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DISSERTATION

KNOWLEDGE MANAGEMENT ON THE IMPLEMENTATION OF A CRM PROJECT IN A SUBSIDIARY COMPANY – A CASE STUDY

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ABSTRACT

Companies face high market demands and to remain competitive they need to invest on their customers by better understanding them. Customer Relationship Management (CRM) can be useful to fulfill these requirements as it implies not only a new use of a tool but also a changing of its philosophical and strategical approaches to market. As seen in previous studies, CRM projects are very probable to fail; however, there are actions to take that can help overcome these problems, such as proper knowledge management integration. With this study we not only have the intent to understand how knowledge management integration can be useful in a CRM project adoption, but also feel on how flow information and knowledge sharing from the matrix to its subsidiaries in a transnational group. After a literature review, a qualitative methodology was used to found answers to the main research question and other side issues that could arise during the case study. Data collection was done through direct observation in the company, with analysis of deliberate and inadvertent documents, formal and informal interviews to people involved in the project implementation and users. It was found that knowledge management and knowledge sharing activities are present in the adoption and implementation of a CRM project, even if there is no formal policy for knowledge management in the group or to this specific project. Knowledge sharing is seen as enabler for knowledge creation and allowing more success into CRM projects.

Key Words: Customer Relationship Management, Knowledge Management, Knowledge Sharing, Subsidiaries.

RESUMO

As empresas enfrentam grandes exigências do mercado e para se manterem competitivas têm de investir nos seus clientes de modo a melhor compreender os seus requisitos. O CRM (*Customer Relationship Management*) pode ser útil para alcançar estes requisitos, já que implica não só a utilização de uma nova ferramenta mas também uma mudança filosófica e estratégica na abordagem ao mercado. De acordo com a literatura é sabido que um projecto CRM tem bastantes probabilidades de falhar, porém existem acções que a serem tomadas, podem ajudar a superar esses problemas, como sendo a integração de uma política de gestão do conhecimento. Com este estudo tem-se a intenção de perceber como a integração da gestão do conhecimento pode ser útil num projecto de adopção do CRM, e também como é que é feita a partilha do conhecimento num grupo transnacional, a partir da matriz para as suas subsidiárias. Após uma revisão da literatura, foi utilizada uma metodologia qualitativa no sentido de serem encontradas respostas para a questão principal de pesquisa e para outras questões laterais que possam surgir durante o estudo de caso. A recolha de dados foi feita essencialmente através de observação directa na empresa, com análise de documentos de forma deliberada e inadvertida, entrevistas formais e informais com as pessoas envolvidas na implementação do projecto e aos utilizadores do sistema. Verificou-se que a gestão do conhecimento e as actividades de partilha do conhecimento estão presentes na adopção e implementação de um projecto de CRM, mesmo não existindo uma política formal de gestão do conhecimento estabelecida no grupo ou para este projecto específico. A partilha do conhecimento é visto como facilitador para a criação de conhecimento, facilitando o sucesso dos projectos de CRM.

Palavras-Chave: *Customer Relationship Management*, Gestão do Conhecimento, Partilha do Conhecimento, Subsidiárias.

TABLE OF ACRONYMS

ASW – Application SoftWare (ERP software from IBS)

BP or BPs – Business Partner or Business Partners

CRM – Customer Relationship Management

ERP – Enterprise Resource Planning

HW – Hardware

IBS – International Business Systems (company name)

IT – Information Technology

KM – Knowledge Management

KS – Knowledge Sharing

MS – Microsoft

SAM – Sales and Marketing (integrated module in ASW)

SW – Software

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1 - INTRODUCTION

To create business value even more companies bet on enterprise integration that underlies e-commerce, Enterprise Resource Planning (ERP), Customer Relationship Management (CRM) and other advanced uses of Information Technology (IT) (Lee, 2004). Customers are the reason for existence to any business enterprise and today's organizations must manage customer interactions across multiple communications channels, including web, call centers, field sales, dealers or partner networks (Rai, 2011). The challenge is making it easy for customers to do business with the organization the way they want, at any time, through any channel, in any language or currency and to make customers feel they are dealing with a single unified organization that recognizes them at every touch point (Rai, 2011).

CRM is a tool that can help organizations to coordinate relational aspects with the customer, having won in recent years, much prominence in the strategy adopted by companies. However, combining the areas of marketing, IT, sales and management using CRM, will require the existence of certain organizational skills and, therefore, it is necessary to identify what skills exist or need to be acquired to turn CRM really profitable.

CRM being at the forefront of integrated use of IT and hence on the necessary changes for the organization to adapt to the new reality of dealing with the customer, it is therefore necessary to create critical mass in this area, and overtime there are several studies in this direction. Among others, these are examples: Bose & Sugumaran (2003), Benmoussa (2005), Pedron & Saccol (2009), Saini et al. (2010), Hillebrand et al. (2011) and Garrido-Moreno & Padilla-Meléndez (2011).

CRM is not independent of Knowledge Management (KM) strategies and mechanisms, so most of the author's reverts to the inevitable cross-linking of both, as well as proper knowledge sharing within organization that can lead to a successful CRM project (Fan & Ku, 2010).

This case study has based in a Portuguese subsidiary of an international Swedish group. It is a service company that is primarily dedicated to sales and after-sales of industrial equipment. It currently has a total staff of ten which eight have some type of relationship with the client and seven of them are directly related to sales process. The Portuguese subsidiary follows international guidelines through local managing director. Marketing and IT departments are centralized in the country of origin at the European level. By decision of the group management, a CRM project was to be implemented in all its subsidiaries, including the Portuguese.

In this sense, the study aims to analyze knowledge management focusing knowledge sharing on the implementation of a CRM project in a transnational group and its subsidiaries. Thus, it's directed to know how the information within the matrix to subsidiaries flows, in order to perform a good CRM implementation in accordance to core values and vision of the group, as well as perceive the KM mechanisms used and identify others that probably would potentiate the CRM project. So it's formulated the following question as principle of the investigation: *"How does knowledge sharing in the implementation of a CRM project in a transnational company flow to its subsidiaries?"*

This study is organized into six main chapters. After this introduction, chapter two presents a selective literature review. It gives a based picture of previous studies and reflections on the main points presented in this work. Third chapter gives an explanation on the adopted driven methodologies, data collection and analysis. In chapter four the case study is described, the company is presented and facts of the CRM implementation are made explicit. Chapter five gives a discussion on the facts and a co-relation with the available literature. In the final chapter there are the conclusions and final considerations about this study.

2 – LITERATURE REVIEW

2.1 - Customer Relationship Management

The present section is structured into four parts. Firstly it will give a literature review to define CRM; the following part will give a global perspective of the critical factors on the adoption of CRM. Objectives and expectations of CRM are treated in the third part. On the final part we'll have a general view of the CRM system functionality.

2.1.1 - A Definition of CRM

Authors diverge on the way to define CRM, for some is the way to identify, acquire and retain customers, to others it's the way of automating the front office functions of sales, marketing and customer service (Sue & Morin, 2001). The purpose of CRM is to efficiently and effectively increase the acquisition and retention of profitable customers by selectively initiating, building and maintaining appropriate relationships with them (Payne & Frow, 2006). Sue & Morin (2001 p.2) propose CRM as "a technology-enabled business strategy whereby companies leverage increased customer knowledge to build profitable relationships, based on optimizing value delivered to and realized from their customers".

To Payne & Frow "CRM is a strategic approach that is concerned with creating improved shareholder value through the development of appropriate relationships with key customers and customer segments. CRM unites the potential of relationship marketing strategies and IT to create profitable, long-term relationships with customers and other key stakeholders. CRM provides enhanced opportunities to use data and information to both understand customers and co-create value with them. This requires a cross-functional integration of processes, people, operations, and marketing capabilities that is enabled through information, technology and applications" (Payne & Frow, 2005, p. 168).

Pedron & Sacool (2009) identified that CRM can be viewed by three ways, as a business philosophy oriented to long-term relationships with customer, as a business strategy producing an increase on sales, profitability and customer retention, and a third way as strictly technological emphasizing information systems to collect, analyze, interact, build and manage relationships with customers. The authors refer and point to a wide vision of integration between the three ways, philosophy is supposed to be command and lead organizational strategies (CRM as strategy) and these strategies should lead and guide IT applications for CRM seen as a tool. CRM is not a magic solution to solve the organization's problems but more one of the most demanding business strategies to hold inside organization (Faed, et al., 2010), with irreversible impact on benefits or detriments (Frygell, et al., 2011).

CRM and its interaction processes are represented in figure 1.
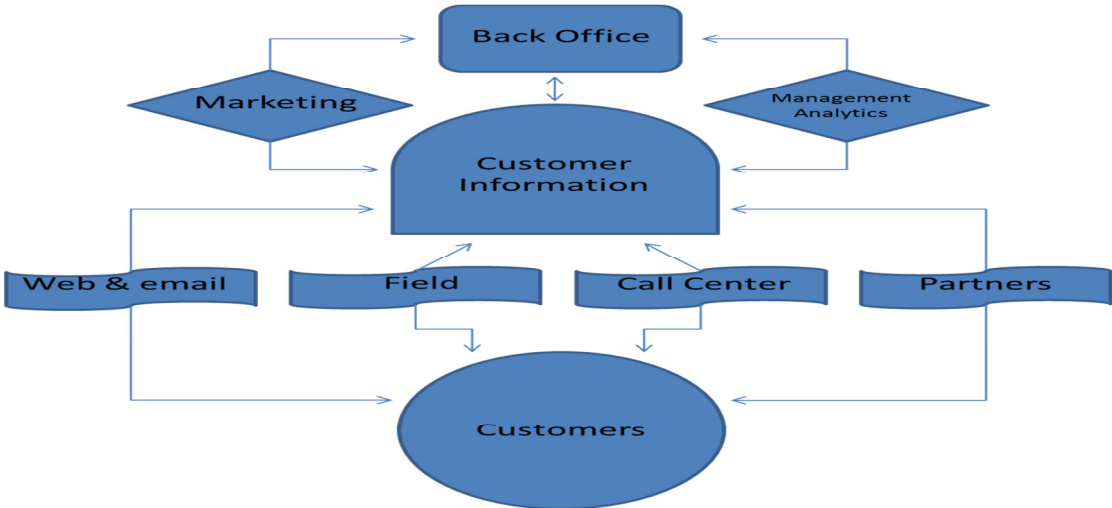

Figure1: Representation of the CRM definition and its interaction process.
Source: Adapted from Oracle/Siebel website[1].

In CRM, customers are the leading key. Collection and analysis of all customer related information and the interaction between customer and organization are the main points to be

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[1] http://www.oracle.com/us/products/applications/siebel/index.html

held. Information collected from customers using IT tools as web & email or call center, field actions or partnerships can be accessed by the organization marketing department to develop ways for a better relationship to the customer, as well as management can use information to analyze and follow sales actions, customer tendencies and their profitability. All this communication and information sources provide good sustainability to back-office and administration that help to take decisions. On the other hand, customers well understood and deeply known by the organization can be better served and more easily satisfied.

Considering the available literature and to the aim of this study we propose the adoption of the following new CRM definition: CRM is a mixture of positive interactions between different agents of the organization, philosophically and strategically driven to customer understanding, providing healthy relationships and speeding knowledge creation those, at the end, allow organizations to take correct decisions to customer satisfaction.

2.1.2 – CRM Company Objectives

Since changing suppliers/brands may generate switching costs, it would be the main reason why customers hesitate to switch their habitual banks, utilities or other suppliers, and the avoidance of switching costs also turns out to be another reason for maintaining supplier loyalty (Wang, et al., 2008). CRM can help companies to get loyalty from customers (Payne & Frow, 2005).

Another main objective of CRM is to enhance the services created to the customer and to better use information for targeted marketing (Faed, et al., 2010). Indeed the final objective of CRM is to maintain customer loyalty, although this is usually resource-intensive, long-term and difficult to manage (Benmoussa, 2005) and ultimately provide shareholder results, value and profitability (Payne & Frow, 2005).

Not a less important objective of CRM is to potentiate the human factor not only within the relation customer/company but also the happiness, willingness and supportiveness of sales people efforts (Benmoussa, 2005). Moreover, the objectives presented in this section are generalized, particular and unique objectives can be held to CRM due to specificities found in each company (Pedron & Caldeira, 2005).

2.1.3 - Critical Factors in the Adoption of CRM Projects

To obtain a successful CRM initiative and achieve triumph, companies need to perform framework on vivid business to be focused on critical and fundamental functional

areas such as customer support, services, marketing and sales (Faed, et al., 2010), in order to get a value creation process (Payne & Frow, 2006). To authors the creation of the value added involves taking the outputs of the strategy development process and building a programme that simultaneously *extracts* and *delivers* value. Payne & Frow (2006) argued that CRM programming and assessment should identify the value that customers receive from the company and the value the company receives from the customer. The interactive process between company and customers being both, at the same time, co-producers, is the real value creation process (Haas, et al., 2011).

In many studies several reasons were identified to CRM failure (Saini, et al., 2010). One of the first reasons to failure is the projects' irreversible capital expenditures, time lag between investment and benefits, and uncertainty not accurately calculated (Wang, et al., 2008), followed by lack of skills to use new IT systems, lack of leadership and top management involvement, cultural problems in adapting the organization to a new philosophy, few or poor data, misunderstanding on business benefits in early stages of CRM, lack of software flexibility, lack of users skills in using software, inadequate approach on the methods used to implement the CRM project or business processes not redefined prior to CRM implementation (Caldeira & Pedron, 2007), lack of ability to deliver strategy, shortage on holistic approach in the company, radical changes in the sales force automation and a non-overlapped integrated KM strategy with CRM (Faed, et al., 2010), all of these issues are critical to the adoption, implementation and usage of CRM.

Garrido-Moreno & Padilla-Meléndez (2011) cross-links CRM and KM founding that KM capabilities affect CRM success, although they also found organizational variables such as strategy, top management support, organizational structure and human resources being the key success factors for CRM. Although authors considers CRM as an IT-enabled business stategy their studies revelead that simply introducing KM iniciatives or CRM technologies does not generate advantages for the firm nor have a positive impact on the results; this leads to firm first needs of change at organizatonal level (Garrido-Moreno & Padilla-Meléndez, 2011).

2.1.4 –CRM System Functionality

In the strictly view of CRM as a simple software tool, there are in the market many different systems and suppliers, each one offering its own solution to the same purpose. It was registered an increasing impact of technology on CRM due to the reasons of more and more individuals will like to be treated as unique, rather than among the masses, wishing products

and services round the clock, requiring speed of response, so understanding each individual is one the major key issues (Rai, 2011). Facing these challenges and due to the large number of different application areas, many standard software products offer specialized functionality for individual CRM processes or specific industries (Torggler, 2009).

Torggler (2009) categorize CRM functionality as Collaborative, Operational and Analytical. However, the focus in literature and practice is mostly on operational CRM, which is also supported by the majority of currently available standard software products.

The purpose of collaborative CRM is to improve quality of customer service resulting on the increase of customer satisfaction. Collaborative CRM is an approach to customer relationship management where sales, technical support and marketing, share any information they collect from interactions with customers (Torggler, 2009). For example, customer feedback gathered from a technical support session could inform marketing staff about products and services that might be of interest to the customer (Management Study Guide, n.d.).

The focus of operational CRM is mainly on automation, improvement and enhancement of business processes, based on customer supporting. The main importance of a CRM system lies on how the selling, marketing and service oriented processes are automated (Torggler, 2009). Operational CRM refers to services that provide support for various 'front office' business processes in helping organization to take care of their customers. Focus on customers' value is important for a successful operational CRM strategy (Management Study Guide, n.d.).

Analytical CRM supports organizational back-office operations and analysis. It deals with all the operations and processes that do not directly deal with customers (Management Study Guide, n.d.). There is a main difference between operational CRM and analytical CRM. Analytical CRM is designed to analyze deeply the customer's information and data and unwrap or disclose the essential convention and intension of behavior of customers on which capitalization can be done by the organization (Management Study Guide, n.d.). The goal of analytical CRM is to develop, support and enhance the work directed to the capability of making decisions in the organization by determining strong patterns and predictions in customer data and information collected from different operational CRM systems (Torggler, 2009).

2.2 - Knowledge Management

This section is organized into three parts. First part is to define knowledge management perspectives, in second is discussed the KM mechanisms found in the literature, and the final part reveal practical findings concerning knowledge sharing from the matrix to subsidiaries.

2.2.1 – KM Definition

Organizations, in order to take advantage of the skills and experience inherent in their structures and systems as well as the tacit knowledge of the employees, should manage knowledge effectively beating the fact of not being easy to measure and audit knowledge levels. Giving this, prior studies were held and can be found different definitions about knowledge management (Table 1).

Author	KM definition
(Nonaka, 1994)	KM is a process within organizational structure which allows the evolution between tacit and explicit knowledge in order to strengthen the firm through their employees.
(Horwitch & Armacost, 2002)	KM is the creation, extraction, transformation and storage of the good knowledge and information with the perspective to build better policy, modify actions and produce results.
(Bose & Sugumaran, 2003)	KM is the management of a firm's corporate knowledge and information assets to provide this knowledge to as many company staff members as possible as well as its business processes to encourage better and more consistent decision-making.
(Jasimuddin, 2007)	KM is the combination of actions and decisions to give firms sustainable competitive advantage.
(Rezgui, et al., 2010)	KM is the whole continuum from data to solid knowledge.

Table 1: KM definitions considering different authors on the literature.

To this study, KM can be defined as activities and managerial actions which allow the development, transmission, transfer and storage of knowledge, as well as providing real

information to the members of organization that allow them to react and make the right decisions to fulfill requirements and attain organizational objectives.

2.2.2 - KM Mechanisms

Nonaka (1994) adopted a classical classification of knowledge into tacit and explicit proposing a spiral of knowledge creation into organizations. Knowledge creation can be understood as a continuous process through which one overcomes the individual boundaries and constraints imposed by information and past learning by acquiring a new context, a new view of the world and new knowledge (Nonaka, et al., 2006). If some mechanisms were applied, tacit and explicit knowledge are interconvertable in order to create solid knowledge, as described in SECI Model[2] (Nonaka & Konno, 1998).

The four levels of knowledge convertion proposed in the SECI Model are socialization, externalization, combination and internalization. Socialization refers to interaction between individuals giving oportunity to convert tacit into tacit knowledge. Externalization implies knowledge to pass from individual to the group, that is, turning tacit individual knowledge into explicit collective knowledge. The combination stage refers to convertion of explicit into explicit knowledge, at this stage knowledge is transferred from the group to the firm converting the already explicit knowledge into complex forms. Internalization is the phase where knowledge flows from the firm to the individual and explicit turns into tacit knowledge (Nonaka, et al., 2006).

KM mechanisms can be integrated within the SECI Model of Nonaka and classified as KM pratices and KM technologies, as the difference between them stands in the use of technology (Oliveira, et al., 2011). Different authors are cited by Oliveira et al. (2011) giving the most common KM pratices and KM technologies to adopt (Table 2).

KM practice	KM technologies
Communities of practice – individuals united by a common interest and expertise to share knowledge.	Blog – electronic diary published on the web.
Informal conversation – conversation between employees.	Electronic discussion forum – it allows people to post messages and comments on other messages.
Meetings and Phone calls – face-to-face or distant conversations among employees	E-mail – asynchronous exchange messages electronically.

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[2] The SECI Model abbreviation refers to the four levels of knowledge converting, Socialization, Externalization, Combination and Internalization.

using some technology.	
Brainstorming – Informal meetings intended to generate ideas, with the aim of solving problems or identifying opportunities.	Expert systems – it is a software that attempts to provide an answer to a problem.
Best practices – activities or methods adopted by a firm to capture the best way to do something.	Instant messaging – synchronous exchange of messages from people connected to the internet.
Creative rooms – space in the firms to allow employees to be imaginative, inventive and innovative.	Intranet – a private network that uses the internet protocol.
Lessons learned – regular meetings to discuss successes and failures in relation to a process and product, providing learning and identifying lessons that can be useful for other situations	Repository – information system for the storage and dissemination of organizational knowledge.
Mentoring – an individual with more experience in the firm contributes to the personal development of individuals with less experience in the firm.	Simulation programs – a software that replicates real-life situations.
Organizational newsletter/newspaper – private broadsheet for internal distribution.	Telephone – Telecommunication technologies (audio and video) that allow a meeting with people at different locations.
Staff mobility between offices, teams and activities.	Voice mail messages – a person receives a pre recorded message and then he/she has the possibility to leave a message in return.
Storytelling – telling true or fictitious stories.	Wiki – means of storing knowledge that is jointly constructed by individuals.
Teamwork – activities carried out in teams.	Yellow pages / directory of experts – identifying people with knowledge on specific topic.
Training – individual or group training, either face-to-face or at a distance.	

Table 2: KM practices and KM technologies.

Source: Adopted from Oliveira et al., (2011).

As well as Oliveira et al. (2011), Hosseini (2011) also identified and integrated KM mechanisms within SECI Model, both with the intent of tagging where, on each four levels of converting, the mechanisms are more precise to create knowledge.

To assist socialization, externalization, combination and internalization, and in order to identify the most suitable for KM, the firms need to adopt suitable mechanisms after mapping the actual existing mechanisms. This is because KM is more probable to have success if it uses the existing infrastructure as a base (Hosseini, 2011); (Oliveira, et al., 2011).

According to Hosseini (2011), in the Socialization phase, face to face meetings, introductory virtual meetings, interviews and internal group chats, were identified as KM mechanisms in his study. Oliveira et al., (2011) also identifies brainstorming, informal conversation, training, lessons learned, storytelling and mentoring as other mechanisms able to convert tacit into tacit knowledge.

In the Externalization phase, to turn tacit into explicit knowledge, the authors identified mechanisms such as the repository of data, communities of practise, intranet, blog, wiki, collaborative working (proposing new solution paths through group working) and discussion with critical thinking (Hosseini, 2011); (Oliveira, et al., 2011).

In the Combination phase, where knowledge turns explicit into explicit, and in the Internalization phase, where knowledge turns explicit into tacit, the authors found considerable similarities with KM mechanisms used, as examples, best practices, blog, exams, quizzes, storytelling, peer reviews, project presentation, collaborative decision, lessons learned and communities of practice. It's interesting to notice that teamwork is identified as being an important mechanism in the Combination phase by Hosseini (2011) but not identified by Oliveira et all., (2011).

2.2.3 - Knowledge Sharing from the Matrix to Edges

In order to get competitive advantage, the multinational companies systematically combine and share knowledge within organization, business units and subsidiaries, feeding the process of knowledge creation (Regnér & Zander, 2011). Several authors refer to difficulties related to have knowledge sharing available from all collaborators or members of the organization affecting the transnational performance (Monteiro, et al., 2008); (Adenfelt, 2010), as cultural matters were seen to have relevance on the willingness to share knowledge (Siakas, et al., 2010).

Liao et al. (2011) refer that the ability of sharing and distributing knowledge resources across functional boundaries enables the firm to fundamentally change its business processes. The knowledge resources shared not only facilitate cross-functional interaction but also allow the repositories of knowledge among process participants, giving more understanding of the entire process instead of fragmented parts of the process (Liao, et al., 2011).

Multinational companies are very conscious about the time and resources spent on knowledge-sharing activities and are also concerned about the level of commitment of those participating in the network which could have negative impact on their personal productivity (Ahmad & Daghfous, 2010). However, previous studies revealed that centralization limits the active initiative of a unit in sharing knowledge with other units by stressing the centrality of the headquarters in the organizational network (Tagliaventi, et al., 2010). Research on cross-country communication has identified a variety of communication tools such as computer mediated technologies as e-mail, enterprise software applications and company databases, also face-to-face meetings, telephone and videoconference helps to support the flow of information and knowledge within central organization and subsidiary units (Adenfelt, 2010).

Bose & Sugumaran (2003) report the even more importance given by the companies to integration of knowledge management actions and CRM. Knowledge sharing is correlated with CRM profitability (Fan & Ku, 2010). Considering this correlation the author refers to the high importance of not only internal knowledge sharing, within organization, but also for external knowledge sharing. To Fan & Ku (2010) the effect of customer focus on service process is stronger when external knowledge sharing is high, moreover the external knowledge sharing plays a role in the improvement of transnational firm's performance (Haas, et al., 2011). Concerning internal knowledge sharing, Fan & Ku (2010) refers to customer-focussed firms that easily develop relationships with customers to disseminate and acquire market information as inputs to service process. This leads to neccessary strong organizational knowledge sharing climate between staff of the firm. Both internal and external knowledge sharing is fundamental on the perfomance of CRM (Fan & Ku, 2010). Further studies supported that there is a direct positive relationship between knowledge sharing and CRM (Shaqrah, et al., 2011) and ultimely on the way to get firm competitive advantage (Regnér & Zander, 2011).

To sum up, the relationship of CRM with technology capabilities and KM is being recognized as an important issue in management research within organizations (Garrido-Moreno & Padilla-Meléndez, 2011). If it's known that CRM initiatives have a high rate of failure (Payne & Frow (2006); Pedron & Saccol (2009); Saini, Grewal, & Johnson (2010), it's also supported that knowledge management can overcome this problem (Bose & Sugumaran (2003); Choi & Lee (2003); Monteiro et al., (2008); Garrido-Moreno & Padilla-Meléndez (2011)).

3 - METHODOLOGY

This chapter is organized into three parts. In the first we have a based methodological approach to this research. The second part of the chapter reveals how data collection was made in accordance with a case study research. The third part is about how data was analyzed to get the results and discussion.

3.1 – Methodological Strategy of a Case Study

A case study research is a versatile method that can be used under any research perspective (Yin, 1994). To Yin (1994), a case study is advantageous when the researcher has the control over the study object and focus on historical or contemporary phenomena.

Yin (1994) describes that a case study can be applied to describe the context of the real life where the action occurs, to briefly evaluate the held research and to explore situations where research evaluations have less clear or undefined results.

This qualitative case study is based on a single case and it is an approach to research that facilitates exploration of a phenomenon within its context using a variety of data sources to produce more complex thinking and explanation on the investigated matters, in accordance to which is proposed by (Yin, 1994).

Our research is a case study because we have things happening while we are studying and evaluating it, and at the same time the investigator has the opportunity to be part of the research object as well as exploring phenomena through direct observation.

3.2 - Data Collection and Analysis

The period of data collection took place between September 2011 and May 2012. The collection of data was made in person at the place of implementation of the CRM system, considering informal conversations, through direct observation, usage of public material collections or internal documents and communications. Also formal, written or recorded, semi-structured interviews, and constrained materials or documents were used if authorized by each intervenient or with supervision of management. We used triangulation by multiple sources of evidence as described by Yin (1994).

The focus groups for the data collection were the local users of CRM system in Portugal, as described on section 4.1, and the implementation group of super users in the AxFlow Group. Also the marketing group of AxFlow Group and the IT group will be considered as well as top management actions and decisions during the implementation time.

Three semi-structured interviews were made to the Director of Marketing and Communication of the Group, to the IT Manager of the Group and to the Local General Manager in Portugal. The Director of Marketing is the head of the project so our intents were to understand the philosophical and strategical CRM approaches as well as how knowledge management is applied to CRM. With the interview to IT Manager of the Group we have not only the intent to understand how CRM can be implemented as an IT tool and all its IT requirements, but also to be a cross-point of information. The interview to Local General Manager was to know how management feels the CRM project and to know about the beliefs and expectations on the CRM from the point of view of local management. Each interview lasted between one and one and half hours and the scripts are annexed (Annex 1).

The participant observation in the implementation and CRM training was prominent on the data collection, as well as a field diary registry on a systematic basis, where all comments, actions, talks, discussions, errors or concerns from users and super users were entered, even if considered minor at the time. Was used Bardin's (1977) analysis theory to perform content analysis of collected data. Based on this theory, was made a description of the project followed by a critical analysis on critical factors for success and on knowledge management factors presented in the literature.

4 – CRM PROJECT IN AXFLOW PORTUGAL SUBSIDIARY

This chapter is organized into two parts. The first is a presentation and characterization of the company where the study takes place. The second part, and longer, is sub-divided into three parts. The first part exposes the facts of CRM adoption, secondly it is reported how the first training and roll-out in Portugal occurs, and in the third part it is reported how things go two months after roll-out.

4.1 – The Company

AxFlow Group is a European leading company in sales, service providing and distribution of systems and equipment related to fluid handling in industry processes. It offers a complete portfolio and precise solutions of engineering on positive displacement pumps and systems responding to high demands of efficiency, trust and security. However, the AxFlow Group does not confine its activities to pumps, it also provides other complementary equipment such as mixers, blenders, heat exchangers, analytical instruments, valves and other related parts to fulfill industry requirements (Weiner, 2010); (AxFlow Holding AB, 2011).

The evolution of AxFlow Group, as a leading company on its business area, was mainly accomplished through fusions, strategic acquisitions and the alienation of non-essential activities. It emerged in Sweden for nearly 40 years as a way of diversifying markets and it is currently present in all European countries, and in 16 of them subsidiaries have implemented, such as AxFlow Portugal, which appears at the end of the 80`s through a process of acquisitions and restructurings (AxFlow Holding AB, 2011).

Being a family owned company, AxFlow Group represents only a small subgroup within the larger organizational structure that Axel Johnson Group owns and that has been built since 1873, initially by its founder Mr. Axel Johnson and then through successive generations that have taken business. Currently Axel Johnson Group is managed by the 4th generation of the family (AxFlow Holding AB, 2011). Annex 2a shows an abbreviated scheme of Axel Johnson Group organization and Annex 2b shows the organization of AxFlow Group and their subsidiaries.

Currently AxFlow Portugal has nine full time employees and one in a part-time position (the accountant). Seven people are directly related with sales, five are external salesman and two internal sales and spare parts. In the employees are also included the local Managing Director and the Front Office secretary. From all of these ten employees we exclude the accountant from the list of the CRM users; all other nine are considered CRM active users to this study.

4.2 – CRM Adoption

4.2.1 - Before the Adoption and Roll-out

Before CRM project arrives to the Portuguese subsidiary of AxFlow Group, there was a previous and preparatory work, which aimed to examine on how to best implement and transpose it in the different countries, as a universal system for access information to customer relationship.

Accordingly to the interview given by the Director of Marketing and Communications of AxFlow Group the idea and desire to have a CRM system to work throughout the group arose directly from the administration and management. From the year 2003 it took advantage of the fact that it was being implemented a new ERP system across the entire group, called ASW, to get also the SAM module (Sales and Marketing) which not being a true CRM system came to be its precursor inside the company group.

By the year 2007 the jurisdiction of the SAM stills under the purview of the finance department of the group, realizing then that the distance from this department to the customer was directly related to its ineffectiveness, moves to the decision to change the track pad on the SAM for the marketing department, because it was found that it was the department, operating directly in the matrix, which would have more contact with the sales, salespeople, and consequently with customers. After this change, it went through a crucial process for evaluating the true potential of the SAM system, trying to see if it was just the organizational distance of the financial department which was inhibiting the over-cross and proper use of SAM.

If there are companies in the Group that have adopted the SAM, there were also others who have chosen not to adopt it. The Portuguese subsidiary was one of them, and from the beginning, it has considered it unattractive. This decision was given the time it takes to feed the system and the return of information that could be created through it, because as a small company there are limited resources and time must be maximized.

Joining a team of enthusiastic users, salespeople, members of the marketing department and members of the IT department, came to the conclusion that SAM is not gathering the necessary requirements to be seen as an acceptable solution for CRM. The SAM was considered slow, unfriendly user, little integrative and weak interaction with the customer. In addition, IBS relegated the SAM from its portfolio, which means that their assistance would undoubtedly be affected. Allied to this set of factors, it joined the administration's support to the continuing need of local companies to have a universal system of customer relationship. The result on these was the decision to adopt a new and really true CRM system, leaving the distorted SAM.

The decision on which system would be adopted was the next step. To help in the decision, it was created a working group that included seven representatives from as many local firms, all related to the sales, Germany, France, Denmark, Hungary, Sweden, Netherlands and Norway. In this set of countries are included larger subsidiaries (Germany; France, Netherlands), smaller subsidiaries (Denmark; Hungary), enthusiasts and skeptics of the new technologies, people who raised more questions in favor of a new CRM project and against the SAM. This group was also joined by members of marketing, IT members and members of top management. Together they have created a list of criteria whose software had to fulfill, to meet the felt needs in the field.

Some CRM suppliers were invited to offer, that shown to meet the stated basic criteria: the system is user-friendly, fast, open and it has an easy access and it is robust enough

to receive and save a lot of information, it does not require the exchange of ERP installed but it is prepared to interact with it and with any other future changes of applications and e-commerce tools. Finally, the system communicates easily with e-mail, *Lotus Notes*, which was in. Satisfied the basic criteria, the tie decision would be the costs and prices.

The main solutions considered were: *Microsoft Dynamics CRM*, *SalesForce Application*, *SuperOffice CRM*, *Sage CRM (LIMS)* and *Commence CRM*. The two top finishers were the *SuperOffice CRM* and *Microsoft Dynamics CRM*, and the choice fell against the *SuperOffice* because this is more orientated to the Nordic markets and does not have translations for all countries where AxFlow is or that will eventually be. The high price to be paid for the *SuperOffice* translations to all necessary languages, turned out to be decisive in the choice of *Microsoft Dynamics* that had all the languages available. It was also found that, although *Microsoft Dynamics* enables the communication with *Lotus Notes*, it would be much faster using the *Outlook* system, so it also opted for its implementation at the expense of *Lotus Notes*.

After the process of choosing the system, it was necessary to methodically and clearly indicate the needs that cut across the group in order to optimize the system and the fields of information and interaction. To accomplish this, the described working group was called to set expectations and goals that top management could have, if all the requirements are met. It was established in order to double the total sales of the group, within 3 years after the CRM is fully installed and operational. This expected organic growth represents a little change on the group strategy, based on growth through acquisitions. However, when setting expectations and stated objectives are not expected to be the CRM to achieve the targets but it enables to free up time for salespeople to interact more and better with customers and therefore increase sales.

It was decided to use the method of phased roll-out, where the contents and actions would be relayed through successive countries, in a consecutive improvement basis. The implementation group has been extended to other countries and its subsidiaries for a total of sixteen people representing the same number of countries. Each of these representatives is responsible for the promotion of the project and the actions associated with it. This group is joined by four elements of the marketing department and a member of the IT department, a total of twenty-one super-users.

In order to streamline and optimize transfer and knowledge sharing, channels have been created for this purpose, including a place on Google, accessible to all users, where questions can be made, indicate errors occurred or give opinions for optimization. These

points are sectioned according to the theme, tagged and monitored as new, in process or resolved. All points are sorted and stored for future reference. In addition, it was created an emailing group, specific for super-users, facilitating communication concerning relevant and strict information or documentation which knowledge should remain only between the super-users.

It was considered that before the beginning of the roll-out plan, there should be done a pilot test, and according to documentation provided internally, the objectives were to test and verify the following:

- The CRM setup. Where customizations should be identified and their adherence to AxFlow sales process.
- Integration with ASW. The integration of CRM with the ERP system needs to be effective.
- Data migration ASW/SAM. The migration of data from the ERP system and old CRM system should be checked to avoid surprises later on.
- IT Infrastructure and HW/SW setup on the level of User PC. The personal computers or the laptops of each CRM user should be checked and updated at a certain level of hardware and software.
- Roll out process. The process of the roll out should be tested to understand on what to do and when should be done.
- Education package. It should be realized on what type of training it will be needed, what type of material should be provided to maximize the attendance of people to the CRM.
- Support Request system. Create and test on the field a system to allow people to be supported to their doubts and difficulties.

Furthermore, the pilot test would be used to recommend on the following aspects:

- Working processes related to the CRM.
- The minimum of mandatory tasks that need to be performed by every user in order to get the full effect of the system.
- Improvements to the current setup that facilitate the use of the tool even more.

The choice for the pilot test fell in the Norwegian subsidiary. According to information available to super-users and as explained in the interview to the marketing director of the group, this choice was based on a number of factors. The fact of being a

company that sells not only pumps but also other instruments completely different from what other companies sells, and the CRM system should accommodate all the needs of its broad portfolio. In addition the Norwegian company has people covering a wide range of ages, with people between 20 and 70 years old; this makes a very diverse computer literacy, so it is important to test the user friendliness factor of the system and appetite of older people to use new technologies. The Norwegian company also had experienced people in the use of *SuperOffice* CRM system, although in different conditions and specifications, information from them could be useful for assembling and setting up the *Microsoft Dynamics*.

Annex 3 expresses the findings collected from the Norwegian pilot test, which were available to the group of super users before the start of the roll-out plan.

Norway did not use the old system, SAM, so it was impossible to test the migration of data from this old system to *Microsoft Dynamics* and therefore decided to extend the group of pilots over two more countries, Denmark and Germany.

The Danish company is much smaller in size than the Norwegian, and it was chosen not only for being a user of SAM, but also by its size; it is interesting to check the behavior of *Microsoft Dynamics* and its users in the context. The German company is the second largest group in the use of SAM, and it has extremely well defined processes and responsibilities. The pilot in Germany tested the migration of huge amounts of information and it also tested a change on the routines of users that have very specialized tasks, on contrary as it occurs in the smaller companies where usually people need to accomplish different tasks.

According to the plan of the pilot tests they should be finished by the end of February 2011; however, it has been a delay to the end of May 2011 due to its extension for the two countries. These three countries have raised enough questions, important questions and issues that resulted in modifications and improvements to be implemented in the system since the first roll-out plan, starting in July 2011 in the Czech Republic company, with other following countries as the roll-out plan attached (Annex 4). All information, doubts, questions, suggestions and problems encountered were recorded on the on-line system designed to share information accessible to all users internally in the AxFlow Group.

It is said by the Marketing Director of AxFlow that the three pilot tests conducted to test and evaluate the CRM integration, the system speed, the server behavior when confronted with loads of necessary information, but also evaluate the education acquired by users and the work performed on prior specification from the CRM implementation team. It is also said that no problems were detected with the organizational strategy and culture, all being in harmony with the CRM project, from local management to users. It is indicated that most of the

problems emerged were in the IT side, the setup, integration of data, the compatibility of the data migration from the SAM and the stability of the new CRM server.

Concerning the lessons learned within the pilot tests, are mentioned as follows on the table 3.

Lessons Learned	Comments	Actions
Integration tool provided by IBS is too slow.	Took 2 weeks to migrate data from ASW in the Norway pilot, which is not possible due to time and budget. Its 2 weeks that people stops to enter new data in ASW.	Need to find a solution to speed up process. Coordinate works with IBS assistance.
Doubts that IBS is not taking all data required from SAM, don't doing any course check evaluation.	Need to be granted that every single information is not lost on the way.	Do an own quality data evaluation before the upload to CRM.
The print quote function in the standard MS setup connect to work mail merge is very difficult for users to handle.	The commands to use should be easy and accessible to every users, independent of their skills on computing or IT. A print quote on CRM system is mandatory.	Make it easier or produce appropriate guidelines on how to use it.

Table 3: Lessons learned comments and actions to do, within the three pilot tests.

Together with other smaller details found during the pilot tests, there were the aspects related with the integration and data migration that required depth intervention by the suppliers in coordination with the IT people of AxFlow, in the restructure and refurbishing of the system. In July 2011 it was decided to give two months of work on restructuring and reprogramming both the data transfer tool and the CRM fields to be optimized. The roll-out plan would be resumed in September 2011. These caused the need to increase the initial budget available for the project.

In several work plans, internal information and communications the runtime and the budget are mentioned as key points. Towards in compliance with the runtime, all countries and their local managers on CRM project were informed about the preparatory procedures (Annex 5) to make in their companies before the data migration, training and roll-out to other users.

Concerning the lessons learned due the quality and maintenance of information to be migrated from ASW and SAM, main aspects are in the Annex 6.

According to the schedule of training and roll-out on each country, all prior actions indicated in the above lists and tables, should be fully completed in the preceding week of the day training and roll-out. In this period of one week migrations from ASW and SAM were made up, data quality evaluation on ASW and SAM and the access to SAM should be closed. It was considered important to perform these steps only one week before to prevent too much time void of information, because during migration and checks the access and inputs into the system were very limited.

4.2.2 – First Training and Roll-out

As shown in Annex 4, roll-out was scheduled to all local subsidiaries of AxFlow Group. The roll-out was at the same time of first presently training at site. These training sessions were held by people of the CRM development group and depending on availability it could be marketing people or IT people. In Portugal who took care on were the Marketing Director and another marketing colleague from AxFlow Holding. Depending on how big in number of users the local company is, the people invited to assist the first training changes. In some companies it was created a small group to be trained and this group is responsible to train each user individually later on. In other countries, as Portugal, the training was to everybody at the same time and at the same place. The training took two days and was mainly directed for practical matters on how Microsoft Dynamics works integrated with Microsoft Outlook.

After initial theoretical presentations and definitions, and after practical examples also, the present users were invited to put hands on work and create new contacts, create and follow a lead, create potential opportunities, create opportunities, relate contacts with business partners and respective opportunities, track e-mails and messages with CRM, close opportunities.

Contacts were defined as people directly contacted by the salesmen. All contacts need to be inserted manually at the first time and comprehends the name, e-mail address, phone and mobile number, fax number, position and cargo at the company. Business partner is the company or the entity which AxFlow will trade with. It could be created if it's a new one or directly imported from ERP system (ASW) if it's an existent customer. Contacts are obvious related with business partners. A lead could be a thought, a hint or a clue to be followed. It could be also an order to be followed from the hierarchical superior. In some cases the lead serves as a start point to get a contact. A potential opportunity is a situation after the contact made and before the opportunity. This is when the salesman thinks it could be some evolution to get a real opportunity to sell something. An opportunity is created when an offer is

submitted to the customer after enquire. This could become directly or from an identified potential opportunity. On the way to get the order it is established a rank status where the offer submission corresponds to 15% and the final purchase order corresponds to 100% opportunity status. When there is the purchase order the opportunity is closed and goes for credit evaluation and invoice.

On each created opportunity it is also automatically created a unique reference number to identify the opportunity and the project.

During the training it was also referred the importance to create an integrated quote through CRM. This is accomplished with the installation of a Word add-in that allows the automatic merging of information into respective fields of quote.

4.2.3 - Two Months after the Roll-out

Two months after the first training and roll-out, informal enquires were made to the users to understand how the perception, acceptation and level of usage from users were on the CRM system. All the nine users of ten employees in AxFlow Portugal were enquired between the 17th and 23th of January 2012.

When enquired on what their understanding concerning the main objectives and benefits of the CRM is, the majority of user's answers were to organize the job and facilitate the access to data related with the customers. It was also mentioned that it will probably free time to external salesman to sell more instead of spending time on searching disperse information. Although these are the majority of perceptions there were also answers that reveal the worry of being internally controlled on their actions with the CRM.

Users were enquired on what their thoughts concerning the training and roll-out are. Eight of the attendants have the perception that the training held was good, well-structured and clear to understand the basics of the system. However, it was mentioned the intensity of training and the huge amount of information to be brained in a very short period. The users refer the need of more training sessions to proceed on further actions in the CRM, not only to other matters but also to solidify the lessons learned.

It was asked to users if they were using the CRM at time. Nine users reveal that after the training they started to use the CRM, even if conditioned on their knowledge of the new system. However, seven attendants told that they do not use the CRM in a regular basis and the other two are using it occasionally. The main purpose of this non-usage is very well identified from all the users enquired as IT problems, concerning the frequent breakage of the server and lousy slow internet connection. Five users refer that it takes much more time doing something in the CRM instead of using "his own" normal way to do it, although six users

indicate to know on how to create and use Contacts, Potential Opportunities and Opportunities; they are able to use the Outlook add-on to Track messages in the CRM and use the Agenda to schedule their appointments. Only two users created Opportunities in CRM that end into a sale.

When asked to identify their needs to start using the CRM in a regular basis, all users indicated that IT problems must be resolved, including a speed upgrade on the internet connection. They revealed that is almost impossible to work if the system is slow and falling down regularly. The majority of the attendants reveal their concern of having a tool to automatically create the quote form to send to the customers and avoid double work on doing the quote apart; however, there are users indicating their preference to do quoting by the old way, because they said to have too much information in a wide variety to be presented, and they consider a limitation to be restricted to standard forms. One user revealed to feel uncomfortable with the English language, so they desire full Portuguese language software.

5 – DISCUSSION

This chapter of discussion is divided into two sections and intends to relate aspects presented in the literature which were adopted in the CRM implementation at the company. The first section focuses the critical factors for CRM success and the second focuses knowledge sharing activities.

5.1 – CRM Critical Factors for Success and the CRM Adoption at AxFlow

CRM is known to have critical points to be achieved in order to get more probabilities of success (Faed, et al., 2010). Table 4 identifies the critical factors for success presented in the literature and a state of adoption in the company. The order and importance of factors are random.

CRM Critical Factors for Success	CRM Adoption at AxFlow
Capital flexibility for investment	Demonstrate flexibility for investment when decided to buy a new CRM solution. Initial budget was increased due to necessity of IT refurbishing on the system.
Calculation of lag time to get benefits	The benefits expectation of doubling total sales within 3 years after full implementation of the project.
Leadership and top	Leaders and top management are involved from the beginning and give full support to the project.

management involvement	
Cultural matters	Cultural matters apparently have no importance in the implementation of this project.
Quality and quantity of data	The quality and quantity of data was seen as an important challenge and big issue within the implementation of this project, due to incompatibilities and poor flexibility to transfer data from old to new system.
Software flexibility	Microsoft Dynamics seemed to be the most flexible software to be adapted to the reality of the company.
IT skills of users	IT skills are a concern on the willingness of users to the system. Older people have shown some constrains. Some users appealed for local language translations.
IT support	IT support and IT matters are the biggest concern and where users and implementers found high difficulties. IT systems in use proved to be inefficient while used with new CRM system. IT support is centralized, and some companies do not have local IT support, and that's a big issue particularly for the smaller companies.
Definition of business processes	The definition of processes on the implementation of CRM starts to be definitive with the pilot tests, an updated with lessons learned.
Holistic view of the company	The group of implementers and super-users has been chosen due to its experience and knowledge about the company, its vision and values. This gives the opportunity to have an holistic view of the company.
Changes in sales force automation	Changes in sales force automation were critical. People are generally against changes and quite its own automation. Drastic changes made people lose time and money. Progressive changes are desirable in some cases.
Knowledge management integration	Knowledge management is present in the adoption and implementation of the CRM; however, there is not a strong policy for knowledge management integration.

Table 4: Critical factors for CRM success and its adoption in the CRM project at AxFlow.

Critical factors observed are oriented within three different fields, processes, people and technology. Technology related factors were the most negative affecting CRM implementation in the Portuguese subsidiary, principally IT support and stable internet connection were seen as critical. Changes in sales force automation were also seen as critical, being difficult to people to change drastically from its own automation to other reality. Processes oriented factors were generally well established giving capital for investment and full support of top management. It was identified unavailable policy for knowledge management integration however there are usage of some KM practices and technologies.

5.2 – Knowledge Sharing and the CRM Adoption at AxFlow

Knowledge management mechanisms and knowledge sharing can enable CRM adoption to success. In order to identify the knowledge sharing episodes applied to the object of this study, and at the same time respond to our main research question, table 5 was built.

Knowledge Sharing episodes	CRM Adoption at AxFlow
Repository of data	Was implemented a repository of information available to all users of CRM. Users and super-users can put questions, doubts, state errors or propose changing through a Google place. Stated points are sectioned according to theme, tagged and monitored as new, in process or resolved. All points are sorted and stored for future reference. The team that is responsible for the answers and moderation is composed by IT and Marketing people. This can be seen as an Externalization phase of knowledge converting where knowledge turns tacit into explicit.
E-mail grouping	E-mail is used in a systematic basis to easily and inexpensively communicate. Was established some e-mail groupings of interest depending on the level of information to spread out. Super-user email grouping is often used when information is not significant to all users, or when information should remain restricted to implementers. When information flows between groups of people within the same critical thinking, this can be seen as a process of Externalization to turn tacit into explicit knowledge.
Pilot test	Pilot testing was taken in three companies of the group corresponding to three different countries (Norway, Denmark and Germany). These choices allow previous understanding on how things run in the implementation of CRM. Having different companies on dimension, culturally and people skills, gave a wide representative of what could happen in the roll-out phase for whole the group. IT matters can be checked, software can be redesigned and strategy can be redefined, if needed.
Lessons Learned	A project audit provides good opportunity to uncover issues, concerns and challenges during the project lifecycle. Lessons learned captured from projects or previous stages of a project, are the key for any organization. To ensure efficiencies over time, every successes or failures can teach important lessons, developing into best practices. In the implementation of CRM at AxFlow, lessons learned were resumed and spread essentially through emails to super-users and to implementation group. Lessons learned is also a knowledge mechanism applicable to convert

	tacit into tacit knowledge, explicit into explicit and explicit into tacit knowledge, being present in three phases of SECI knowledge creation model respectively, Socialization, Combination and Internalization.
Training	As one of the most important mechanism to convert tacit into tacit knowledge, training is fundamental on the implementation of the CRM project. The general strategy adopted for trainings depends on dimension of the companies, the skills of the users and the availability of trainers. In Portuguese company the training sessions were grouped face-to-face, to all users, and individual at distance only to super-users.
Brainstorming	Brainstorming is a mechanism where a group of inhibited people discuss new possibilities or ideas in order to develop a project. The objective is to collect ideas as many as possible, even if apparently not reasonable. In this project, brainstorming was used at a high level to define strategies and also at user's level to adapt to the strategies followed. Brainstorming is a recognized mechanism to convert tacit into tacit knowledge.
Best Practices	Best practices are a mechanism to convert explicit into explicit knowledge (Combination phase) and explicit into tacit knowledge (Internalization phase). It can evolve to become better as improvements are discovered and lessons learned. In this project were made some documentation and charting procedures to consistently specialize processes. Are examples, best practices to optimize data for transfer from ASW to CRM; best practices to audit IT requirements and software installation.
Tele-meeting	Meeting at distance is a mechanism that can be used to convert tacit into tacit knowledge in the Socialization phase. To this project is an extremely important tool often used to provide one-way communication from few people at one location to single or large number of people in other distant locations.
Informal conversation	Informal conversation is a known and recognized mechanism to convert tacit into tacit knowledge. This makes huge importance involving people with their opinions and casual subjects without the pressure of formal speech or formal events. Informal conversations are usually shared with people that you are most familiar with, in our case, informal conversations are very useful to fill the commitment and willingness of users to the project.
Communities of practice	In this project communities of practice were slightly formed, not from people who share a profession or a craft but from chosen members to integrate implementation groups in a particular domain. Are examples, the marketing team, combining a representative of each individual subsidiary company; the working group to decide from what CRM system should be adopted. These groups have a common goal through the process of sharing information and experiences to develop themselves and new possibilities for the project or the company. This mechanism assumes high importance in the Combination and Internalization phases of knowledge converting.

Table 5: Knowledge sharing episodes and its adoption in the CRM project at AxFlow.

The above table can help to respond to our main research question: *"How does knowledge sharing in the implementation of a CRM project in a transnational company flow to its subsidiaries?"* Considering the literature available and the research of data in the company we can observe that knowledge management mechanisms are present in the adoption and implementation of the CRM project in the company, although it's not clearly or formally stated as a concern or priority to the company.

We also can see that the main mechanisms of knowledge creation used are focus on the Socialization phase where knowledge turns tacit into tacit; however, it's interesting to see that other characteristic mechanisms of other knowledge creation phases are present, completing a cycle according to SECI model.

In this project, although there are some ways opened to discussion, strategy and actions to make are more or less imposed from the matrix to its subsidiaries, being not much space for user modeling**,** knowledge sharing is centralized and spread out by the stated mechanisms.

The literature have other KM mechanisms and knowledge sharing activities that could be useful if applicable to this project, and that we couldn't identify, such as intranet blog, wiki pages and directories of experts identifying people with knowledge on a specific topic. Instant messaging could be also a very useful mechanism for knowledge sharing, because of its synchronous quick exchange, the use of Skype or other support of this type could be an inexpensive way to share knowledge too.

6 – FINAL CONSIDERATIONS

The results of this study show that knowledge management and knowledge sharing actions can help to a successful adoption and implementation of a CRM project, which is aligned with the literature. As an improvement to literature this study shows that even without a policy for knowledge management installed into the organization, there are mechanisms used to share and create knowledge. Furthermore, knowledge sharing flows accordingly to the mechanisms stated in literature, as well as it flows from matrix to subsidiaries in a transnational organization.

In this particular and from our point of view, the company could implement a policy for knowledge management, not only applicable to the specific CRM project, but also for other main projects to be cared on. Within this project, we also suggest the adoption of other knowledge sharing activities such as an intranet blog or a more intuitive easy accessing repository of data. We believe that the creation of internal yellow pages which identifies

experts on specific topics would also be a good help for user individuals. All of these mechanisms could be integrated in a restricted area accessed via public website. This would potentiate the usage of website, minimize errors of access and increase the quotation of the website in search engines.

This study was made through the point of view of a participant investigator which is based in the Portuguese subsidiary of the AxFlow Group, if from one side it provides access to the data of the company, it could also be a limiting position to the study. Another limitation was the window of time available to finalize this study, which not allows us to evaluate on time the phenomenon under analysis, or to implement the proposed mechanisms and check results. A third limitation that can be pointed is the use of managerial perceptions to evaluate the different actions and results. Also a big limitation was the problems related with IT and Internet connection in AxFlow Portugal. This frustrates users and encourages them not to use CRM properly from the beginning, causing us difficulties to get their advanced perceptions of CRM to our study. This is consistent with literature as IT matters are crucial for success.

Further studies can be held on less mentioned points in this study, in the evaluation of the results from present actions or from the suggested changes. It would be interesting to study the perceptions overtime on CRM and KM of various agents involved, managers, employees and customers. Another possible line of research is to carry out studies using larger samples internationally that allow us to explain better the observed relations between CRM and KM. Further studies are needed to identify and gauge which of KM mechanisms is most important mediator to CRM success, also this might be combined with a differentiating between ceremonial and economic performance of a marketing practice. Last but not least we suggest adoption of KM activities and theoretical-based insights related not only to CRM but to other areas of marketing research and in day-by-day practices which likely would be an effective support to salesman activities.

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ANNEXES

Annex 1_____

Guide-line for semi-structured interviews

Questions

The AxFlow group decided to implement a CRM system in the whole group and their subsidiaries:
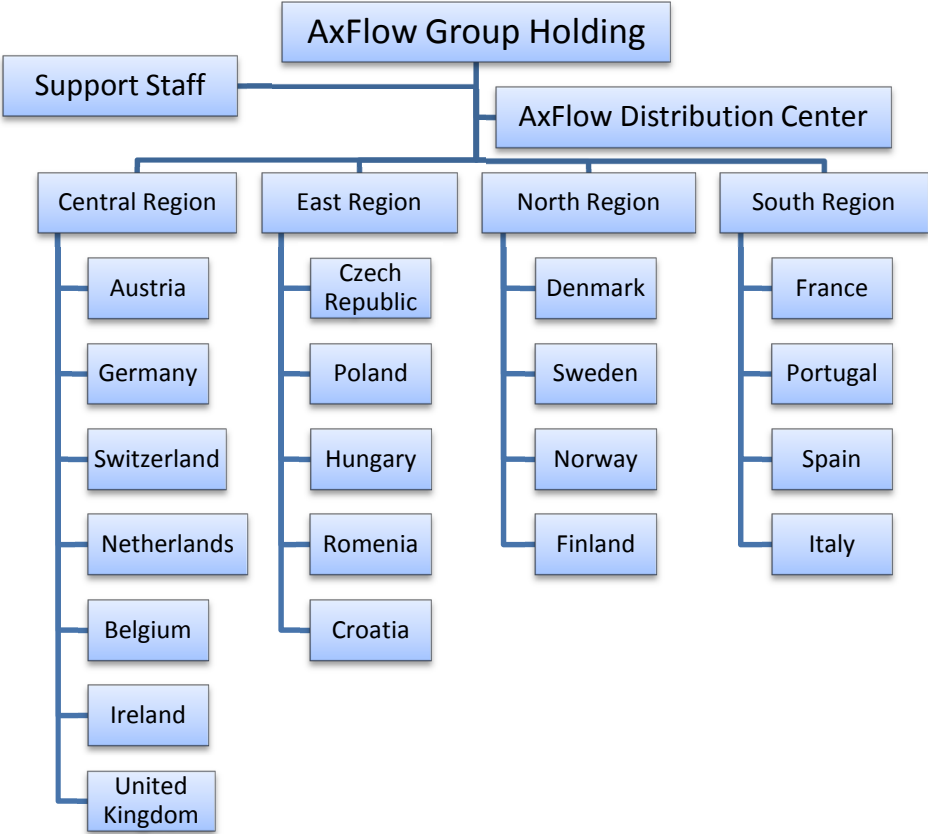
1. How and when raised the idea of implementing a CRM system in the group? Who was the first person to bring this idea to the group?

2. The decision of the implementation was easy? The top management was committed from the first beginning or they argue some reluctance? They are still giving full support?

3. Why did we choose the CRM Microsoft Dynamics? Did we hear some other suppliers?

4. In general, what are the goals and expectations of implementing a CRM system, from the top management point of view?

5. And from your personal point of view? What are your personal expectations with CRM? Do you think the expectations of the ordinary users are the same as yours or top management point of view?

6. After the decision to implement CRM, who was in charge to develop the first preparation steps of the project?

7. What's your understanding about what really is Customer Relationship Management? It's only seen as an IT tool or something more?

8. Do you think that CRM will interfere in the way of acting and working with the customers? How far do you think the way of working will change? Do you think the vision, mission and core values of the group will need to be changed?

9. Concerning the knowledge sharing, how flows the information in the right directions? How it works? Do you think the need to implement a CRM it's because the actual knowledge sharing doesn't exist or doesn't work properly inside the group? And what are the tools or instruments used to knowledge sharing?

10. At the subsidiaries level, how many people are responsible or allocated to manage this project locally?

11. What kind of information should stay inside of the CRM implementation group? But there is any risk of spending too much time seeing how it works and so on?

12. We made some previous tests or pilots on this CRM system? Where? Why these countries? So do you think this first failure in Norway gives you valuable information?

13. How did they run? What were the main goals and objectives of the pilot tests?

14. Did we face some problems during the pilot tests? What kind of problems, more IT problems, strategic problems, cultural…?

15. How these problems were solved? Please tell me, what we've learned with the pilot tests?

16. And how the information has passed between the users and the system administrators?

17. Portugal is almost the last country to get the rollout and release the CRM. So, from what you have seen in the other country subsidiaries, how's CRM project is been seen both by the users and local general managers?

18. The local general managers are confident and committed with the project? What are their expectations with the project?

19. Concerning the information collected, such as problems occurred, doubts, questions of the users, problems solved, etc., how this data are been treated, filtrated and released again to other users?

20. In your opinion it's easier to implement a CRM project on a small subsidiary like Portugal or on a big one like France for example? Why? Do you think knowledge management it's easier on a big or small company?

21. Inside our organization there are already communities of practice with the focus on CRM? Locally or globally in the group? Do you think the customers or the suppliers will have a place in that practice communities? The group will have guidelines on how to share the information and knowledge gained? Do you think that guidelines should be passed to the customers? Did you fear that the customer feels to be losing some power in the conversations with AxFlow and leave us? If they know we are using CRM it's possible they feel we know too much?

22. What's your understanding about Customer Relationship? For you what should be considered a good relationship with the customer?

Axel Johnson Group Organization
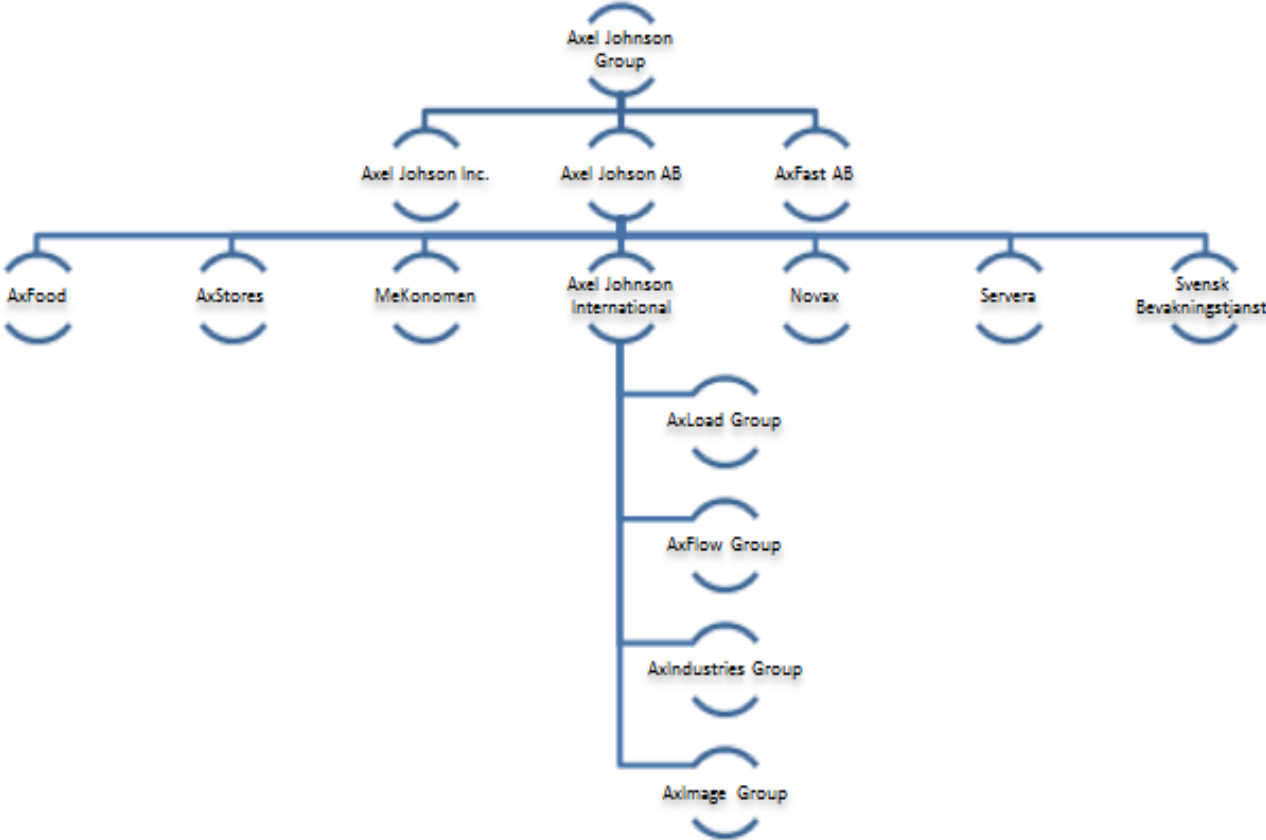
AxFlow Group Organization and Structure

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                              ┌─────────────────────────┐
                              │  AxFlow Group Holding   │
                              └─────────────────────────┘
        ┌─────────────────┐              │
        │  Support Staff  │──────────────┤
        └─────────────────┘              │    ┌────────────────────────────┐
                                         ├────│ AxFlow Distribution Center │
                                         │    └────────────────────────────┘
      ┌──────────────┬─────────────┴──────────┬──────────────┐
┌────────────┐ ┌────────────┐        ┌──────────────┐ ┌──────────────┐
│Central Region│ │East Region │        │North Region  │ │South Region  │
└────────────┘ └────────────┘        └──────────────┘ └──────────────┘
```

Central Region	East Region	North Region	South Region
Austria	Czech Republic	Denmark	France
Germany	Poland	Sweden	Portugal
Switzerland	Hungary	Norway	Spain
Netherlands	Romenia	Finland	Italy
Belgium	Croatia		
Ireland			
United Kingdom			

Main findings from the Norwegian pilot

Findings	Comments
Initial data import from ASW to CRM too slow	The initial data import took nearly 2 weeks in Norway. This is not acceptable for the roll out. IBS and Cybernetics have an alternative solution that is to be tested on the Denmark ASW.
CRM to ASW integration – 10 digit customer number	The testing of the standard integration from CRM to ASW provided by IBS showed that the BPs coming from CRM get assigned a 10-digit number by the integration that is then treated as a customer number and consequently is brought back to the CRM. This is going to create major problems for AxFlow customer numbering routines in all countries. We're evaluating an alternative solution.
Print quote & Quotation forms too advanced	The standard mail merge function in MS needs to be simplified. A major drawback is the users need to save the quotation outside the CRM/SharePoint system in the first step and then to bring the file into the SharePoint in the next step. This will limit the use of SharePoint only to the handful of enthusiastic users. The risk is high that the majority will stick to the old routines – i.e. saving files in their own hard disks and servers. Unfortunately, until the Active Directory (AD) is fully implemented we will not have the possibility to 'close' the loop CRM>SharePoint, so for the time being, Cybernetics will create a universal mail merge form. Based on this form-kit, users will then build their own quotation forms. In the meantime, AxFlow will review Cybernetics solution made for another client to see if that can be an option for us when the AD is fully implemented.
Additional fields to import from ASW	Those are treated as change requests (VAT; Company Name /Search name; Item extended description; Submit/completed dates on imported orders)
The individual PC set up plays a key role in the access to the system.	A policy was made for the PC setup that all users need to adhere to. It is a part of the roll out package.
The outlook activity / task integration is only 80%	The integration is week due to the use of roll out version 14 on the CRM server and Outlook. Will upgrade to roll out version 16.
Due to the lack of use of SAM, the Norway pilot wasn't able to test the SAM migration.	The migration is scheduled for test with Denmark SAM.

Roll Out Schedule country by country

Country	April	May	June	July	August	Sept.	Oct.	Nov.
Austria							24-25	
Czech Republic				11-12				
Germany		x						
Denmark		x						
Spain							3-4	
Finland					18-19			
France						5-6		
Hungary					29-30			
Ireland								7-8
Italy						12-13		
Netherlands							10-11	
Norway	x							
Poland							17-18	
Portugal							31	1
Sweden						19-20		
United Kingdom						26-27		

The schedule corresponds to days of training and roll out in each country. The countries with "x" are the pilot tests. The year of the roll out was 2011.

Actions to be made before migration of data, training of users and roll-out.

Actions	Comments
Update all computers installed with older versions of MS Office.	The CRM tools only work with MS Office 2007 or higher.
ASW system re-organization and clean up. SAM re-organization, if applicable.	Should look for Quotations and Sales Orders first and then move on Business. Partners and Items. Following the Best Practices guide-lines.
CRM User Setup	Define settings for users and super-users.
CRM Client Installation	Install CRM client and R16 CRM patch on every user computers. Following guide-lines and instructions given.

Lessons learned due the quality and maintenance of information to be migrated from ASW and SAM

ASW	SAM
Deactivated Business Partners (BPs) won't be imported from ASW in the CRM hence no related orders and quotations. As the new CRM 'marries' data from ASW and SAM. Therefore it is important all ASW BPs have their equivalent in SAM.	If no ASW identification is attached to customers then information from SAM won't be loaded – system cannot connect business partners from ASW and SAM
BPs with no or wrong credit profiles won't be imported; consequently no orders and quotations from ASW and SAM will be imported.	It was seen prospects and customers not being merged in the CRM. The import of such data will create errors and duplicates. Users should make sure to merge all such customers/prospects.
Product items with missing suppliers won't be imported	If the date of a meeting is set 'out of the normal' i.e. 1900-01-01 this produces an error in the migration to CRM.
The problematic characters, or the local language characters, in the identification of the items are no longer an issue, because the migration tool was adjusted.	--
Product items with missing suppliers won't be imported.	--
Orders with missing customer identification won't be imported and consequently order lines will return errors and warnings.	--
Quotations made on ASW with missing customer identification and/or invalid effective from date won't be imported, consequently quotation lines won't be imported.	--