Using Agility in Building Business Process Management Solutions

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Abstract—In turbulent modern economy, the companies need to properly manage their business processes. Well-defined and stable business processes ensure security of crucial data and applications, and provide a quality product or service to the end customer. On the other side, constant changes on the market, new regulatory provisions, and emerging new technologies require the need of issuing prompt and effective changes of business process. In this article, we explore the use of agile principles in working with business process management (BPM) solutions. We deal with difficulties in BPM development cycle, review the benefits of using agility, and choose the basic agile principles that ensure the success of a BPM project.

Keywords—Agile development, BPM environment, Kanban, SCRUM, XP.

I. Introduction

IN order to succeed on global markets, one of the basic needs of a company is the ability to constantly adapt, positively respond to a new set of circumstances, and to develop and implement innovative solutions. Core business is no longer centered on a single application, web page or a relatively simple database infrastructure. It is a cluster of interconnected services and complex business processes that can quickly adapt to new business models, interact with suppliers and create a quality product (or service) for the customer [10]. In order to understand, control, maintain and improve such a complex environment we need a systematic approach to the processes that are present in that environment. One of the efficient ways of doing so is through Business Process Management (BPM). BPM is a discipline that focuses on improving corporate performance by managing and improving company's business processes. It's not just a set of technologies, tools, or an initiative for business processes, in fact many significant business process improvements can be achieved without technology. Business process (BP) is typically a set of activities, inputs and outputs that are combined to achieve a particular business goal. BPM focuses on people at the center of business processes, and requires an end-to-end organizational view and a great deal of common sense [3]. The end goal of BPM is total flexibility. Process workflow is determined by real time events, human interaction and the execution of other processes. That enables the company to react promptly and properly to any new situation [8].

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Often the process of creating business value may involve multiple companies, where each of them has a specific role in handling a specific part of the overall value chain [1]. Therefore, one company never completely controls the entire value chain, and a complex business network is created, in most cases an entire business ecosystem. In order for that kind of structure to function efficiently, the development of underlying business applications and services must be able to keep up with all the necessary changes and business requirements. In that, kind of environment companies must arm themselves with management approaches and tools needed to gain flexibility and agility, and so create a systematic business processes architecture that is accustomed to change [4]. Agile software development, an approach for software creation designed to overcome some shortcomings of traditional approaches and hard methodologies, like the waterfall methodology, is a reasonable way to go [2]. One could say that in waterfall methodology, the crucial step is to get all quality input from the customer at the beginning of the development process, and hope that no changes will occur throughout the process. On the other side agile development focuses, and is designed to cope with, all kind of changes in specifications and customer requirements. The agility is achieved using an iterative development approach that focuses on producing working software easier, and as quickly as possible. Swift reactions to the ever present changes in specifications and project needs are achieved by constant communication and cooperation of self-organizing cross-functional teams, which are the basic power of agile development methodologies [5].

The rest of the article is organized as follows. In Section II an overview of some interesting research that was done in the area of BPM and agile software development is given. Section III discovers the challenges of developing a BPM solution, while Section IV explores how agility can help in dealing with those challenges. Section V gives a guideline on how to change the existing or construct a new agile methodology that best fits the needs of our company. Section VI lists practical agile principles that can be used in BPM solution development. In Section VII some issues, setbacks and flaws of the agile BPM approach are indicated. Section VIII is dedicated to describing a workflow of a BPM project that was undertaken, while in Section IX the overall conclusions are given.

II. Relevant Research, Solutions and Experiences

A short overview of the BPM history was given in [4]. From the initiatives in the first wave in the 1920's, second and

third waves in the 1990's and 2000's, to the present fourth wave which was, among other things, interestingly named: "*Thriving in the Digital Pangaea and Global Innovation Economy*". By learning from the past, some challenges that face the companies in the fourth wave where identified.

Authors in [7] emphasize the importance of process-oriented view and the need that the companies familiarize themselves with their business processes. Further on, companies should automate and control their processes as much as possible in order to recognize the necessary changes, upgrades and future requirements of the entire business system. A series of steps, or guidelines, are also given to help us approximate the potential needs of a specific business system.

An easy to use, practical, guide that provides a framework with a complete set of tools and techniques, to successfully implement BPM projects was described in [3]. It deals with vital organizational perspectives that not only provide an overall view of BPM and the move towards a process-centric organization, but also reveal how to embed BPM within an organization to ensure a continuous business process improvement culture. Further on, in [1] a discussion was undertaken about a simple shift in process thinking and technology that transforms information systems and reduces the lag between management intent and execution. The key is to establish a communication with a universal process language, like the main elements of Business Process Modeling Notation (BPMN) or Business Process Modeling Language (BPML). That enables partners to pursue a shared vision, an understanding of each other's operations in detail, what helps them to together design processes and manage the entire life cycle of their business improvement initiatives. It makes the enterprise agile, embeds quality control like Six Sigma, and reduces cumulative costs across the value chain.

Research done in [2] presents a number of different techniques that enable automated adaptation of business solutions to emerging changes. Authors describe the benefits of combining BPM, agility and virtualization to minimize the reaction time and maximize the efficiency in times when changes arise.

Article [5] explores a more agile approach to BPM process discovery and development, reducing the time to market and ensuring an alignment and cooperation between business and information technology (IT) experts. The usage of BPM tools like IBM Business Process Manager (IBM BPM) or Blueworks Live, and techniques such as different workshops and iterative BPM development methods, allows better-designed solutions. This helps to address the requirements during the design and development phase instead of the traditional approach where business hands off requirements to IT with the hope that the final solution meets the requirements.

The method described in [6] focuses on a structured way to perform revisions and reviews of a finished BPM solution and it lays out key questions and factors which to assess. The common usage of IBM BPM playback methodology in conjunction with BPM design reviews is indicated. Together it improves the quality of the playback session itself.

Work done in [9] explores the agility that a service oriented architecture (SOA) gives to the core business processes of the company. It describes a BPM-SOA integration model to create a flexible view of the underlying business process structure of the company by combining various existing technologies, and proven solutions tested in working environments. Similar, analysis of the relationship between BPM and SOA and its influence to business agility is undertaken in [8]. The authors stress the importance of software tools that reduce the gap between the complicated modeling of business processes and their actual implementation in the organization.

In [10], one can see an interesting way of identifying the basic elements that support agility in managing the business processes of the organization. Recommendation of an integrated approach of designing and reshaping the processes, with the help of a Capability Maturity Model (CMM), is given in order to successfully apply these elements in the entire business. CMM is a tool for assessing processes, a degree of formality and optimization of processes, designed mostly for organizations that are oriented on software development. It was created after studying data collected from organizations that worked for the US Department of Defense. The article also focuses on building the fundamental business processes that are specific to the businesses in emerging markets.

III. DIFFICULTIES IN BPM DEVELOPMENT

The complex development life cycle of a BPM solution faces multiple challenges. A common situation in organizations with separated IT and business sector is a lack of communication and cooperation between the two. Business people know the business requirements, have the greater picture in mind, but are usually not familiar with the technologies and methods that lay underneath their business applications. In addition, they are often constrained by their view of the current state. It is difficult for them to precisely specify the envisioned solution, a complete and detailed process model, so some changes in the model are expected to occur during the development. On the other side IT staff is familiar with technical possibilities and limitations, underlying database structures, data access and presentation layers, complex BPM tools, but lack the whole view of the business idea. Therefore, IT and business do not speak the same language which is one of the causes for the lack of efficient cooperation, mutual thrust and eventually causes problems. This kind of cooperation results in a product that is usually conceived and designed by IT, based on accepted business requirements, but without the understanding of the specific business objectives. Usually the final product can be way different from that what the business people expected, and therefore produces poor performance and requires further redesign.

Due to multiple problems and misconceptions which arise when building BPM solutions in that manner, the development cycles are prolonged, deadlines missed and the available budget spent long before the solution is ready for the production environment. To prevent that, we need an iterative approach to designing a BPM solution. After each iteration,

business and IT should work together, reviewing and correcting the job done in previous iterations, and then further design process flows and business rules for the next iteration [10]. Practicing that kind of collaborative, iterative, development process allows business and IT to learn each other's languages and encourages sharing of new productive ideas which could make the difference between success and failure of a BPM project.

IV. WHEN AND WHY DO WE NEED AGILITY?

By combining agility and BPM, we shift our processes, from their predefined rigid roles, into dealing with unpredictable business challenges that are out of the domain of traditional process management techniques.

In practical terms, a rigid BPM could be applied on financial payment where each transaction is processed the same way. On the other hand, a personalized CRM system that analyses every client, and based on the available data creates a specific marketing campaign for the client, would be the example of an agile BPM structure.

Based on our experience, let us try to identify some common indicators of need for agility in a BPM environment.

1) *Unpredictable environment subjected to frequent business processes changes* - changes can include correction in the business process workflow due to urgent legal regulations, security issues, market situation, etc.

2) *Continuously growing environments where the focus shifts from a predictable and well-structured business routines to dealing with unpredictable problems and situations* - BPM system must be agile enough and enable ordinary users to make changes in BP workflows, according to the conditions at hand, while other, more qualified people, deal with the complex problems. Focus shifts from repetitive tasks and automation to gaining knowledge, analyzing, and problem solving.

3) *The need to quickly adapt business solution for an implementation in an outside organization* - business rules and practices defer inside different organizations located in a same business branch. For example, in a large bank group, consisting of multiple banks dispersed trough different countries, the decision has been made to implement the same Internet banking solution. The solution was developed by one of the banks in the group, and it has shown to be extremely reliable and user friendly. The selected solution now must be adapted to the underlying business data, country specific payment system, and other specifics in business processes of each bank from the group.

4) *IT environments where individuals are responsible for multiple tasks and simultaneously work on more than one BPM project* - agility gives individuals a dose of freedom in development. They can freely arrange their time on different projects, according to the planed amount of the work that needs to be done. In case the development was done before the deadline, some additional, initially not planned tasks, can be completed. In addition, the collaboration between people from multiple BPM projects

is important because it creates group experience and provides useful input on how the business processes should change.

5) *Venture into the unknown* - when a company faces a large project, new type of service or a product, it is not possible to fully specify the entire process workflow, predict all business cases, possible setbacks and modifications to the workflow that will emerge. In that case an iterative approach provides the benefits of slow, stable growth and evolution of a BPM solution.

V. HOW TO CHOOSE THE BASELINE AGILE METHODOLOGY?

When building an in-house solution it comes handy to adapt a certain methodology and then further develop it according to the needs of the particular environment.

First, let us examine few of the basic agile methodologies:

1) SCRUM is an iterative and incremental development methodology. It defines a flexible, holistic strategy where a development team works as a unit to reach a common goal. It enables teams to self-organize by encouraging collaboration of all team members, as well as daily face-to-face communication. A key principle of scrum is its recognition that during a project the customers can change their minds about their desires and needs, and that unpredicted challenges cannot be easily addressed in a traditional predictive or planned manner [11].

2) Extreme Programing (XP) is specially designed to improve software quality and responsiveness to changing customer requirements. It includes frequent "releases" in short development cycles, programming in pairs, extensive code reviews, unit testing, on demand programming, flat management structure, simplicity and clarity in code, changes in customer's requirements, frequent communication with the customer and among programmers [11].

3) Kanban is a method for creation of products with an emphasis on continual delivery while not overburdening the development team. It helps teams work together more effectively and is based on three principles: visualization of what you do today, limitation of the amount of work in progress (WIP) and enhancement of the flow. Kanban promotes continuous collaboration and encourages active, ongoing learning and improving by defining the best possible team workflow

A BPM project is primary a management problem, an improved way to handle, coordinate and interconnect the existing processes. Therefore, when choosing an agile methodology to use in BPM development, or just specific principles from certain methodologies, it is important that we focus more on the management aspects of the development process. For example, if we compare SCRUM and XP we can see that XP focuses more on rules specific to the way software is written (code written to standards and reviewed, programming in pairs, unit and acceptance tests etc.). On the other side SCRUM is all about managing, coordinating all involved parties, encouraging communication, self-organization and cooperation inside a time limited periods

called sprints. On the other hand, if the time needed for the specific parts of project vary, or we continuously breach the sprint time period, we may remove sprints entirely from our development process and use methodology like Kanban. There we have a continuous development with releases when the situation requires, or the development team decides. The lack of sprints makes Kanban also more acceptable to changes in customer requests (which are not allowed in regular sprints). In addition, there are no roles, and the team focuses on the single task in progress which gives them flexibility in planning and clear focus throughout the development cycle.

It is a good practice to blend the ideals from different methodologies into one specific that best satisfies our needs. So one can take sprints from Scrum, decide not to have specific roles and not to switch tasks during development like in Kanban. Lastly one can look adopt elements of XP, decide to use standard unit and acceptance tests and agree on a basic style of coding that would be used by our development team. That way one can create a custom methodology to produce best results for a project.

VI. Using Agile Principles in BPM Development

Let us see how agile development methods influence the life cycle of BPM solutions. Generally speaking, these methods are a key catalyst which enables continuous improvement, dictates the pace of change and enables developers and business people to speak the same language. Therefore, they bridge the gap between what is needed (business side) and what can be done (department of information technology).

Some useful agile strategies and principles that benefit the development of BPM project can include the following.

A. Selection of BPM Tools That Support Incremental Agile Process Development

First, an important thing, when searching a tool for solving a specific problem is not to forget that we are looking for a solution to a problem we have, not the tool itself. A good tool can make hard job simple but finding the right tools is not always easy and using the tools properly requires skill [5]. If the BPM software does not support all aspects of agile development, specific problems are often resolved using different tools and included in a BPM solution. Those parts are not under the full control of the BPM system and can cause unpredictable behavior, such as delays in process. Therefore, it is necessary that the BPM tool supports an iterative development approach trough the philosophy of continuous simulations (playbacks) which goes well with agile methods. Playbacks are interactive sessions where IT, business people, and stakeholders review the current state of the BPM solution and evaluate the functionality trough time, as it is further developed.

If we look for similarities with the playbacks in agile methodologies, for example in SCRUM there are sprints, periods where a certain functionality is developed, after which the functionality is tested and put in production environment [11]. In addition, agile methodologies tend to have a *Product*

Backlog, a central place where you keep all desires for future functionalities, which can be compared to early development phases of the BPM project where all the process are identified and cataloged.

B. Set Firm Foundations to Build Upon

The success of a BPM solution lies on the foundations set in the initial phase of the project's life cycle, the definition phase. It is important to conceive a stable process model, select appropriate tools and consider the limitations of existing systems.

One of the models suggested in [6] recommends one playback to be held in the definition phase, and then three more during the total project development, where each playback focuses on different tasks. Experience from project described in Section VIII has shown that only one payback in the definition phase did not successfully resolve all the major issues, what later caused difficulties in development. Therefore, the following improved methodology was used during the definition phase.

Beside the one playback, two workshops where held internally in the IT department (Fig. 1). This prevented larger misconceptions, misdirection's and failures in the beginning of the project. First workshop was after the initial overview of the user specifications and before the first playback, and the second one after the playback. The purpose of that workshop was to carefully analyze potential flaws in the overall process workflow, defined by the business sector, from a technical perspective. Possible bottlenecks and incompatibilities with existing applications are identified, some alternatives to ease and speed up the implementation are suggested, and possible technical limitations noted. Undefined cases, and any open questions are listed, and new ideas considered. Based on the conclusions and initial business specification a basic data model was developed, specific authorization and user roles sketched to demonstrate control, basic forms constructed to show the visual imprint. With the described preparations in place, the first playback was held. Together with the business users the process flow is refined, errors corrected, compromises made, specifications supplemented, user roles and interfaces precisely defined.

Fig. 1 Steps in the BPM definition phase

After a successful completion of the playback, and the second workshop, the development phase within the IT can begin. During that phase regular daily stand-up meetings are held, where status is reported, plans made, and burning issues resolved within the development team. When certain

functionality is completed a second playback can take place. There the progress is demonstrated, minor cosmetic changes are made, and further plans developed.

C. Choosing "Low-Cost-High-Gain" Projects or Functionalities

When a specific project starts, some basic functionalities need to be presented to the business side in the least amount of time possible. That way we gain their thrust, convince them in the work we do and so enable the continuous funding of the project. In addition, releasing features or functionalities that deliver only partial business value can be a good thing. Prototypes trigger some feedback to the designers and developers and therefore impact the overall quality of the final solution. Primary goal of this strategy is to find a potential BPM project that delivers the greatest business value or profit for the organization and carries the least amount of risk.

In case of a single large project, key functionalities are identified and prioritized for the implementation. The "Pareto principle" (also known as 80-20 rule) can be applied here. The principle states that 80% of the effects (profits) are due to the 20% of the causes (work) and vice versa. Therefore, it is not necessary to implement all functionalities to deliver significant business value.

Let us take a look at an Internet banking application that offers multiple services, for example domestic and international payments, currency exchanges, deposits, fund trading, etc. It's obvious that the most used services will receive the highest priority for implementation due to the fact that they generate the largest amount of traffic, and therefore are the most profitable. In that case, domestic payment module would be the first to implement, while some functionalities like fund trading would receive lower priority. Another issue in agile BPM development is balance attending to detailed improvements in one area of implementation before moving to another. It's tempting to aim too high in the model maturity, when a lower level may deliver most, if not all, of the desired value. Pursuing a high goal will expend too many resources for achieving little or no benefits in overall performance.

D. Development of a Common Vocabulary and Role Mapping

In BPM, a shared implementation effort between IT and business, it is not uncommon that different business units within a same organization use different terms to describe the same or similar process. A key to successful communication is a creation of a common vocabulary that describes business processes and business routines.

The creation of common communication culture is a time-consuming and persistent task achieved through consistent meetings, workshops, and communication between business and IT. This way people get accustomed to certain ways of thinking, technical and business communications patterns and therefore the overall quality of the development project is improved. Furthermore, when observed closely, we discover that user roles in agile methodologies, for example SCRUM, can be successfully mapped to BPM roles. For example,

Product Owner in scrum has, more or less, the same authorizations as *BPM Program Manager*. This paradigm shift allows additional ease in the communication between IT and business. Technical terms like *"BPM assets", "processes", "decision rules", "user interfaces"* and *"integration"* become the cornerstones of the interactions [5].

E. Partial Improvements Trough Future Iterations

Often times, some new ideas arise during the testing phase, and potential improvement areas on the existing functionalities are found. These can vary from improving usability to refactoring the model or optimizing time consuming process. Simple improvements which do not endanger the deadline and the crucial ones can be done immediately. In all other cases, such improvement issues are noted, and saved to be dealt with in some future iterations when the resources are available.
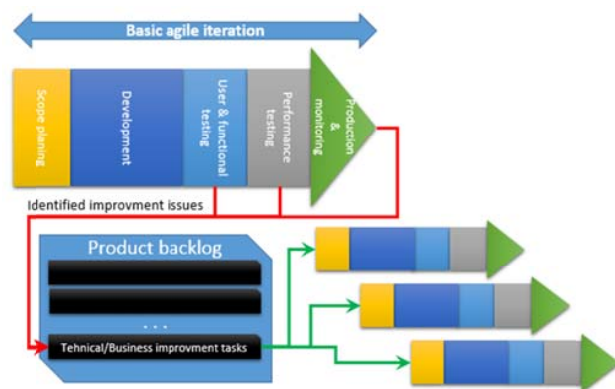

Fig. 2 Iterative improvement process

Areas of improvement can be also detected trough production monitoring or customer feedback. Iterative improvements allow us to continuously raise the quality of our service at a low cost, spending just a limited amount of resources throughout multiple future iterations (Fig. 2).

F. Mutual Trust

The core of any agile development process is a bond of trust between the client (business users) and the executors (the development team). This trust allows for both parties to start working on a project at the moment when the exact duration, cost and scope of the project is still unknown. The business side accepts to participate in the project and approve its funding, and believes that the development team will work effectively and create a quality product. The development team believes that the business side will conscientiously prioritize their requirements, participate in iterative development philosophy and thus accept partial functionalities and features, as they are delivered through sprints. In the end, both sides concentrate on achieving a common goal – increase of business value.

VII. Issues, Setbacks and Difficulties of Agile BPM Development

When dealing with agile development of a BPM solution, especially in large and complex environments, one of the setbacks is the challenge to discover flaws, diagnose faults, analyze errors or apply functional changes, due to lack of written documentation. The structure of the solution exists in the minds of developers and business users (each is familiar with a specific part of the solution), and inevitably fades out with time, especially the parts that are not used frequently or contain complex business rules. In that situation, it's not uncommon, that the business users request the developers to check the code, process structure, and give them the information how does the system that they defined functions in a certain situation. It is also difficult to maintain existent or add new functionalities after some team members leave the team which can lead to modules with inconsistent features and interfaces. One of the effective methods to help in this situation is to use logical, descriptive names of processes, user groups, interfaces, activities, events, swim lanes, agents and other commonly used artifacts. It will improve the overall transparency of the solution. By using color, size, and layout of elements in process diagrams, one can indicate the importance of a certain element in the overall workflow, and further improve the understanding of actions the diagram represents. Additionally, when dealing with components where some program code is required one should write descriptive inline comments. That way coded business rules can be easily understood without analyzing a dozen, if not hundreds of lines of code. In our organization, we like to refer to a good commented code as a "self-documenting-code".

One of the other setbacks we encountered during the development is the cooperation with outside partners. There is the problem of ineffective daily meetings, and communication, which is difficult due to geographical dispersion and is often done by conference calls which can be ineffective, especially when discussing process workflows which requires a visual component. In-house teams that do not follow agile principles are also a bottleneck. The time needed for them to deliver a fix or improvement of functionality is often significant enough to delay the release.

In some projects the communication with an outside partner, (e.g. requesting technical upgrades, error fixes or development of additional features) often doesn't go directly but over a mediator (a sector, or a person) who define the tasks to an outside partner according to the contracts signed. Often that mediator has no IT background which can cause confusion. Additionally, this process of communication can largely influence the agility of the development process.

Difficulty in coordination of a small development team in an environment that has multiple business users and therefore faces multiple business requests (often some of them are contradictory). For example a corporate banking applications serves the needs of general corporate sector, small and medium enterprises (SME) and the reduced set of needs that are used in Retail (dealing with corporate clients in retail bank offices). Establishing a good model to serve all sides can be a challenge.

VIII. Utilization of Described Principles in Realizing Credit Potentials of Corporate Users by Internet Banking

In this section, we would like to demonstrate how to utilize agility, iterative development, and other principles described in this article, on a large scale BPM project. The goal of the project is to build a business model for processing corporate and SME bank loan applications over the Internet banking distribution channel. Generally speaking, the channel is a way to distribute products and services offered by a specific institution. In case of a bank, channels of distribution would be ATMs, POS devices, branch offices, call center, marketing, sales, internet and mobile banking, etc. Due to the extensive work needed, the project is split into four stages. Every stage has its own life cycle, design (as described in *Section VI.B*) development, production, and monitoring phases, and creates a logically complete business value. Each of the following stages builds on top of the previous, utilizes the created business value, developed workflow, functionalities, and helps to create a larger piece of the end solution.

In the first stage, we focus on "low-cost high-gain" functionalities (*Section VI.C*), and cover the view of the client credit potential, for an individual application user, according to the authorizations given. The main element here is the coverage of credit requests by BPM solution. We carefully identify a set of business data for the end user, define the user interfaces, process workflows and rules that will aggregate that data and present it to the end user in a user friendly way.

Throughout the project, a modified version of SCRUM methodology was used. The development in the first stage lasted two sprints, each of them four weeks long, with the production after the second sprint. Most of the first sprint was the definition phase, including different workshops and meetings with the business people. Real development began in the second sprint, lasted three weeks, after which one week of testing followed. The newly created functionality did not create direct value for the bank (in terms of BP improvements of savings) but produced a useful set of features for the end client. First stage, one could say, "tested the BPM waters", dealt with legal issues, defined user interfaces and set of business data and created a foundation for a process model.

The second stage is about building a stable stepping stone for the project (Section VI *B*). It is where the development of the core BPM process model starts. The stage includes the realization of the request for the loan usage, after the loan request has been approved. In business terms the loan usage means the transference of funds to the accounts specified by the client. At this point, the collaboration between IT and business led to the development of common vocabulary, the creation of exact roles (Section VI *D*), and more important, mutual thrust was gained (Section VI *F*).

The stage contained three regular sprints (4 weeks each) without a production release between them. Each sprint had approximately one week of design phase, two weeks of

development and a week of testing. After the completion of all tasks planed for second stage, an additional 4 week sprint followed. The focus of additional sprint was on user testing and bug fixes, but it also contained intensive, fully automated, functional and performance tests. Finally, the second stage production took place.

The newly developed workflow created multiple benefits. There was a reduction in processing time of loan usage request from a minimum of two days to a couple of hours. Instead of issuing the usage request in the bank's branch office, the clients could do it from their home by Internet banking. There is no circulation of paper documentation and a central hub for processing loan usage requests was created. The process defined exact roles for a specific task (request approvals and verifications) that where mapped on a specific set of existing roles in the bank. Development of electronic notification system, that informed a person or a sector of a task they need to complete, helped in effective and prompt request realization.

Plans for the last two stages, beside further development, include reflecting back and dealing with the possible upgrades and corrections of the developed workflow (Section VI *E*). Development task of the third stage is to model a process workflow of a pre-approved loan requests and offer them to the clients. By pre-approved we mean that the assessment of creditworthiness of the client has already been made, and the client is eligible for a specific type of loan with predefined conditions and amounts. The fourth and final stage of the solution development includes the whole package, the entire process of issuing all type loans, in iterative steps, over the internet-banking channel. Iterations mark the cycles of cooperation between the client, credit administrators in the bank and the background system.

After the loan, approval (in third and fourth stage) the client needs to issue a loan usage request so the workflow developed in the second stage would be utilized.

IX. Conclusion

BPM is a strategy and technology that affects all aspects of the organization and produces certain business value. It can greatly help in saving money, improving and developing new business processes, improve customer satisfaction, organizational responsiveness, coordination, and control of operations, adjust more smoothly to unforeseen changes in the regulations or the successful execution of one-time events like company merges. It should be viewed primarily as a business discipline, and then as a set of technologies, so it is not a separate IT business project, but a cooperative effort of both areas.

Generally, as in the development of any project, it is never good enough to just strictly hold to set of predefined rules and standards. A dose of agility encourages better cooperation and communication, exchange of knowledge and experience and brings a dose of positive energy which increases the overall quality. Furthermore, adapting, upgrading or combining different aspects of different agile methodologies enable one to create a set of agile principles, a custom agile methodology,

that best fits a specific need. Connecting BPM with the custom agile methodology enables companies to quickly and efficiently respond to business change and effectively build their business model based on flexible foundations that will help to achieve the desired business goals.

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