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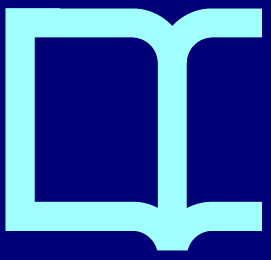

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An Initial Approach for Improving CRM Systems Implementation Projects

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***Abstract*— Customer Relationship Management (CRM) systems can be very valuable tools for enterprises, but it is known that their implementation projects are prone to risks and failures. This motivates the need for studying the reasons of such a situation, and for designing future CRM implementation methods that are better prepared for the task in hand. Rather than just thinking from anew, and pretending to design a completely new method from scratch, we believe that there already exist methods and tools, developed for other related areas, that may become good referents of practices that could be considered and integrated into a future CRM implementation method. In this paper we first describe succinctly the main issues surrounding CRM implementation projects, such as their typical critical success factors, organizational issues and nature of such projects. Then we present the set of selected practices that can be combined and integrated into a CRM implementation process. Thus, this paper presents a first approximation to what may be a future CRM implementation methodology that involves the aforementioned practices and supports the professionals involved in this kind of implementation project.**

Keywords: CRM, Customer Relationship Management, system, implementation, process, practice, method.

I. INTRODUCTION

According to (Davenport et al., 2001) a CRM is an information system that includes tools, technologies and procedures that manage, improve and facilitate sales, support and related interactions with customers, prospects, and business partners throughout the enterprise. The main goal of a CRM system is to help sales and marketing people to analyze customer behavior and its value for the enterprise using technology and human resources.

A CRM system can help a company with an integrated customer view using analysis tools. It also allows management of relationships with customers in a unique way, along with improving the efficiency of all processes involved in the enterprise (Davenport et al., 2001). As a consequence, the implementation of a CRM system involves changes in the organizational structure and the operation of each company in order to improve their competitiveness and performance (Greenberg, 2001).

The use and implementation of CRM systems have increased over the last decade, along with academic research issues related to the implementation process issues, which have somehow been identified and controlled (Bull, 2003). However, there is a high level of projects ending in failure due to multiple factors (Gartner, 2007). In addition, not all enterprises work their operations in the same way and this influences the expected time of activities related to CRM implementation.

In order to propose an option to face the CRM implementation process, the aim of this paper is to present some opportunities in terms of practices and principles obtained from other related areas, which may be useful for improving the overall implementation process of CRM systems. In the rest of the paper we first describe succinctly the main issues surrounding CRM implementation projects, such as their typical critical success factors, organizational issues and nature of such projects. Then we present the practices and principles from other knowledge areas that can be combined and integrated to obtain a better management of the CRM implementation process. Thus, this paper presents a first approximation to what may be a future CRM implementation methodology that involves the aforementioned practices and supports the professionals involved in this kind of implementation project.

II. NATURE AND PROBLEMS OF CRM IMPLEMENTATIONS

The implementation process of a CRM system refers to all functional, technical and organizational activities involved in the preparation and introduction of such system into the enterprise, whether installing the software company-wide, or in strategically selected areas. The CRM system, when in modular type, allows the separation of components so they can operate by themselves in certain areas without having other modules running together.

Based on our previous research (Bibiano et al., 2007), we can say that such projects often involve a wide reconfiguration of the original CRM software, due to: a) the nature of business processes typically involved in these types of implementation projects; b) the way in which each enterprise manages its customer relationships; and c) the adaptation of existing working procedures.

The main difference with other enterprise information systems is the lack of standardization of customer activity through the management of relations between companies and within industries. Furthermore, usually, more diverse people with different needs and interaction activities are involved in the implementation of CRM systems than in other types of implementation projects (Sutton, 2006).

These assumptions have led to many situations when the CRM systems implementation projects do not deliver the desired value, ending in failure or low satisfaction, partly because of the lack of understanding for this technology, and partly because of the organizational issues inherent in each company (Gartner, 2007). Also, there is another subject that may affect the implementation performance, explained below.

A. Critical Success Factors for CRM Implementations

Critical Success Factors (CSF) are the relevant issues to be aware of and to be taken care of in the implementation process if we want that process to be satisfactory. These factors must be kept present and be addressed properly along any CRM implementation project.. According to (King, 2007), the main CSF of a CRM implementation are:

- Top management support
- Communication of CRM strategy
- Knowledge management capabilities
- Willingness to share data
- Willingness to change processes
- Technological readiness
- Culture change/customer orientation
- Process change capability
- Systems integration capability

While no implementation process is completely free from risk and errors, paying attention to these items and a good management of them can guarantee a better implementation project performance. The proposal discussed in this work refers to the relevance of these factors by means of their use and presence along with the practices we intend to apply, which attempt to include them every time they are required.

B. Organizational Issues in CRM Implementations

Organizational issues in the context of information systems implementation projects should be discussed from a managerial point of view. Ward & Hemingway (2005) present organizational issues such as: the organizational reporting structure; the staffing issues and plans; the skills of employees; the training issues and plans; the formal organizational structure, including rules and procedures; or the informal organizational structure of how employees actually interact.

From our previous work (Bibiano et al., 2007), we summarize in Fig. 1 the organizational issues involved in the implementation process of a CRM system. Several academic and professional studies have revealed that a large number of failures in CRM implementations come from organizational resistance to the implied changes, these seen as induced by the MIS department, or also from a lack of proper change management processes during the execution of these projects (Gartner, 2007).

Closely related to this topic, Business Processes (BP) are sets of related activities that create business value by transforming an input into an output with added value. Both input and output can be material objects and/or information, while human actors, machines or systems can perform the transformation. According to Bull (2003), we can mention that one of the factors that have led to the failure of CRM implementation projects has been the inability to cope with the functional business processes among different company roles, areas and tasks. In order to face this problem, system developers created basic business processes that were flexible and customizable for the information system, enabling a closer look between the CRM system and the main activities of the enterprise. This was made to achieve the adequacy of business-clients related processes that could support the implementation initiative.

Business processes, as well as organizational issues discussed above, are related to the managerial areas, which are usually in charge of controlling the CRM implementation project. This is quite important for our proposal since we hope to achieve a high level of control of the implementation process.

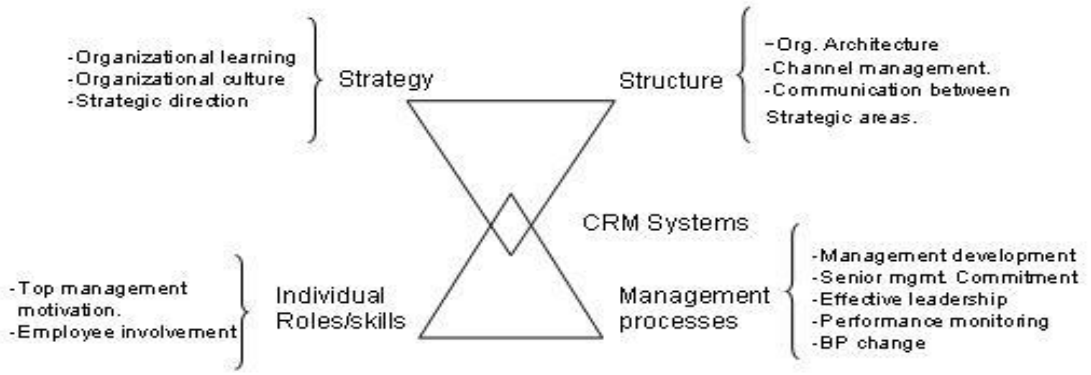

Figure 1. Categorization of Organizational Issues in CRM implementation (Bibiano et al., 2007)

C. The Nature of CRM Implementation Projects

In our prior comparative analysis of implementation approaches (Bibiano et al, 2007), we justified that the implementation of CRM systems can be better addressed from the point of view of an agile method. This is mainly because of its nature, which requires changes on the implementation process on the go to deal with a constantly changing environment. Other characteristics of an agile project are shown in Table I.

From this perspective, we can comment the following:

- CRM systems are usually projects whose application needs must be prepared to quickly respond to changes in the requirements. In some cases, one of the reasons for that is the dynamic and sometimes unstable environment of the commercial processes in the organizations. Thus, management of CRM projects demands for qualitative control, since it is difficult at the beginning to measure objectively factors such as customer satisfaction with a quantitative scale. In the same sense, communication is based on regular but more informal meetings, with presentations and brainstorming sessions with users: they do not know ahead of time what they need from the future CRM system; instead, they discover the functionality and possibilities of the system as it is deployed and used.

- A CRM system needs to test its functionality through test cases and the opinion of users. Marketing people linked to CRM systems are creative people who need freedom and work without constraints. Therefore, CRM implementers must have the appropriate skills to manage and involve this type of user.

TABLE I. CHARACTERISTICS OF AN AGILE PROJECT.

Project characteristics	**Agile Home grounds**
Application	
Primary goals	Rapid value, responding to change
Size	Smaller teams
Environment	Turbulent, high change, project focused
Management	
Customer relations	Dedicated onsite customers, focused on prioritized increments
Planning and Control	Internalized plan, qualitative control
Communications	Tacit interpersonal knowledge
Technical	
Requirements	Prioritized informal stories and test cases undergoing unforeseen change
Development	Simple design, short increments, refactoring assumed in expensive
Test	Executable test cases define requirements
Personnel	
Customer	Dedicated, collocated Crack performers
Developers	At least 30%, full-time Cockburn Level 2 and 3 experts: no level 1Bor Level-1 personnel
Culture	Comfort and empowerment via many degrees of freedom (thriving on chaos)

III. CONSIDERED PRACTICES TO SUPPORT THE CRM IMPLEMENTATION

As we have seen in previous section, both the CSF, the organizational structure of the enterprise and its individual business processes are characteristics that must be controlled and managed, along with the CRM system implementation nature. At this point we may question ourselves with this: what could be considered as possible good elements to achieve the implementation goals, and at the same time face other issues that may affect the implementation project? In the following points we present some practices and principles we believe may give the desired support to reach the overall implementation success goals.

A. Project Management Body of Knowledge

The Project Management Body of Knowledge (PMBOK) is a collection of processes and knowledge areas generally accepted as best practices in project management. The PMBOK is an internationally recognized standard (IEEE Std 1490-2003) that provides the fundamentals of project management applicable to a wide range of projects, including construction, software, engineering, etc. It is the reference standard accepted and used internationally and supported by the Project Management Institute (PMI).

The PMBOK recognizes 5 basic process groups and 9 knowledge areas common to most projects. Processes overlap and interact throughout a project or phase. Processes are described in terms of: Inputs (documents, plans, designs, etc.), Tools and Techniques (mechanisms applied to inputs) and Outputs (documents, products, etc.). The nine knowledge areas mentioned in the PMBOK are: Project Integration Management, Project Scope Management, Project Time Management, Project Quality Management, Project Cost Management, Project Risk Management, Project Human Resources Management, Project Communication Management, Project Procurement Management and Project Sales Management. As we can see, each knowledge area covers a specific matter of a whole project.

We have considered PMBOK as a practice for this proposal in order to provide the theoretical and practical basis for the proper management of the CRM implementation projects. With this element, our goal is to apply some characteristics of the knowledge areas that can help in the support of certain milestones of the implementation, and report the progress of the project to the managers. Also, with this standard we obtain the theoretical background for the project control.

B. Agile Software Development Methods

Agile software development methods are a family of development processes centered on customer satisfaction, faster delivery times and immediate responses to rapidly changing environments (Agile manifesto, 2001). They tend to minimize risks by using defined time periods called iterations, which can be seen as a type of "mini-projects" that include necessary parts to create the whole project activities. The most common agile methods are Extreme Programming (XP), Dynamic System Development Method (DSDM), Lean Software Development (LSD), Open Unified Process (OpenUP) and Scrum.

This set of methodologies has certain particularities that make a difference with other software development methods, such as the following:

- The main objective is to respond quickly to unexpected changes in the project.
- Working with a small team in a rapidly changing environment.
- The management is carried out with internal plans aimed at project goals.
- The project progresses with small increments as a result of iterations.
- Provide a high degree of freedom to the project team in order to work with necessary performance.

For the purposes of this work, and after reviewing the main features of each one of the main methodologies, we have considered using the Scrum method as the method of reference, since it enables a development adaptive mode. Also, it is aimed at people rather than processes using agile development principles from Software Engineering, being iterative and incremental. Development starts from the product overview, giving details of the features only, the highest priority for the enterprise, will be developed first, and all this can be performed in a short period of time. Each development cycle is an iteration called sprint that produces a finished and operational product, which contributes to the advancement of the project. These iterations are the foundation of agile development and are managed through daily meetings.

Over other agile alternatives, Scrum brings the possibility of using micro-increments, which can manage the activities in a better way for the CRM system implementation. We have considered the use of this practice also because we believe its characteristics fit better in the overall process, mainly because of its iterative principle, which may be completed and supported by the PMBOK structure.

C. OpenUP as a support practice

The Open Unified Process (OpenUP) is a software development method derived from the Rational Unified Process (RUP), proposed by a group of technology companies, who donated it in 2007 to the Eclipse Foundation. Unlike

RUP, Open UP embraces a pragmatic, agile philosophy aimed at the collaborative nature of software development. An OpenUP project is organized in micro-increments called parts, and these units represent short-term labor resulting in a constant and measurable rate of progress of the project. The process applies an intense collaboration between the interacting parts on it while the software is developed, and a team committed and organized powers it. These micro-increments provide a short feedback cycle that drives adaptation decisions, within each iteration.

OpenUP divides the project into iterations, which are planned-time intervals measured in weeks. Iterations enforce the working team into deliver incremental value; usually the result of each one is a significant advance for the entire project. This is structured in an iterative life cycle that defines the way in which micro-increments are used to provide stable phases of the project progressing incrementally to achieve the ultimate goals. As in the RUP case, the OpenUP lifecycle is structured in 4 main phases: Inception, Elaboration, Construction and Transition.

We have considered this method as a support practice in our proposal, mainly because of its structure similar to a waterfall model. Although this agile method is based on a rigid model it is pretty flexible in some situations, and we have planned to use it in specific times to strengthen the stages of the implementation process.

IV. USE AND APPLICATION

We have introduced the practices we pretend to consider in our proposal for a better CRM implementation process. In this section we point out some ways in which we can apply them to improve the CRM implementation process. It should be noted that such practices have not been randomly selected; we have analyzed the characteristics and features of each one and we have reasoned about how they can contribute to the improvement and change in the implementation of CRM systems. Since these elements possess unique approaches from various fields of action, we face the possibility of selecting all or some features required and of combining them according to the problems and risks of the implementation project, in order to improve and ensure its more satisfactory completion.

Table II presents an initial proposal for matching the mentioned practices with the issues and problems of the CRM implementation projects. From this table, we have some preliminary issues:

- Each task of the project contains what specifically should be done, and this may be included in iteration (through sprints) so that the project team best performs this task. Here we use Scrum and possibly some of OpenUP references.
- Through these iterations, the project team can manage risks, specify the required roles, and control what is happening within the project in a better way, which impacts the most common causes of failure of implementation.
- PMBOK provides options to manage certain parts within the implementation project; rules and recommendations can be integrated into the particular process of each task using iterations due to the agile perspective that is given to the project.

It is important to note that the proposed practices provide certain specific features (such as iterations, the definition of roles or support project management) that would not always be considered or would not be of necessary relevance for use in other situations different from CRM implementations. The important fact lies on the use of the so-called micro-increments, which, supported by the iterations (sprints in terms of Scrum) allow for a better control of project activities by providing the ability to replicate, to some extent, these actions to ensure they have been properly made. Even if there is some change in the project that must be built immediately, this way of work such integration is made possible without affecting the partial or total project results.

TABLE II. INITIAL PROPOSAL FOR MATCHING PRACTICES IN CRM IMPLEMENTATION PROJECTS.

Input	Practice	Possible outputs
Project approach	Open UP	Use of main Open UP phases and stages to define framework.
Organizational Issues	PMBOK	Include CSF and Organizational Issues on iterations for a better feedback and upgrade process.
Nature of CRM Implementations	Agile methodologies	Face the uncertain and changing nature of the CRM implementation process by means of iterations and agile approach.
Project Management and Control	PMBOK	PMBOK as a reference pattern to define specific parts of the project.
Critical Success Factors	Agile methodologies	The possibility of using Scrum and its development micro-cycles to manage CSF, correct risks and increase success.
User involvement	Agile methodologies	Upgrade in process execution, adopting flexibility and commitment.

Likewise, we have to establish a list of iterations based on the priority of each major activity in the process (high, medium, low) for the staff working in the project knows the importance of their tasks and where to focus their efforts. Also, it is important to specify the second level iterations and their tasks,

which have to be fulfilled in each cycle in order to move forward on the designed implementation schedule.

V. CONCLUSIONS

After describing succinctly the main issues surrounding CRM implementation projects, such as their typical critical success factors, organizational issues and nature of such projects, we have presented a set of practices that can be combined and integrated into a CRM implementation process in order to provide tools that enable a better management and a better control of such a process. Overall, it is a first approximation to what may be a future proposal of a CRM implementation methodology that involves the aforementioned practices and supports the professionals involved in this kind of implementation project.

The facts described in previous sections might be a small contribution to the CRM implementation process. However, we believe that if we continue following this framework, we have the possibility of using the practices as we see fit to achieve project and business benefits. Some of the expected results might be the following:

- Incorporation of iterations in the process
- Potential for better management and risk identification
- Roles and requirements of each task are always present and defined for each one of them.
- Iterations allow tasks to detect errors and threats that may affect the project.
- Involve end users of the system, in order to familiarize themselves with the new technology

Additionally and as further work, we intend to analyze the possible outputs of the combined use of practices shown in Table 1 to create an implementation methodology. The goal is to develop a method that can be applied in any situation regardless the kind of enterprise or the organizational structure of any company in any place.

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