINESS PROCESS MODELLING (BPM) APPLICATIONS

Business process models can be used to serve a wide number of applications, for example to drive a strategic organizational analysis, to improve the existing processes, to derive requirements and specifications for information systems design, or to support (semi)automated execution of processes or so called workflows [35]. Curtis et al. [27] had identified several modelling goals and objectives: facilitate human understanding and communication, support process improvement, support process management, automated guidance in performing process, and automated execution support. Rosemann [10] further found process modelling to be effective in supporting knowledge management, human resource management and project management. The focus of this section is to discuss the application of BPM in different areas, depending on different projects' objectives and goals, with the accent on the suitability of BPM in Knowledge Management projects.

3.1. BPM IN BUSINESS PROCESS CHANGE

Business Process Change (BPC) could be recognized as a form of continuous organizational change in which companies change and improve their business models, strategies and goals. Environmental changes drive changes in processes leading to a continuous improvement effort. With almost two decades of BPC practice, the concept continues to evolve. And, while there is some commonality in how companies approach change, BPC projects differ in the magnitude of planned change. There are the most extreme situations when a process must be radically changed or even replaced by a new process, however in most cases the emphasis is placed on existing processes trying to redesign or gradually improve them to conform to new corporate strategies and goals.

1. To realize the business process change, most of companies use different methods and tools, which integrate components for static and dynamic modelling and measuring the performance of the processes. Regardless of the methodology used, models of business processes play an important role in different phases of BPC [5]. According to the trends recognized from current business practice and literature [25; 18; 6; 22], the typical features of integrated BPM tool could be summarized as: data and organization modelling function, static process modelling, dynamic process modelling, data and process models interfaces, repository, and publisher. Among these, the data and static process modelling features were most widely used in practice, whereas dynamic

process modelling feature was less frequently used. The aim of using an integrated BPM tool is to develop a framework that: (1) is easy for modellers and users to design and understand; (2) interrelates several business process modelling methods and techniques; (3) encourages standardization; (4) provides a single business process repository and the use of a common process vocabulary; (5) provides model analysis, validation and testing; (6) is able to analyse, tune and optimize the processes of a company; (7) is formal enough to serve for software development purposes.

3.2. THE APPLICATION OF BPM IN BUSINESS PROCESS MANAGEMENT AND IS DEVELOPMENT PROJECTS

Business Process Management enables the design, analysis, optimization, automation and diagnosis of business processes by separating process logic from the applications that run them; managing relationships among process participants; integrating internal and external process resources; and monitoring process performance [1; 28]. This term is occasionally used to refer to various automation efforts like Workflow Management (WFM) systems, XML business process languages and ERP solutions, but this approach is too narrow and it does not comprise the entire Business Process Management concept. The focus of traditional workflow management systems is on the automation of business processes. As a result there is little support for the analysis, design and diagnosis phase [15]. Many WFM systems do not support simulation, verification and validation process, as well as the collection and interpretation of real-time data. Therefore Business Process Management extends the traditional WFM approach.

Over the last three decades, a well-established procedure for modelling information systems was based on two complementary aspects of analysis: data modelling (entity-relationship modelling) and function modelling (data-flow diagramming). Since events which trigger a response in an information system come from within the organisation or from the external environment, it is obvious that a third representational framework is effectively a business process view [11]. Model driven development is one of the recent trends in the information systems development. Each ERP system uses a business process model to support the requirements analysis and business process driven information systems development. Nowadays, leading ERP systems vendors offer WFM modules as integrated business process management systems. The notation of a workflow is clearly and closely related to the notation of a process and its execution. The main purpose is to avoid the programming, enabling the transformation of business process diagrams into tailor-made applications. The IS/WF modelling environment should have a formal foundation, providing a structured way of identifying and capturing all information, relationships and business rules that make up a business process [30]. Business rules are explicit statements that regulate how a business operates and how it is structured. Besides being important as an organizational asset, they are also significant for the IS and workflow management systems (WMFS) that support the business [17].

However, very serious problem is the inability to translate business models into information (workflow) models precisely and without the ambiguity since business process models still do not have a formal foundation [29; 7; 15]. Although the software interfaces between process modelling and IS modelling are developed, these interfaces might provide some syntactical translation but they cannot bridge the semantic gap between business processes and IS models. Here the manual revision of IS models is often more efficient and useful than the use of interfaces, but the problem is expected to be solved by the producers of Business Process Management tools using the appropriate rule-transformation approach and introducing the rule repository.

3.3. BPM AS A TOOL FOR KNOWLEDGE MANAGEMENT

KM enables the creation, communication, and application of knowledge of all kinds to achieve business goals [14] and it is increasingly recognized as an integral part of an organization's strategy to improve business performance [26; 41]. The management and processing of organizational knowledge are increasingly being viewed as critical to organizational success. Organisational knowledge as an important element of the entire business knowledge could be systemized, documented and retrieved in business process repository developed by business process modelling tools, within business process change projects. Business process model builds up a company-wide knowledge base and is the starting point for the constant adaptation of organizational structures to the dynamic company environment; they provide a 'process' approach to knowledge management.

The role of BPM in Knowledge management is threefold: (1) business processes, if modelled and captured in business process repository, are a part of codified intellectual capital of the organisation; (2) knowledge processes in an organisation should be a part of business process repository; (3) business process repository could be used for knowledge creation, sharing and distribution [7; 21; 16; 9].

Business process modelling (BPM) as an approach focuses on understanding the underlying business processes where business rules are one of the most important elements for the detailed and formalised description of all facts (knowledge) which are to be implemented during IS development [29]. Business process repository contains existing process knowledge documented in the form of business rules: policies and procedures, job descriptions, business forms and application code, relational data-base management system rules (tables, constraints, and triggers). It could enable employees to reuse and adopt the knowledge and best practices from previous business process restructuring efforts.

Business rules could be considered a subset of our knowledge, or a statement describing a business policy or decision procedure [6]. Business rules support business policies that are formulated in response to an organization's mission, vision, objectives, and goals. They are usually embedded in technology or documents, providing guidance to business processes [14]. By developing business process and business rules repository, it becomes possible to classify existing knowledge and make it transparent, to identify knowledge carriers and knowledge users and to define them in specific roles. This structuring of knowledge or knowledge processes creates the conditions for configuring, administering and if necessary modifying a knowledge management system efficiently and effectively.

However, the approaches that focus on knowledge management within the business process level are limited [34; 19]. Moreover, although business process modelling tools and/or WMFS support in an adequate manner the modelling and enactment of business processes, they still do not provide the required support for knowledge-related activities. From the above, it becomes clear that an approach that explicitly integrates knowledge management activities into the business process environment is missing. The continued development of business process modelling tools, which will support the transformation of the integral model of business processes into the knowledge repository, will permit for stronger ties between these two otherwise separate areas.

4. INTEGRATING KNOWLEDGE MANAGEMENT IN BPM PRACTICE: A CASE STUDY OF CROATIAN FINANCIAL INSTITUTIONS

The key objective of the research has been to examine the goals and characteristics of BPM projects in Croatian banks and insurance companies, as well as the level of their integration with KM projects. The research had two levels: the first one was realized in a

form of questionnaire by IT researchers from the Department of Business Computing (Faculty of Economics, University of Zagreb, Croatia) and the second was conducted by the author in the form of in-depth interviews.

4.1. RESEARCH METHODOLOGY AND FINDINGS

With the assistance of the Faculty of Economics (University of Zagreb) a new project entitled “IT aspects of knowledge management and business process management implementation in banking” was launched in April 2004. The objective of this project was to offer information on the status of the KM and BPM practice in Croatian financial institutions. The study was conducted in the spring of 2004 on a sample of 41 banks operating in Croatia on December 2003. The survey was based on a questionnaire, resulting in 23 responses representing a strong response rate of 56%. One of the questions posed in the survey was “Is the project of business process modelling/ reengineering (BPM/BPR) ongoing or already completed in your bank?” A positive response was given by 10 banks (25% of the total number of surveyed banks). This percentage indicates that there is awareness of the need for business processes restructuring, as well as the existence of a relatively high percentage of banks which are still not paying sufficient attention to the improvement of business processes. The result is in line with the survey results received by the members of the Department of Business Computing (Faculty of Economics, University of Zagreb) in the spring of 2002 [39]. This questionnaire was sent to 400 IS executives in Croatian companies selected from the Register of the ‘400 Largest’ Croatian companies, which most likely represent the structure of Croatian economy. In this Register, companies focusing on various business activities were ranked according to 2001 annual revenues. The results indicated that 6.4% of companies had already completed, while 22.6% of companies were carrying out reengineering projects at that time. However, the results of both surveys showed that most BPM/BPR efforts have not focused much on knowledge (if at all) which is critical, considering that knowledge should be treated as the principal competitive factor. Therefore, the goal of this paper is not to present or analyse the results of the questionnaires described above, but to use them as the arguments for the further research conducted by the author.

In order to obtain better insight into the actual standing, objectives, methods, tools and success of the business process modelling projects in Croatian financial institutions, the two leading Croatian banks (Privredna Banka Zagreb and Zagrebacka Banka) and the leading Croatian insurance company (Croatia Osiguranje d.d.) were selected as a representative sample. In the period June-September 2004, interviews were conducted with management staff dealing with this area. The questions posed to participants were grouped into three logical entities:

- questions on the company in general (structure, size, financial strength of the company),
- questions on BPM projects in the company (start of project implementation, who initiated the project, what are the objectives, who implements the project, which methods and tools are used, what are project results, what is employee reaction to project, does the project help in improving knowledge management, how the results of BPM project are, or could be used in KM projects),
- a short description of the project the interview participants consider to be representative and/or successful and the quantitative and qualitative results of the project (which is not the focus of this paper).

Interview results were analysed and verified by the interview participants. The most important findings of the research are presented in the text that follows (Section 4.2 and 4.3) and summarized in the Section 5.

4.2 CASE STUDY: PRIVREDNA BANKA ZAGREB

Privredna Banka Zagreb is under ownership of the company GRUPPO BANCA INTESA. Its headquarters are in Zagreb, and the company employs about 2800 staff. The bank's revenue in 2004 (to 30 July 2004) was about 97 million Euros.

Since 1998, the bank has been continually implementing projects of varying objectives and scope. In 1998, the project of implementation and application of best practices was initiated according to the experience of BANK OF IRELAND TWINNING, and this program was introduced to all segments of the bank. In 1999, the consulting company ERNST AND YOUNG analyzed the existing procurement process and proposed changes to improve the efficiency of this process and the German consulting company IDS SCHEER assessed the existing commercial and personal banking operations, as the foundation for implementing changes. Finally, in 2004, parallel to the implementation of the new software solution Navision, the reengineering process of planning, procurement and cost monitoring was also carried out, as well as a series of organizational changes.

On average, the projects lasted for one year; all were completed and considered to be successful. Though the project objectives varied, a common factor in all the projects was business process modelling. Information system development and business process modelling projects were frequently carried out simultaneously, as a joint project, however there were also cases in which the IS implementation project followed the completion of the business process modelling project, and vice versa (the business process modelling project was carried out following completion of the implementation of software solutions). Within the bank, there is the Sector for organization of business processes, which in the organizational map is one step below the Board Member responsible for IT, operations and payment clearance. Members of this sector participate in all business change projects.

Today, an integral model of the bank's business processes has been developed using ARIS software tool (covering about 80% of the business), and this is regularly maintained and used in business change projects. At the current time, the business process repository is not available on the intranet, and cannot be used by bank employees as a repository of organizational knowledge. Bank employees still do not show an adequate level of understanding for the objectives and aims of business process modelling projects, and offer resistance when such projects result in significant changes.

4.3 CASE STUDY: ZAGREBACKA BANKA

In March 2002 Zagrebacka banka became a member of the UniCredito Italiano Group. The bank employs 3879 staff. In 2003, Zagrebacka banka achieved total revenue of 320 million Euros.

Since 1998, the bank has been continually initiated, running and implementing business change processes of varying objectives and scope. In 1998-2000, the "Business processes" project was initiated with the objective of analyzing the existing business processes, as well as for proposing the improvement. Since 2000 the systematic improvement of existing business processes was conducted. In 2001, the ARIS tool was implemented and the new methodology was introduced for measuring the performance (time and costs) of business processes. This methodology was provided by the world renowned consulting company WD Scott. In 2000-2002, the project "Analysis of bank

business processes” was implemented, representing the foundation for further work on the improvement of business processes and efficiency of overall operations.

The bank has a special organizational unit which deals with the improvement of business processes – the Directive for Operations Improvement, as a part of the Sector for Operations Support. Assessing business processes with the ARIS tool resulted in the creation of a dynamic image of the processes in the bank, which thereby formed the foundation for transparency and flexibility of changes in business processes. In the Directive for Operations Improvement, business processes are systematically modelled and analysed, their performance measured, changes proposed, processes standardized and analysis carried out following implementation. To date, the system of process management covers about 85% of all the processes in the bank. In the implementation of change, employee resistance is frequently noted; however, the projects are successfully realized with the support of top management.

4.4. CASE STUDY: CROATIA OSIGURANJE D.D.

Croatia Osiguranje d.d. is a state-owned Croatian insurance company, and holds the leading position in the country. The company has about 2100 employees. Gross profit of the company in 2003 was 15 million EUR, while the gross written premium in 2003 was 350.000 EUR, which represents an increase of 12.6 % compared to 2002 and shows the positive business trends.

The projects of BPC and information system development have been ongoing for several years. Most of the projects are now completed, with the average duration period of three years. These projects are of differing scope, with differing goals and cover the core business processes of the company. The common goals of the projects were to improve business in general and enhance the efficiency of the company’s information system, but it was necessary to model and reorganize business processes in an attempt to accomplish that goal. The experiences from practice showed that defining business processes should always precede data modelling and information system development, since it creates a good basis for IT experts in their work. All of the conducted projects were considered successful. The initiator of the projects was top management (Steering Committee, Strategy Committee, Executive Committee), but the initiative also came from the IT managers. Company employees have different attitudes towards the projects. Some employees accept and support the changes, while the others show a lack of comprehension and offer resistance.

Among the numerous business process modelling tools, ARIS was selected to be used in business process modelling projects. The main goal of using ARIS was to develop the models of current core business processes (AS-IS model) and to suggest methods and means of improvement through the development of the TO-BE models. The models were developed by the members of Business Process Management and the ISO Standardization Department. The business process repository is regularly maintained and the possibility of publishing the integral business process repository on the company intranet is still under consideration. In the very near future, the company intends to initiate knowledge management projects. The focus of this project will be knowledge discovery from data bases and the process repository.

5. RESEARCH RESULTS: ANALYSIS AND DISCUSSION

The results of the research proved the hypothesis about BPM application in different areas (described in Section 3), confirming that the best results are still achieved in business process change projects. It is also used as a basis for IS development, despite the current disadvantages, while the implementation of BPM for KM systems development is very

limited, but usually declared as the project to be realized in very near future. The comparison of the results showed the existence of the following common features of the BPM projects in the selected banks and the insurance company:

1. The projects described above could be recognized as a form of business process transformation and/or IS development projects. The primary objective for the companies was the development of an integral business process repository (the business process model covered about 80% of all processes in the companies). The business process repository is continually maintained, changed and supplemented. Business performance measurement methods are used increasingly: process models are enhanced with attributes necessary for analysis, measuring process performance and creating proposals for improving processes. Companies use the developed repository as a foundation for the development of new IS, as well as for changes to the existing IS, to the extent possible due to existing limitations (problems in the transformation of the process model into the data model). The business process repository is not available on the company intranet; however, this possibility is defined as a future objective.
2. Companies do not approach changes as a one-time project, but instead treat them as a continuous process, one in which company employees participate as users who possess knowledge on the operations of the company, as well as in-house experts – employees specialized for organizational and business improvement tasks. The company position on the need for continuous implementation of BPM projects is evident in the decision to form special organizational units (directives, offices, divisions), with the task of improving operations.
3. The possibilities the business process repository offers as a basis for knowledge management system development are still insufficiently used. A knowledge perspective should be added and KM tasks should be assigned to roles during BP modelling. However, management has accepted the idea of the need of launching KM projects, in which one of the basic strategies will be the use of organizational knowledge built into and structured in the process repository.
4. The leading financial institutions in Croatia use the same tool (ARIS) for business process modelling. This fact is not surprising, considering that the consulting company Gartner ranked this tool as the best in its category. This tool is also the most represented on the Croatian market.

The use of tools for business process modelling and the many years of implementing reengineering projects suggest advantages and positive impacts, as well as highlighting certain problems and shortcomings. The most significant advantages for the companies included in the study were:

1. The development of the process repository was presented to managers and employees for the first time as an all-encompassing, clear and detailed overview of all the key processes and their participants, thereby allowing for better understanding of the existing way of doing business, as well as insight into shortcomings, as well as the possibility for improvement.
2. The process repository permits for the documentation and standardization of the process (procedure, routine, business rules), and with it the implementation of ISO standards. In this way, the quality of operations is improved, which results in a positive impact on the satisfaction and efficiency of employees, as well as users and business partners.

3. Detailed analysis and measurement of process performance allows for the creation of alternative scenarios and proposals for improvement. With the implementation of the selected solutions and measurement of results of the conducted changes, significant positive impacts are visible. Qualitative impact are shown (greater efficiency, savings in time and human resources, shorter life cycle for products/services) while those of a qualitative nature are described (better quality products/services, greater satisfaction and trust on the part of the user).
4. Information technology experts are extremely satisfied with the results of the business process modelling projects, providing them with an excellent basis for information system development and enabling faster and easier communication with the users, thus making the entire process considerably more efficient. They also expressed the need for development of more detailed process models including descriptions of business rules, procedures and steps, since such low-level models could be used to develop program-codes.

The following problems were noted in the implementation of the project and the use of BPM tools:

1. BPM projects are relatively long-lived (1-3 years). The most time-demanding were those conducted first, and their objective was to develop a model of all the key processes in the company. After spending much time, human resources and financial resources, these projects results in a large number of models, the true value of which was noted and used only in later projects of a narrower scope, and directed at analyses, performance measurements and improvements to individual processes, or their segments (subprocesses). This is a problem noticed in practice as the risk of over-analyzing existing business processes which led to the long period of modelling, producing a huge documentation on “as-is” business processes and getting stuck in the business process analysis phase of the project (e.g., analysis paralysis) from which they were never able to move on. Therefore, the volume of business process models (i.e. number of models, number of diagrams and their levels) must be defined and strictly limited to the scope of the project.
2. Rule repository is the core of a development environment providing appropriate tools for process, workflow, data and organisation modelling, process refinement, as well as KM system development. Though the selected processes, or their segments, were analysed and measured in detail, the possibility of describing the process at the level of business rules was not fully taken advantage of, although this would create an appropriate foundation for the development of WFM system and KM system. This opportunity was not implemented because of two main reasons: (1) this approach requires additional time and resources, and (2) the existing software interfaces does not prove an automatic, reliable and secure transformation of generated business rules in the appropriate IS model and KM model.
3. The results of these projects proved that the greatest drawback of ARIS, as well as the similar BPM tools, is the inability to connect and transform business process models into information system models. The motivation to develop a rule repository is to establish an environment in which business rules can be traced from their origin in the business environment through to their implementation in information systems. This provides the information necessary for rapid information system maintenance and adaptations to changes in the business environment. Its purpose is to describe the activities that must be undertaken to achieve an explicit goal and establish a clear link

between business process modelling and IS modelling. Although formally, the integration of business process models and information system models could be resolved through the use of software interfaces, experience from practice shows that there are still great limitations and serious problems. At the moment, the solutions provided by the software developers cannot be implemented in a rational and reliable way.

4. The implemented projects were met with resistance from the employees, most frequently due to the fear of change and a lack of understanding of the true project objectives. Despite this, the projects were successfully completed, thanks primarily to the continued and strong support by top management.

The projects described above could be recognized as a process modelling/management initiatives, expanding their perspective toward KM. The implementation of KM system in the future can profit from the successful preceding BPM project because business processes had been modelled extensively before.

6. CONCLUSION

According to the resources from the literature and the results of the empirical research it can be assumed that an approach that explicitly integrates knowledge management activities into the business process environment is still missing. This approach will be based on integration of business process rules with the organizational knowledge documented and stored in the business process repository. The continued development of BPM and KM software tools should enable the transformation of the integral business processes model into the knowledge repository.

Based on the conducted interviews, it can be concluded that the approach of Croatian financial institutions towards initiating BPM projects is positive, and the implementation of modern methods and tools for business process modelling creates a high quality foundation for improving operations. Since the management of these companies accepted the fact of the need for a knowledge management strategy, this research could serve them to implement an integrated “business process and knowledge management centric” framework. Organizational knowledge, structured in the form of business rules, is already stored in the business process repositories. The development and implementation of the knowledge management system should enable employees to search, retrieve, distribute and transfer organizational knowledge throughout the company.

The most critical issues of BPM and KM adoption have been recognized and discussed in the paper, though there are still factors to be identified and analyzed through further study. The author plans to extend this research through the analysis of expected changes and positive impacts of BPM and KM projects in other Croatian companies and abroad.

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