Development of a Knowledge Management Improvement Project in a Consulting Firm

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Dissertação de Mestrado

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Aos meus pais

Abstract

Regarded as one of the most if not the most valuable asset in organisations, knowledge and knowledge management practices are becoming more and more relevant in today's corporate world. Being a professional services provider, Deloitte is a firm that relies fundamentally on its knowledge management as a source for competitive advantage. Deloitte's Tax – Incentives division was born in 2001 and since then has grown considerably. To cope with increasing levels of complexity it is relevant to analyse and improve its knowledge management processes.

The firm is extensively analysed on the operational as well as the organisational and structural level taking into account matters of corporate culture. There is also an in-depth analysis of all work methodologies and processes, knowledge management processes and knowledge management system contextualising the issues in the theoretical literature on the subjects.

Following a critical analysis, solutions and measures are proposed that will expectantly produce significant improvements in the knowledge management practice, thus resulting in organisational performance increase. The proposed measures address people, processes and technology introducing operational and organisational changes.

The main focus of the project is to effectively motivate people to engage in the knowledge management processes by creating the proper incentives and making them more user-friendly and efficient by standardisation and effectiveness.

The work developed in this case-study might potentially serve as benchmark for implementation of similar knowledge management improvement projects.

Desenvolvimento de um projecto de melhoria da gestão de conhecimento numa empresa consultora

Resumo

Entendido como um dos mais, senão o mais importante recurso das organizações, o conhecimento e as práticas de gestão do conhecimento estão-se a tornar cada vez mais importantes no mundo empresarial. Dedicando-se à prestação de serviços profissionais, a Deloitte é uma empresa que depende fundamentalmente da sua capacidade de gerir o conhecimento como fonte de vantagem competitiva. A divisão Tax – Incentives nasceu na Deloitte em 2001 e desde então tem crescido consideravelmente. Para poder lidar com os níveis crescentes de complexidade, torna-se relevante analisar e melhorar os actuais processos de gestão do conhecimento.

A empresa é analisada extensivamente, tanto a nível operacional como organizacional e estruturalmente de modo a ter em conta o factor de cultura organizacional. Há também uma análise profunda de todos os processos e metodologias de trabalho, assim como os processos e sistemas de gestão de conhecimento, enquadrando-os teoricamente na literatura científica.

No seguimento de uma análise crítica, medidas e soluções são propostas na expectativa de produzir melhorias significativas nos processos de gestão de conhecimento, atingindo assim, um aumento da *performance* da empresa. São propostas medidas ao nível das pessoas, processos e tecnologia que se materializam em alterações operacionais e organizacionais.

O projecto tem o seu maior enfoque na eficaz motivação das pessoas para contribuir nos processos de gestão de conhecimento através de melhorias na usabilidade e eficiência por estandardização e eficácia e criação de incentivos adequados.

O trabalho desenvolvido neste caso de estudo pode potencialmente servir de *benchmark* para a implementação de projectos de melhoria da gestão de conhecimento em contextos semelhantes.

Agradecimentos

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List of Abbreviations

Area F – Sharing platform for work in progress and backup
CRM – Customer Relationship Management
Deloitte – Deloitte Consultores, S.A.
Division – Deloitte's Tax – Incentives division
DTT – Deloitte Touche Tohmatsu
ERS – Enterprise Risk Services
EU – European Union
gEm – global Excellence model
HRM – Human Resource Management
Incentives division - Deloitte's Tax – Incentives division
IT – Information Technology
KM – Knowledge Management
KMS – Knowledge Management System
KX – Knowledge Exchange
MAKE – Most Admired Knowledge Enterprises
PM – Project Management
POPH - Programa Operacional Potencial Humano
PRODER - Programa de Desenvolvimento Rural
R&D – Research and Development
SIFIDE - Sistema de Incentivos Fiscais em Investigação e Desenvolvimento Empresarial
SII - Sistema de Incentivos à Inovação
SII&DT - Sistema de Incentivos à Investigação e Desenvolvimento Tecnológico
SME – Small and Medium Enterprises

1 Introduction

This dissertation is developed in the pursuit of a Master's degree. It is the final project of the Integrated Masters in Industrial Engineering and Management of the Engineering Faculty of the University of Oporto. The project development occurred between September 2009 and January 2010 at Deloitte Consultores, S.A. (hereafter simply denoted by Deloitte) on the Tax – Incentives division (hereafter simply denoted by Incentives division or division). The project's focus is the knowledge management system (KMS), processes that serve the division and how they can be used to improve the division's performance and ultimately the firm's results.

At section 1.1 Deloitte is presented in a very concise manner in the various dimensions of the organisation from the organisational structure to the different business areas. A few considerations are made about knowledge management (KM) in regards to its increasing relevance in the business world as a field of study and source for competitive advantage at section 1.2 leading to the knowledge management project's presentation at section 1.3. At section 1.4 the work methodology applied in the development of the dissertation thesis is explained followed by an overview of the document's structure at section 1.5.

1.1 Deloitte Touche Tohmatsu (DTT)

1.1.1 A Swiss Verein

"Verein" is the German word for "Union" and is a legal structure under Swiss law. It is used as a legal form for a business organisation consisting of a number of independent offices, each of which has limited liability vis-à-vis the others. The global organisation has decentralised control shared between the several member firms that constitute it while each one is only bound to the regional regulators of the country it is resident. "Deloitte" is the brand under which tens of thousands of dedicated professionals in independent firms throughout the world collaborate to provide audit, consulting, financial advisory, risk management, and tax services to selected clients. Each member firm provides a similar but sometimes different combination of services in a particular geographic area and is subject to the laws and professional regulations of the particular culture or country it operates. DTT helps in the coordination of the activities of all member firms not providing itself any direct service to clients. Each DTT member firm is only exclusively liable for their own acts or omissions and operates under one of a series of several related names such as "Deloitte, Deloitte & Touche", "Deloitte Touche Tohmatsu", etc. How each firm organises itself in their territories varies a great deal and is subject to a number of factors such as national laws, regulations, customary practice, services provided, and others [76]. DTT comes from the names of three very important men: George Touche, Admiral Nobuzo Thomatsu and William Welch Deloitte.

Deloitte Touche Tohmatsu has over 160 000 people working under it spread across more than 140 countries all over the world [76]. It provides support to all these entities with the goal of providing every each one of them with the proper guidance towards the high levels of quality and integrity it promotes in the various fields of business. This way, all firms can benefit from a standardised mother brand that is recognisable and trustworthy to all current and prospective clients. In Appendix A there is a pie chart with all the industries covered by DTT worldwide and their proportional contribution to the overall consolidated results as well as bar charts

showing the evolution of employees dedicated to each of these functional areas, management and administration support services through the period 2004 to 2008 for all member firms and the revenue growth of DTT stressing the contribution of each functional area for the same period. The professional services DTT provides through its member firms worldwide are divided into four major functional areas which are:

- Audit
- Financial Advisory
- Consulting
- Tax

1.1.2 A Professional Services Provider – Functional Areas and Core Values

DTT's Vision is to be the standard of excelence in all of the businesses and services its member firms provide. In the past, member firms have been focusing on achieving size, scale and global reach. The strategic direction that is followed in today's world and the realisation of DTT's Vision is materialised in being highly respected by the broad community of stakeholders, ultimately being [77]:

- The First Choice of the world's most sought-after talent, drawn by our eminence, culture and diversity.
- The First Choice of the most sought-after clients, attracted by the breadth and depth of our world-class service in each market segment.

In order to achieve a common culture throughout the world towards the Vision of DTT, there is a promotion of trust and sharing across all partners and professionals, thus allowing for a transparent brand that enhances confidence of the capital markets. The notion of collective success is very deep in DTT's member firms culture while also fostering for a competitive environment of personal and independent growth. The basis for a consistent approach to service delivery worldwide is a result from the union provided by DTT's universal shared values. These values are depicted below:

Figure 1 - DTT's Global Shared Values (extracted from [77])

1.1.3 Deloitte Portugal – organizational Structure

Deloitte Portugal is a network of firms under the "Deloitte" brand that provides a number of professional services covering the Portuguese regional area and Angola. These firms are [76]:

- Deloitte & Associados, SROC S.A. – responsible for providing services in audit, fiscal consulting and risk management.
- Deloitte Consultores, S.A. – responsible for providing management, strategy and operations consulting services as well as corporate finance services.
- SGG – Serviços Gerais de Gestão, S.A. – responsible for providing services in outsourcing of financial services.
- SAPi2 CI – Consultoria Informática, S.A. – responsible for providing services in development and maintenance of information systems.
- Deloitte & Touche – Auditores Limitada – Being the only firm of the network in Angola, it provides services in audit, management, operations and strategy consulting as well as fiscal consulting for the Angolan market.

Deloitte Portugal divides its offer of professional services in 5 major functional areas of intervention. These functional areas are:

- **Audit** – Audit is the area that comprises all services related with auditing internal and external, account review, simplified exams, internal control and information safety procedures, reliability guaranties, environmental and sustainability law assessment and due diligence studies.
- **Business Process & Application Solutions** – Provides outsourcing services for various areas to many different industries and businesses. Such services range from SAP and ORACLE support to management accounting & reporting, budgeting & management control and human resource management.
- **Consulting** – The Consulting area is responsible for providing clients with solutions through strategic consulting, process optimization & reengineering of processes and businesses, design and implementation of information systems as well as management tools, human resource management consulting and outsourcing.
- **Corporate Finance** – Provides financial services in projects of creation and optimization of its clients' firms' value enabling and executing transactions, mergers and acquisitions, access to capital markets and other. The corporate finance function aids in planning optimisation strategies of assets and restructuring.
- **Tax** – The tax division is responsible for providing fiscal consulting services in all tax areas, aiding firms to achieve an optimization of tax expenditure in its operations and receiving incentives when applicable.

Apart from the above mentioned functional areas there is Enterprise Risk Services (ERS), a functional area devoted to information security and information technology (IT) Risk Consulting.

All functional areas operate in all different business units of the Deloitte Portugal network. Each business unit is focused on a number of particular industries or territory. In Appendix A, a matrix depicts the relationship between all functions and business units of the firm together with leadership and corporate support functions.

In Deloitte Portugal the most sought-after qualities in every single employee and the ones that are believed to bring them closer and closer to be the standard of excellence are presented Appendix A. They are Anticipation, Relentlessness and Pragmatism. The combination of all of them enables the employee to be "always one step ahead".

1.1.4 The Tax – Incentives Division

The Tax functional area is subdivided into 9 subareas according to specialisation in specific technical areas of expertise. The Porto division comprises all technical areas for the Oporto territorial section. The Tax Incentives division is part of the Tax functional area as it is depicted below:

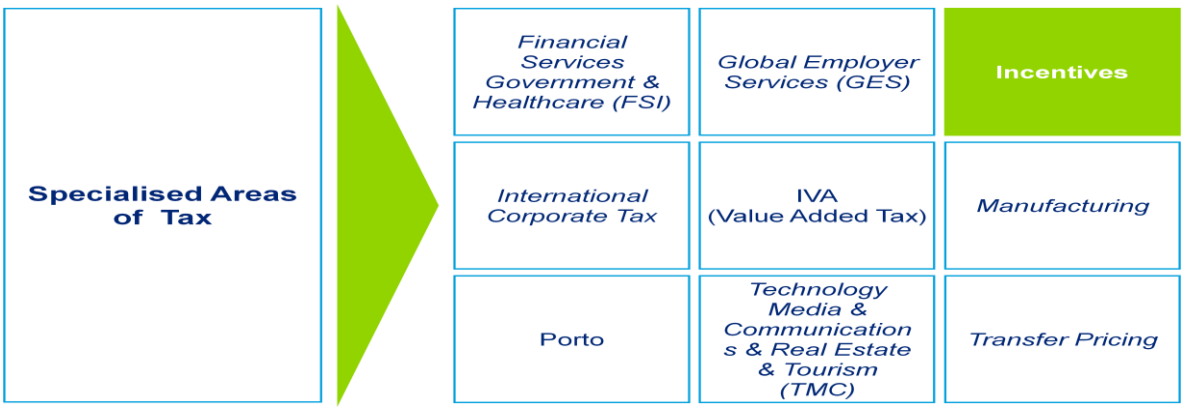


Figure 2 - Specialised Areas of Tax (extracted from [77])

The incentives division is comprised of a multidisciplinary team of 45 elements divided amongst the Lisbon and Oporto offices. It was created in 2001 with 5 employees at the end of the fiscal year.

The Incentives division's main focus and purpose upon creation is to provide a consulting service to clients by accompanying and aiding throughout the entire process of attaining an incentive for their projects. The main incentives covered are:

- "Programa Operacional Potencial Humano" (POPH) – Professional Training
- "Sistema de Incentivos à Inovação" (SII) – Innovation
- "Crédito ao Investimento no Turismo – Protocolos Bancários" – Tourism
- "Sistema de Incentivos à Investigação e Desenvolvimento Tecnológico (SII&DT) – Research and technological development
- "Sistema de Incentivos à Qualificação e Internacionalização de PME" – Small and Medium Enterprise (SME) development aid
- "Programa de Desenvolvimento Rural (PRODER) " – Rural Development
- "Sistema de Incentivos Fiscais em Investigação e Desenvolvimento Empresarial (SIFIDE) " – Research & Development (R&D)
- "Benefícios Fiscais de Natureza Contratual fora de Portugal" – Investment abroad
- "Benefícios Fiscais de Natureza Contratual em Portugal" – Investment in Portugal

1.2 Knowledge Management as a Source for Competitive Advantage

In an economy where the only certainty is uncertainty, the only long lasting source for competitive advantage is knowledge [47]. We are facing a world of constant change and innovation where markets evolve, technologies proliferate, competition multiplies and

products turn obsolete from night to day. Knowledge in economics [26] was regarded as intrinsically linked to one's skill at performing his/her task in a firm and should always evolve in a constant stagnant proportional way to the individual's function in order to achieve equilibrium. The underlying logic was the effort to minimise error or friction in the labour's input in the economy for the maintenance of economic equilibrium and firm growth inside a production driven world. A lot has changed since then, and although the rationale remains valid, the premises evolved. Knowledge is now the key driver of wealth creation [71] and it must be created and shared throughout the organization to face the new dynamic fast-changing world. The companies that will be successful will be the ones that can consistently create and disseminate new knowledge throughout the organisation enabling the possibility for producing new technologies and products. According to Nonaka [47], this is the knowledge creating firm and it will carry on the above stated activities with the ultimate goal of continuous innovation.

As complexity grows more and more global firms find themselves relying on knowledge to find solutions for their day-to-day problems using it as the currency for competitiveness and success. Knowledge in the new economy is an asset that is starting to overthrow the value of the more traditional capital assets of production such as land, labour and machines. It is beginning to be seen as the single most important resource in the company's fight for success. On average, three quarters of any given company's market value is derived on its intangible assets. From these assets, the intellectual property such as patents, copyright, business secrets, financial records, strategy, corporate relationships and so on remarkably stand out. Knowledge management is extremely important as it addresses this most significant part of the organisation. Further on, leveraging knowledge management is a key process in understanding the client's needs in depth so the firm can satisfy them in a most innovative way.

1.3 The Knowledge Management Project – a Synopsis

Since its beginning in 2001, the Tax – Incentives division has grown considerably and sustainably maturing into what it is today. Even though it has achieved consistently outstanding results in accordance with its growth, it is reaching a stand still. The quantity of knowledge generated and the increasing complexity of its procedures and methodologies call for new approaches, routines and methodologies that will better cope with tomorrow's needs. The initial structure that supported organic growth till this day is to be analysed in regards to how knowledge is managed. With the ultimate goal of achieving long lasting overall consistent increasing performance, this dissertation thesis attempts to make a thorough analysis of the entire knowledge management practices, the processes and methodologies of the Tax – Incentives division and best practices in the literature. After this analysis it is proposed an improvement project to the knowledge management procedures of the firm to be implemented.

1.4 Methodology

Given the problem of effectively managing knowledge to achieve increasing levels of performance through knowledge creation, sharing and retaining, the methodology followed to tackle it is given by the following phases:

- Contextualising by analysis of Deloitte, the Tax – Incentives division and its culture;
- Literature research;

- Thorough analysis of all processes and methodologies of the Tax – Incentives division;
- Identification of what is expected of the knowledge management system, what it can potentially provide, needs of the organisation and problems that need tackling;
- Matching with best practices and critical success factors found in the literature;
- Critical analysis of the knowledge management procedures of the firm.

On a first approach it is extremely important to fully understand the organisation in all its many factors with a special focus on the culture and knowledge management procedures. This understanding enables a better understanding of the problem at hand and why things are done the way they are. The next phase is characterised by an extensive research in the literature for all knowledge on knowledge management, namely knowledge definition, models that explain the dynamics of knowledge creation and sharing, knowledge cycles, common problems, critical success factors and best practices. The literature research is an ongoing process that intertwines with all the following phases as a need for a specific knowledge on a given subject is identified. Having understood the problem and built a knowledge base from the literature, the next phase is to analyse all processes and methodologies that create, store and use knowledge followed by the identification of what is expected of the knowledge management system. The purpose and expectations associated are measured together with problems in need of solving. Applying the knowledge found in the literature, when applicable, it is possible to build a framework of what the solution will be from the following critical analysis of the knowledge management procedures. The outcome of the critical analysis materialises in improvement opportunities that are structured and presented in a KM improvement project.

1.5 Overview

Besides the current chapter (Chapter 1) that presents the firm, makes a few considerations about the relevance of knowledge management, and presents the dissertation thesis and the methodology used, this document is structured in the following manner:

- Chapter 2, which provides detail on the literature used and major theoretic concepts on which the dissertation thesis is based;
- Chapter 3, which describes in detail the Tax – Incentives division through its clients, value offer and work procedures and methodologies. The knowledge management problem is presented by the firm's knowledge management processes formulating it as an industrial engineering problem followed by a diagnosis that identifies improvement opportunities. Chapter 3 finishes with a description of the knowledge management critical success factors;
- Chapter 4, which presents the knowledge management improvement project as an initiative split amongst a set of intervention vectors, with a description of expected results and a proposition of how they should be measured;
- Chapter 5, which concludes the work making a few considerations on what should be done next.

2 Literature Review

2.1 Introduction to covered literature

In this day and age the corporate world is subject to rules very different from the ones that created many of the outstanding success stories of the past century. Just some few decades ago, the traditional means of production alone e.g. capital and labour were sufficient for a firm to thrive in a scarcity market demanding for a range of products to fulfil their most basic needs. Mass production and scale created the moguls of industry and the modern tycoon built on the back of the rich world ascending bourgeoisie. Maslow's pyramid shows that as basic needs are fulfilled, man aspires to ever more sophisticated ways to be satisfied with a set of new complex needs. Technology, since the dawn of the industrial age, has also evolved immensely, breaking the boundaries of science to respond to the client's unfulfilled and even unidentified needs while companies fight for survival in an increasingly savage competitive environment. Today's firms understand the necessity to be ever more efficient and effective as a means of survival. The response to the fast-changing dynamic world is a fast-adapting innovative firm that can consistently lead in technologies, approaches and methodologies. Fostering an innovative dynamic culture is no easy task and relies on the employees' ability to focus on the most important asset the firm can have, its knowledge.

But before engaging in the hard task of managing the creation and dissemination of knowledge throughout an organisation [71] one must ask: What is in fact knowledge? How does it differ from other forms of sense making such as data and information? Is all knowledge the same and if not how does that affect the way it gets transferred from one point (knower) to another (receiver)? The literature research attempts to uncover these questions digging deeper into what the world's experts have to say about the subject. The comprehension of what knowledge is and how important it is in the corporate world leads to the realisation of the knowledge management problem. Knowledge management, with its increasing relevance, is now way beyond the point of what, migrating more and more to the question most firms dabble, the problem of how. Nonaka [49] attempts to explain the phenomena behind the dynamics of knowledge creation and transfer in a firm on his SECI model where a knowledge creating firm can be created given it provides the proper context or *ba*. Further considerations are made about the knowledge management processes in a firm analysing a model for the knowledge management cycle. Finally, from the lessons learned from the implementation of various knowledge management methodologies in firms, the literature provides with a framework of what results should be expected from a successful project.

Concerning the operational manifestation of explicit knowledge using the information technologies available, the knowledge management system is an enabler of knowledge management that is an increasingly common tool in knowledge intensive firms. These systems are distinct from a common information system or database even though they share the same structures and look otherwise very much the same. As an aggregator of knowledge and exceptional tool in retaining, transferring and even enabling the creation of knowledge, knowledge management systems are an intricate part of most of today's firms and respective knowledge management functions.

At section 2.2 a general definition of knowledge is presented as it relates with data and information followed by the dimensional conception of knowledge that is most often

presented in literature, ending with the concept of knowledge as an asset. Section 2.3 presents knowledge management, Nonaka's SECI model [49], the knowledge management cycle and the expected outcomes of a successful knowledge management methodology. The knowledge management system is detailed in section 2.4 relating it with the knowledge assets as well as information and data existing in a firm. Finally on section 2.5 there is a final note on the literature covered providing with a better insight on the rationale behind the research that this dissertation thesis is based.

2.2 Knowledge

Knowledge definition has been subject to many epistemological debates since the Greek era to our days. The philosophical understanding of knowledge and how it has been portrayed in the many views of the scientific community over time is of significant interest for this dissertation thesis. By understanding the evolution of the views of knowledge by the information technology experts, strategy management and organizational theory literature and how they intertwine, it is possible to grasp the assumptions that underlie organisational knowledge management processes and knowledge management systems [39].

2.2.1 Knowledge, Data and Information

On a first approach it is important to distinguish between data, information and knowledge. On a very simplest glance the commonly held view in the literature with some minor irrelevant differences is that data is raw numbers and facts, information is processed data and knowledge is authenticated information [39]. This definition and underlying hierarchy between the concepts with each varying along some dimension such as context, usefulness or interpretation is faulty as it rarely survives scrupulous evaluation.

According to Bellinger, Castro & Mills [4] the whole content of the human mind can be classified on the following categories:

- **Data** – Symbols that utilised out of context are without meaning. They can exist in any way, having embedded a sense of utility or not for the subject;
- **Information** – Data which has meaning;
- **Knowledge** – One or more pieces of information that together have or the subject intends to have some usefulness;
- **Comprehension** – Process in which knowledge is created through pre-existing knowledge. The difference between comprehension and knowledge is comparable to the processes of learning and memorising. Comprehension allows for the utilisation of knowledge in new actions;
- **Wisdom** – Results from all dimensions stated above adding the personal intrinsically human traits such as moral and ethics. It is the process in which is possible to distinguish between right and wrong enabling the subject to make decisions.

To accurately distinguish knowledge and information there must be understood the personal dimension involved. Knowledge may or may not be new, unique, useful or accurate so the content, structure, accuracy and utility are irrelevant for the purpose of acknowledging the existence of knowledge. It is the personalised information related to facts, procedures, concepts, interpretations, ideas, observations and judgments. Tuomi [72] makes the argument that this hierarchy is, in fact, inverse. Knowledge exists and spawns information from the data that was itself created through a knowledge process. Raw data, in this sense, does not exist as

it was influenced by the knowledge process that was needed to collect it. Knowledge is verbalised, articulated and structured to form information that when assigned a fixed representation in a way that allows for only one standard interpretation it becomes data.

From all the definitions discussed, there is some agreement on the fact that knowledge does not exist without someone that knows it, hence the personalised dimension of knowledge. It is indelibly shaped by one's needs as well as one's initial stock of knowledge, being a dynamic personal adaptation constantly built on the existing base of the agent i.e. the knower. As knowledge is processed in the mind of each individual and manifests itself in information once it is articulated to form text, graphics, words and other symbolic forms it is transmitted to other individuals. This relationship creates an important need as premises for the knowledge transfer: for individuals to arrive at the same understanding of data and information to create knowledge of their own there must be at least some sort of shared knowledge base that enables comprehension. A knowledge management system will therefore have to be tailored specifically for the organisation in order to succeed in its objectives.

O'Leary [53] defines knowledge management as the process of converting knowledge gained from sources available to an organisation and then connecting people with that knowledge. Thus the ultimate aim of knowledge management is to create, collect, store, access, transfer and reuse knowledge [16].

2.2.2 Two Dimensions of Knowledge

The traditional definition of knowledge says that it is nothing but a true justified conviction. Nonaka [49] goes a bit further and addresses knowledge as the human dynamic process in which one justifies a personal belief towards the truth.

Following Nonaka's line of reasoning knowledge can be seen from five different perspectives [39]: As a state of mind; as an object; as a process; as a condition for accessing information or as a capability. Building from this context and using Chalmeta's [6] empirical observations as starting point, knowledge can therefore be defined as the awareness that enables people to possess the skill or the capacity required in a particular situation to:

- Deal with and resolve complex issues in an efficient and creative manner
- Take advantages of opportunities by making the most appropriate decisions

Nonaka, building on Polanyi's work [57], provides with a fundamental division of knowledge into two major dimensions:

- **Explicit knowledge** – Knowledge that the individual holds explicit and consciously in his mind allowing for communication to others. This type of knowledge can be made into symbols, structured and articulated to be transmitted;
- **Tacit knowledge** – Knowledge deeply internalised existing in one's subconscious mind. The individual might or might not know that he/she possesses that knowledge and how it is utilised even though it is.

2.2.3 Knowledge Assets

Nonaka [49] distinguishes amongst the several types of knowledge assets differentiating and compartmentalising them into four categories in an effort to better understand the dynamics of the knowledge creation phenomena of his knowledge creating firm. The four categories are:

- **Experiential Knowledge Assets** – Tacit knowledge shared through common experiences such as skills, know-how, care, love, trust, energy passion and so on;
- **Conceptual Knowledge Assets** – Explicit Knowledge articulated through images, symbols and language such as product concepts, design, brand equity, etc.;
- **Routine Knowledge assets** – Tacit knowledge in routines and embedded in actions and practices such as know-how in daily operations, organisational routines and organisational culture;
- **Systemic Knowledge Assets** – Systemised and packaged explicit knowledge such as documents, specifications, manuals, databases, patents and licenses.

2.3 Knowledge Management

2.3.1 Definition

Myers speaks of knowledge management as a mandatory practice for any organisation in today's knowledge economy. He goes further and presents an analogy comparing KM with a three-legged stool. It needs all three working together in order to function. The three legs are people, processes and technology. People are the holders of knowledge, the knowers, the only ones that can have it and give it meaning. Processes are the procedures and methodologies by which knowledge can be transmitted, acknowledged to be used for a particular action or acted on. Finally technology is the means, by which a knowledge management system can be created to store, retrieve and organise vast quantities of information and knowledge explicitly. Having these three factors in mind, knowledge management is the discipline that attempts to effectively and efficiently manage knowledge in an organisation so it is continuously created and disseminated for everyone's benefit. The goal is to consistently enable performance improvement and dynamism through innovative products and services leading the way by ever adapting to the fast-changing markets.

2.3.2 Breadth of Knowledge Management

KM in an organisation goes way beyond its primary goal as a performance enabler through dynamism, innovation and growth. Considering the processes of Customer Relationship Management (CRM), KM interacts with them considerably to process and filter all knowledge flows and potentiate the outcomes.

According to Swift [69], CRM is an enterprise's approach that seeks to understand and influence the behaviour of clients through effective communication so it can improve its processes of acquisition, retention, loyalty and profitability of clients. It is a very complex endeavour to quantify the relationship between a firm and its clients; nevertheless there are a few statistical facts that point to the relevance of such matters for the performance of the firm. These facts are:

- According to Pareto's law 80 % of all profit is generated by only 20% of the clients and 80% of all the costs come from dealing with just 20% of the clients;
- The cost of acquiring a new client is about 5 to 10 times as much as maintaining an existing one [68];
- An increase in 5% of the client retention rate can result in an increase in profitability of 25% to 95% [60];
- An unsatisfied client will tell is bad experience to an average 8 to 10 people [24].

According to Peppers [56], the main tasks associated with the implementation of CRM techniques are:

- **Identify the clients** – Know every single client with as much detail as possible, knowledge of all data and interactions had with the firm through time.
- **Differentiate the clients** – identify which clients are most valuable and do segmentation accordingly.
- **Interact with the clients** – Manage in the best possible way all interactions with every particular client, having the most efficient approach possible.
- **Personalise the service** – Mould the service provided according to the client's specific needs and characteristics.

All the above implementation CRM activities are embedded with a strong use of specific knowledge, including a high level of tacit knowledge contained in the relationships and experience of dealing with a particular client. CRM relates to KM as a process that generates and applies vast amounts of knowledge that are often very hard to turn explicit. Managing the knowledge in this process effectively is key to create approaches that better focus on the client satisfaction, consequently enabling long lasting profitable bounds. Knowledge sharing across the organisation is also an enabler of creating cross-selling opportunities.

Moreover, there are considerable implications to the optimisation of an organisation's allocation of resources through managing knowledge effectively assisting in the firm's project planning. It can interact with Human Resource Management (HRM) to plan for a more effective strategy recognising which resources are needed or in need of training and which ones are most valuable. Davenport and Volpel [13] state that *managing knowledge is managing people; managing people is managing knowledge*. HRM is vital to KM by many reasons, for this dissertation thesis the dimensions mostly focused are employee recruitment, development and retention. Required knowledge is brought into the organisation through effective recruitment which involves matching the firm's culture with the new acquisition while filling in the knowledge gaps observed in the KM processes. Concerning development and growth, employees should be properly fostered and developed to enhance knowledge sharing and creation. Wong [74] points to a central issue in KM, how to retain knowledge and prevent it from being lost. Aligning aspirations and ambitions with self-esteem and motivation to provide with opportunities for growth and career advancement is presented as a matter of extreme importance for HRM as a means to support the retention of people e.g. knowledge in the firm [2].

Corporate culture is an important premise to KM practices as its conditioning is a prerequisite for knowledge transfer between individuals and groups [21]. Organisational culture is an imperative factor for successful KM [12] and if not tackled appropriately, it can be the largest obstacle faced by organisations in creating a successful knowledge-based enterprise [6]. The matter of trust is also of great relevance. Without a high degree of mutual trust, people will be sceptical about the intentions and behaviours of others and thus, they will likely withhold their knowledge.

The hardest part of building a learning organisation is to create culture in which individuals share information or expertise that was once a major source of their power, accept responsibility for issues over which they have only limited control, and propose initiatives and take action in an environment in which the measures and metrics are unclear or in transition. (...) A learning organisation requires a culture based in trust. [3]

Hofstede [30] defines culture as the collective mental programming of the people in an environment. It encompasses a number of people with the same education and similar life experiences pre-conditioning them to make decisions in everyday life. This mental programming is conditioning people of the same "tribe" for several years and is extremely difficult to change. As observed in Hofstede's exercise [30] with the picture of old lady/beautiful woman mental pre-conditioning for five seconds has already a strong effect on the subject's perception of things, which extrapolating to something like the national culture pasted in people's minds for several years, has in proportion a tremendous impact.

2.3.3 The SECI Model

To all intents and purposes knowledge management started around 1995 with the popularisation of the SECI model by Nonaka and Takeuchi [49] seeking to contrast a claimed Japanese tradition of "Oneness" with a rational, analytical and Cartesian western tradition [67]. Their work derived mainly from the study of innovation in manufacturing with its focus on the movements of knowledge from the tacit and explicit states [57]. Explicit and tacit knowledge are presented in a dialectical and holistic view in the organisation relating to one another in a *shared space for emerging relationships [49]* or *ba.*

The model proposed by Nonaka and Takeuchi [49], on which this dissertation thesis will base itself, describes the continuous knowledge creating process in four distinct dimensions with the underlying assumption that knowledge is created on successive conversions of explicit and tacit knowledge.

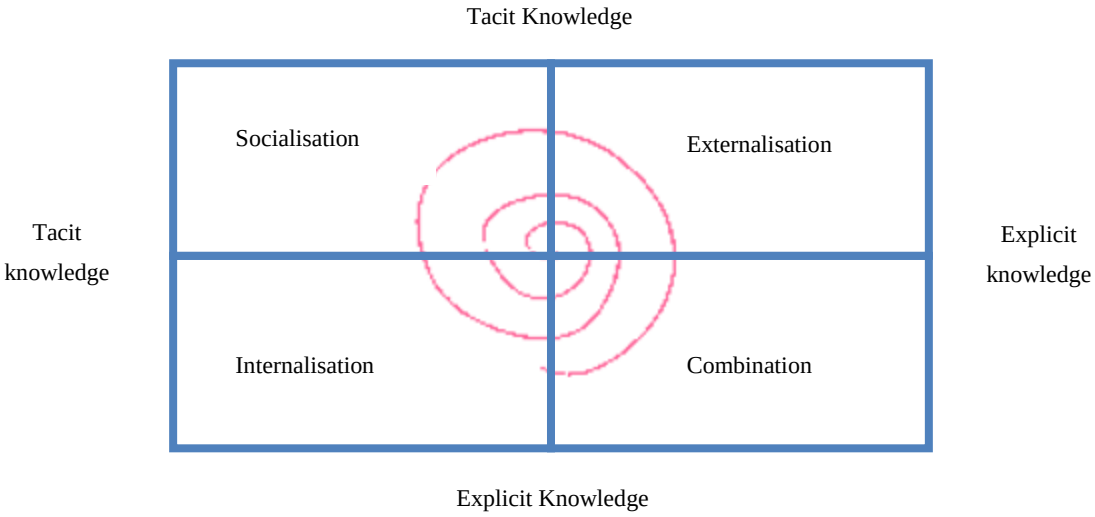


Figure 3 - SECI Model (extracted from [49])

- **Socialisation** – Process in which there is sharing of experiences leading to the creation of tacit knowledge in many ways such as mind models and technical competences. Tacit knowledge can be obtained without resource to use of symbolic meaning conveyed in speech. Symbolism such as observation, imitation and practice are some examples of how knowledge is created through this dimension;
- **Externalisation** – Process in which tacit knowledge is articulated and structured to form explicit knowledge taking form in explicit concepts conveyed in metaphors, analogies, concepts, hypotheses or models. When tacit knowledge becomes explicit it is crystallised and sharing with others is enabled;

- **Combination** – Process in which systematising concepts takes place in a knowledge system combining different groups of explicit knowledge. Explicit knowledge is this way transferred through documents, meetings, e-mails and telephone conversations. Assimilating this knowledge can lead to the creation of new knowledge;
- **Internalisation** – Process in which the conversion of explicit knowledge to tacit knowledge takes place, somewhat in the learning by doing way. When knowledge is internalised and forms know-how it becomes a valuable asset.

This framework states four ways of knowledge conversion:

- **Tacit to tacit** – Sharing experiences and continuous growth;
- **Tacit to explicit** – Acquisition, processing and sharing;
- **Explicit to explicit** – Community discussion;
- **Explicit to tacit** – Personal experiences.

To finalise the model needs a context as in Nonaka's theory [49] knowledge can only be created if there is context supporting it and giving it meaning. This "place" is called *ba* and constitutes both a specific time and space that provides for the basis of interpretation of the individual. Friedrich Nietzsche argued "there are no facts, only interpretations" and *ba* is the place where information is interpreted to become knowledge and knowledge conversions take place. This is a never stop growing and evolving dynamic concept that symbolises the environment in which the firm follows through the spiral towards more and more knowledge.

2.3.4 The Knowledge Management Cycle

To be Nonaka's knowledge-creating firm is the ultimate goal of enterprises in the new economy. But knowledge creation as in developing new knowledge or replacing existing knowledge with new content [48] is not enough for a complete analysis in regards to knowledge management systems. It is merely the starting point for the understanding of the concept of knowledge and the overall knowledge growth of the company. Knowledge can, however, be attained through processes of acquisition [44] which is often perceived as more important to the company than internal-knowledge creation. Both acquisition and creation of knowledge only precede a collection of processes that consist the knowledge management cycle [37]. Knowledge management life cycle refers to the continuous application of knowledge and is an important analysis providing a useful way to organize one's thinking about knowledge management. It is of utmost importance to understand the company's knowledge flow processes in order to relate to its knowledge management system. King [37] puts forward a resumed generalised model that makes use of parallel paths to make important distinctions in attempt to explain the knowledge management cycle. The various activities that describe the model's major phases are meant to be illustrative and not necessarily definitional. The model is presented below:

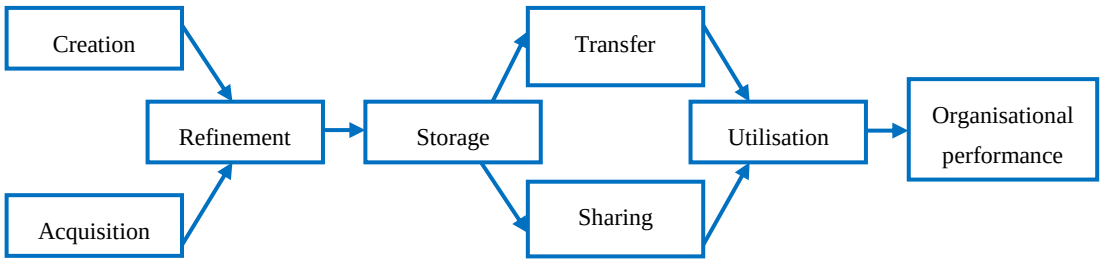


Figure 4 - Knowledge Management Cycle (extracted from [37])

As referred before in detail, knowledge creation is obtained through Nonaka's SECI (Socialisation, Externalisation, Combination and Internalisation) model [49]. Knowledge acquisition can be obtained by a number of external sources through processes such as searching (as on the internet), sourcing (source selection where there is recognition and potential assimilation of valuable knowledge) and grafting (adding an individual who possesses desired knowledge to the organisation).

When new knowledge is created or acquired the next challenge is to grab hold of it by inserting it in the firm's memory with the goal of achieving maximum long-term reusability. Knowledge refinement, thus involves, all the processes and mechanisms that are used to select, filter, purify and optimise knowledge for inclusion in the firm's storage media. Being tacit or explicit knowledge, what this model suggests is that it should be explicated, articulated, codified and structured in the most appropriate format in order to be evaluated by a standard set of criteria and then selected to be included in the firm's memory. The organisational memory is knowledge stored in every individual's mind as well as knowledge contained in internal and external relationships, processes, products and services, knowledge held in electronic repositories and knowledge related to specific groups or teams.

From its storage knowledge is distributed through the organisation to enable a wide organisational impact towards growth and organisational performance. For the purpose of this model analysis, knowledge can either be transferred or shared. Transfer has to do with the focused purposeful communication of knowledge in a one way direction as opposed to sharing that takes place in a less-focused dissemination to users that are usually unknown through electronic platforms. These definitions of sharing and transfer are used solely for the purpose of analysis of the knowledge management cycle as they will be often referred further with different meanings. The relationships of sharing and transfer of knowledge often intertwine in combined processes and occur in two directions.

When knowledge is finally shared or transferred to others, the members of the firm can use it or apply it through several processes such as:

- **Elaboration** – the development of different interpretations;
- **Infusion** – the identification of underlying issues;
- **Thoroughness** – the development of multiple understandings by different individuals or groups

Organisational learning can be considered the goal of knowledge management or in another way knowledge management focus on content while organisational learning focuses on the process in which an organisation acquires, creates, processes and uses knowledge. Both knowledge management and organisational learning's ultimate goal is to consistently improve the overall organisational performance. To judge and evaluate a knowledge management system, the main criteria must then be how the firm has improved as a result from that system. Such evaluation of a system that deals with highly intangible assets is hardly quantifiable and extremely complex.

2.3.5 Knowledge Management Success

The Knowledge Management Projects, as in implementation or improvement, that yield more effective results are the ones that focus on the critical processes of the specific businesses they

are to improve organisational performance. This basic starting approach has proven to be causal of significant improvements in the organisation and substantiates in a series of impacts in the firm's management that are often the following [12]:

- **Reduction of market response time** – In the case of a consulting firm, by improving internal efficiency there can be substantial reduction in deadlines and time required to perform specific tasks by applying best practices.
- **Cost reduction** – Reducing the amount of error created in the organisation leads to a positive impact in the firm's results.
- **Efficiency increase by reutilising knowledge assets** – In the consulting business consistently using newly created knowledge on a day-to-day basis is most useful for future actions.
- **Increased firm's flexibility** – Improvement of the organisation's processes allows for the design of more effective-driven competitive strategies to engage competition and perceive new opportunities in the market.
- **Increased value for products and services provided** – Any improvement that takes place in the organisation has some sort of direct or indirect impact on the client. Quality perception will increase as the company grows more efficient.

2.4 Knowledge Management System

2.4.1 Definition

Knowledge management systems refer to the information systems applied to managing explicit organisational knowledge. Fundamentally information technology (IT) based systems that are meant to support and enhance the organisational processes of knowledge creation, storage/retrieval, transfer and application [39]. Information technology is an important enabler for knowledge management as it can support it in many ways. There are three very common applications regarding IT applications to organisational KM initiatives:

- The coding and sharing of best practices;
- The creation of corporate knowledge directories (as in extensive inventories of all the knowledge contained within the firm);
- The creation of knowledge networks.

In regards to the improvement of the current KMS, there will be an assessment of the IT applications together with all the considerations made in this dissertation thesis about KM success factors and alignment with the firm's strategic goals.

2.4.2 Relationship with Data, Information and Knowledge

Although there is a clear distinction between knowledge and information, this is still the aspect that generates most confusion in KM. This uncertainty is potentiated by the fact that *KM relies on information technologies for support instead of a set of specific technologies that could be called "knowledge technologies" [6]*. To form a KMS, knowledge is handled by technologies which sole original purpose was to process information. The "knower", having the awareness of its own knowledge [42] acquired through training, common sense, experience and so on, constantly analyses the information to make the right decisions and carry out the proposed activities. KMS in this context and Chalmeta´s [6] definition identifies

existing knowledge to extract, collect, and codify it as explicit knowledge and information for storage and distribution using a computer system. Basically it transforms organisational existing knowledge into information containing explicit knowledge that is utilised by the firm's members to make better decisions and better perform tasks and duties. The KMS this way enables Nonaka's knowledge creating firm [47] by systematically supporting the creation of new knowledge from data, information, and pre-existing knowledge. The relation is illustrated below:

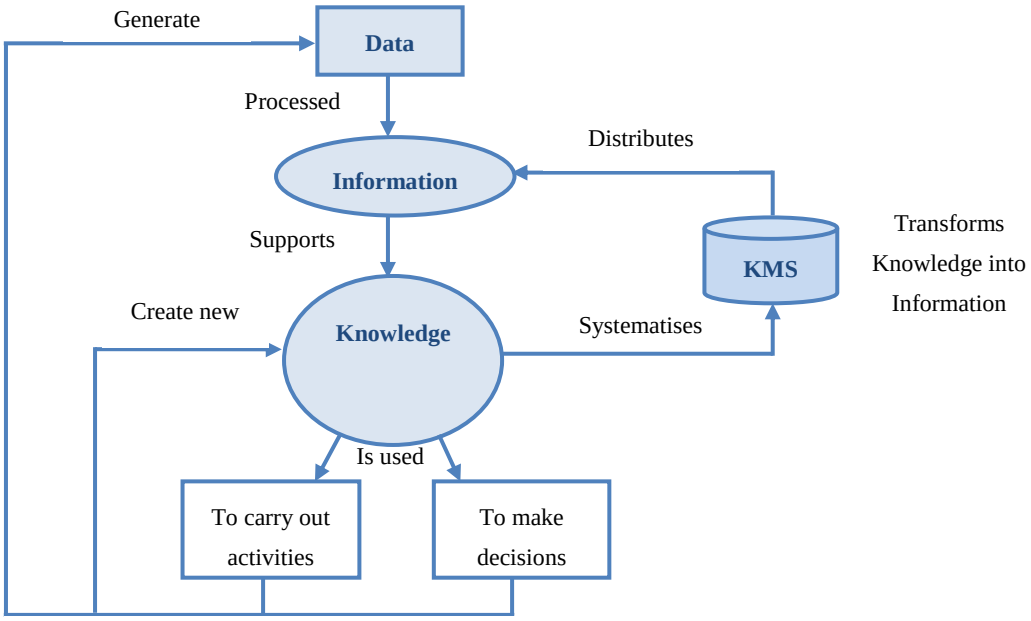


Figure 5 - Relationship between KM and KMS (extracted from [6])

2.5 A Final Note on the Literature Covered

Tell me and I'll forget, show me and I may remember, involve me and I'll understand. (Chinese Proverb)

The literature covered in this chapter is extremely relevant for the dissertation thesis as it allows for effectively contextualising the work developed. Although some of the specific measures and improvements proposed to tackle the case-study are very particular, they could not have been properly devised and validated without the literature analysis of best practices and state-of-the-art of KM. The comprehension enabled by the literature analysis is of great importance in grasping the increasing relevance of KM in today's corporate world contributing to significant improvements in organisational performance. The epistemological discussion in regards to the definition of knowledge and knowledge as an asset is also very significant for a complete understanding of the purpose of KM.

The Incentives division has had significant growth in employees, revenues, client base and complexity. Failure to effectively manage its KMS and KM processes is creating obstacles that might compromise maintaining its statute as a learning and knowledge-creating enterprise with the same levels of organisational performance in accordance to growth. Motivation and performance review alignment with KM goals is extremely difficult by the intricacy of measuring KM success on its many intangible dimensions. CRM, corporate culture and work planning relationships are examples of these intangible dimensions affected by KM practices, which in turn can potentially be areas subject of considerable interest for further study and improvement analysis.

3 A Knowledge Management Case-Study

You can only elevate individual performance by elevating that of the entire system.

(W. Edwards Deming)

3.1 Tax – Incentives' clients and value offer

Deloitte's Tax – Incentives division has clients that range from all sectors of economic activity. Being a mining industry, an energy utility, a distribution chain, a cattle ranch or a firm devoted to tourism solutions, they are all organisations that can benefit from Incentives' consulting services.

There are a number of incentive systems provided by the Portuguese government and/or the European Union (EU) with various goals. There are three kinds of incentives depending on the application: national, communitarian (EU) or extra-communitarian. The most common example is probably research & development incentives. Many incentives engage in R&D activities, providing support for companies that wish to innovate but have for example their short-term obligations or needs overthrowing the will to take on considerable investments. Many other matters hinder R&D initiatives, but it is the government's and the European Union's understanding that such investments hold the key to sustainable growth and leadership in the future from a viewpoint of geopolitical competitive edge. Incentives are therefore a very important tool that governments use to stimulate such activities in the private, semi-private and public sectors. Other activities that governments deem strategic and are therefore stimulated by the means of incentives are for example national companies' internationalisation efforts, SME growth, innovation, organisational learning through training and qualification of employees, environment friendly investments, energy efficiency and others.

Incentives can come in many ways, an important distinction one should do is to divide reimbursable from non-reimbursable incentives. A reimbursable incentive is somewhat of a loan that is granted with exceptional conditions that the firm would not find anywhere else in the market, namely low to no interest rates and an extended payback period. Non-reimbursable incentives are basically cash handouts that are to be used exclusively for the project's eligible expenses. As for how the incentives are materialised and granted, it can be very different depending on the incentive system. It can be for example a deduction to the firm's income tax due or even a money transfer to be paid back in a specific period. Incentives can therefore be divided into financial, fiscal or a combination of both.

To attain an incentive a firm often has to go through a long process of application following all legal procedures required. Many times firms do not even know what incentives are available that are suitable for their projects. This results in failure to produce an application that could turn their investments significantly more fruitful through governmental financing. The incentive system the firm is applying has generally an evaluation committee that analyses the applications and decides which ones are eligible for receiving an incentive. Deloitte's value offer for these clients is a thorough analysis of all projects that the company holds assessing in procurement of which incentives it can benefit from. Afterwards, the whole application process is performed by Deloitte with technical assistance from the client. Later on, after the incentive is granted, the firm is accompanied and supported by Deloitte's professionals until all procedures and obligations are fulfilled.

In short Deloitte provides a service by aiding a firm to acquire public financing through a highly qualified team which holds expertise in assessing which incentives can benefit any particular firm and specific project and how to attain them.

3.2 Work Procedures and Methodologies

3.2.1 The Context

Considering the wide range of incentives available and clients that request the services of Deloitte in attaining incentives for their firms, the work methodology can differ a great deal. Nevertheless there is a common framework that applies in general terms to most of them. The three phases of any given new project for the Tax – Incentives Division can be described by the chart below:

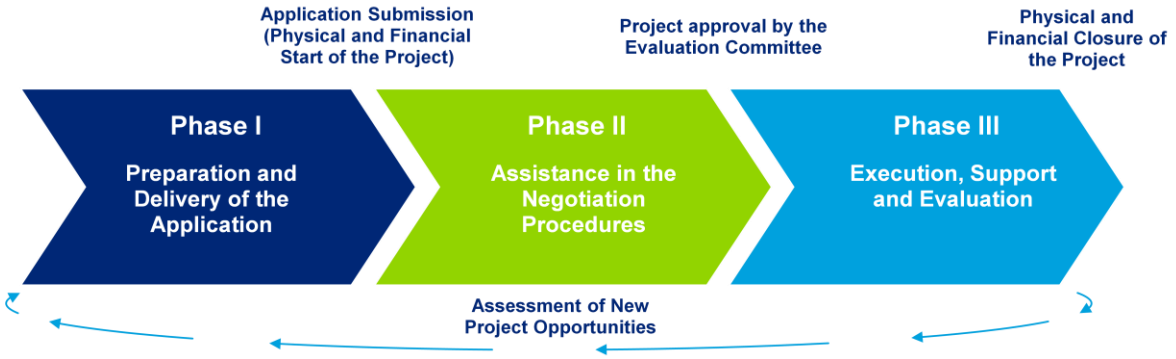


Figure 6 - General work procedure (extracted from [77])

Phase I – Includes all the activities that pertain to the prepation of the application to obtain the incentive. These activities differ widely from project to project but usually include an investment debriefing to understand all significant investments of the firm that might be subject to the application. This is followed by an incentives procurement that will serve the investments. Often a strategic diagnosis as well as an innovation strategic diagnosis is in order. Might also include a training needs analysis when applicable. After understanding what best incentives may serve the firm, the process of constructing the application takes place. Together with the client firm, Deloitte retrieves all technical expertise included in the projects and matches it with its analysis and application expertise to explicitise it in a proper application that is submitted for evaluation.

Phase II – During the often long proceedings of an application process there can be questions from the evaluation committee, deadlines to submit certain deliverables and negotiation of the contracts that are established between the firms and the entitities that grant the incentives. Deloitte stands on the firm's side throughout the whole process, taking care of all technical issues and making sure it obtains the best possible contract for the incentive granted and that it is aligned with expectations.

Phase III – To achieve contract closure, the firm often has to provide proof that all contractual aggreements were followed by means of a due diligence report or other kind of deliverable. Deloitte can provide monitoring services and respond to all necessary deliverables the

incentive granting entity might request while also providing with incentives' general consulting services for prospect investments and future developments that would best serve the company's strategy while grabbing incentive opportunities.

The Tax – Incentives Division has come a long way since the beginning when it first started in 1994 when consultants first provided incentive application support for a few clients. It was not until 2001 that the division was formally created, spining off from the Tax functional area. It spawned over a necessity identified in the market that was not being satisfied and pioneered consulting services of this type in the Portuguese market. For this reason the work methodologies and procedures were built from scratch in an organic manner proportional to its growth. It has consistently achieved sustainable growth in net revenues in line with new consultants being hired to integrate the team. The following charts present the net revenues and employee evolution through the years and charted together.

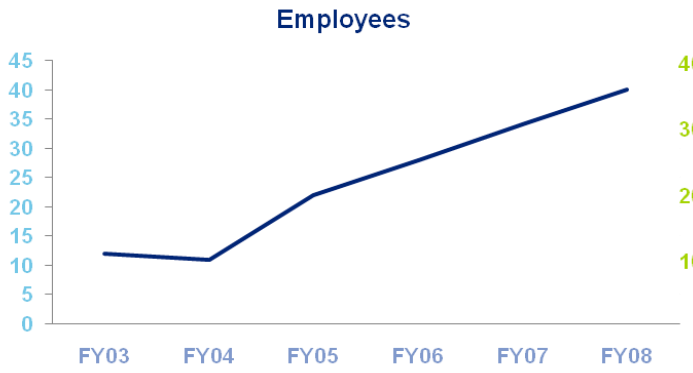


Figure 7 - Employee evolution

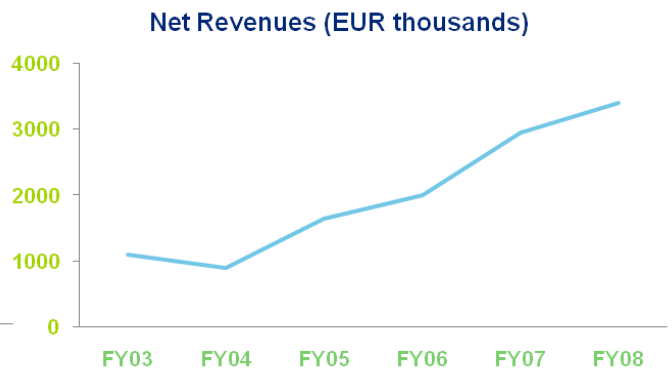


Figure 8 - Net revenue evolution

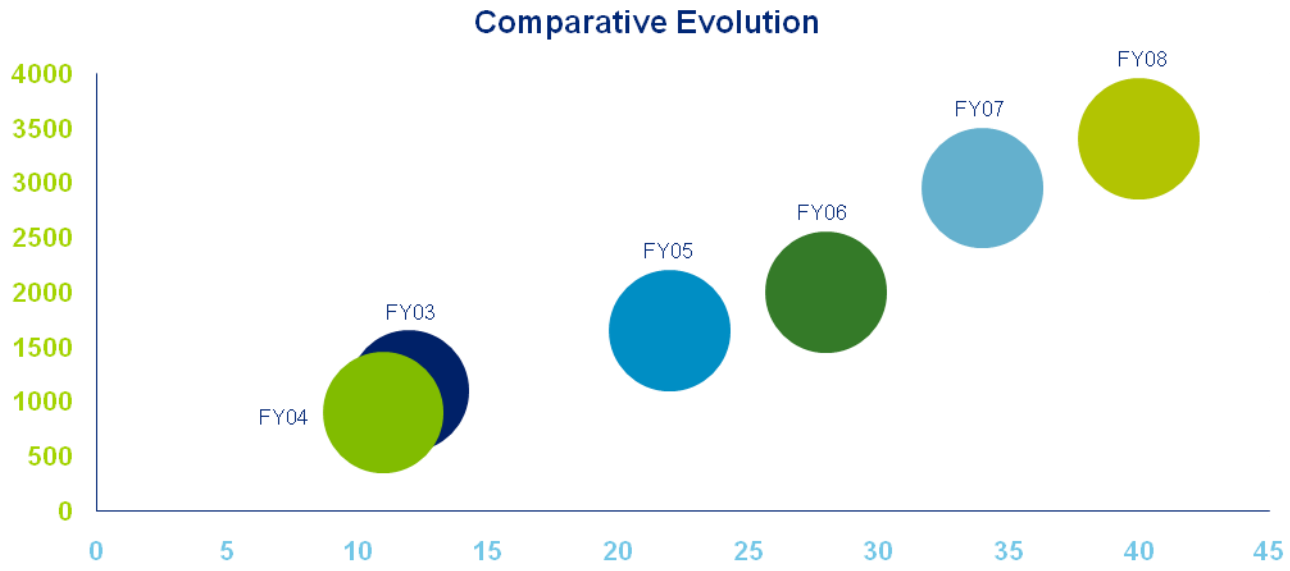


Figure 9 - Comparative evolution on employees and net revenues

It can be viewed as a SME firm inside a big corporation. Being one of the 9 areas of the Tax functional area and part of Deloitte, the Tax – Incentives Division benefits from all the advantages provided by the infra-structure of the organisation and mother firm, DTT, while

having the freedom to develop its own methodologies and approaches to the services it provides.

3.2.2 Customer Relationship Management

The Tax – Incentives division is part of the Tax functional area and Deloitte Portugal having at its disposal a number of important benefits. The CRM processes are a formalised well-established procedure in the organisation; nevertheless there is room for innovation and particular approaches that any business unit wishes to take. DTT provides with a proposal managers handbook to aid each member firm CRM procedures. The CRM process for the Tax- Incentives Division is described below in a flow chart:

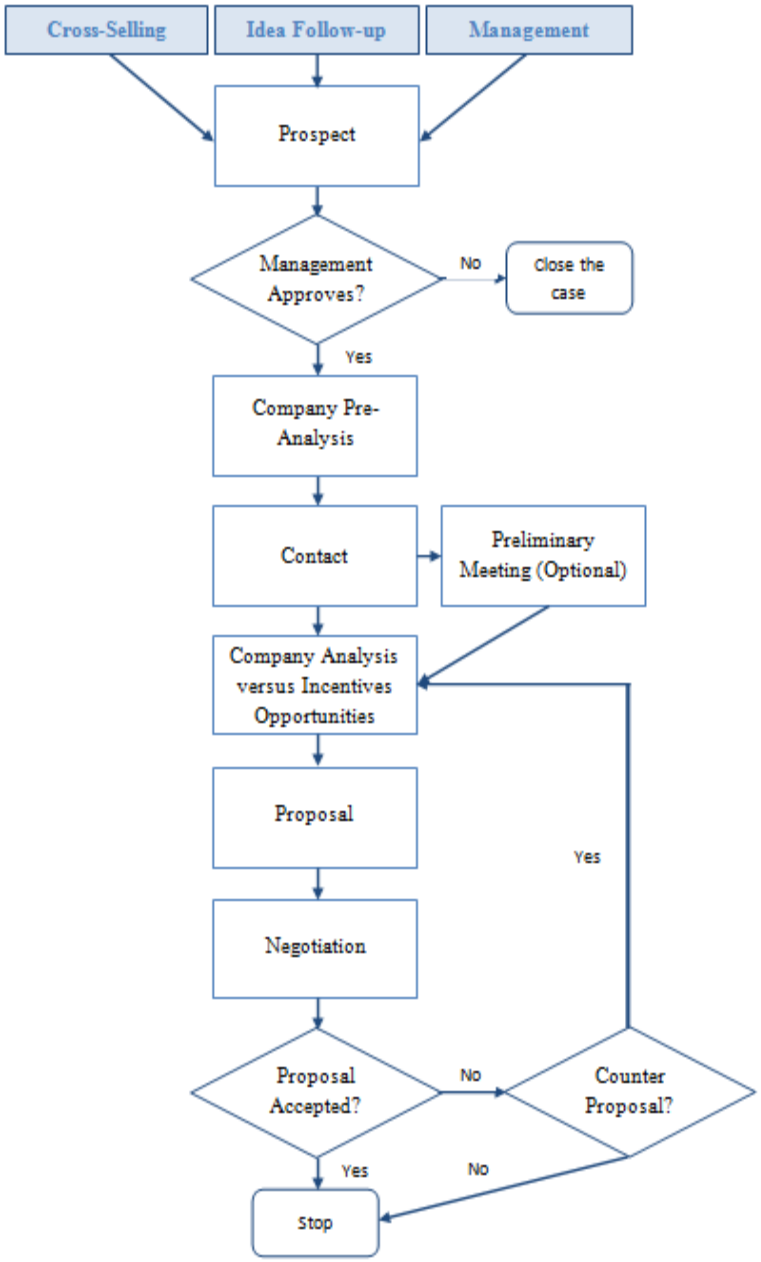
Input	CRM Process	Output
1. Ideas for new clients 2. Information about the client and contact history 3. Data about the company from internet and others 4. Contact with the client 5. Data about the client and knowledge about incentives 6. Proposal templates, client and incentives knowledge 7. Proposal presentation		1. Prospective Client 2. Client pre-approval or close the case 3. General Information about the client 4. General information about the client's necessities 5. Incentive's opportunities identified 6. Final proposal 7. Client's decision

Figure 10 - The CRM process

1. Prospect

The process, in which a new client relationship starts, usually begins with an idea. The myriad of prospective clients in the market is somewhat filtered through this process of analysis in order to increase efficiency and a good success rate. Also the image of Deloitte can't be compromised by mass marketing techniques that would damage the perception of quality of a tailored service. The three common vehicles for the initial idea are cross-selling, idea follow-up and management. Cross-selling is a direct benefit from the Deloitte's big infrastructure, other functional areas and divisions might identify an opportunity in one of their clients while providing their specific specialised professional service. This opportunity is communicated to the Incentives division management that will decide or not to follow through. Idea follow-up comes from new original ideas that appear from suggestions by members of staff, a news article read and all other possible means. Finally, management is constantly searching through their contacts for prospective clients.

2. Management Approves?

In a big firm, with the Incentives division divided amongst two offices, and providing services in a limited market such as Portugal, it is a great possibility that a prospective client has been contacted before unsuccessfully, there is a member of the management team already working on that particular client or there is some knowledge within the firm that can help in the process. One very important issue is the potential risk the prospective client. A relationship that might potentially harm Deloitte's brand will be disregarded. Also, if the client is in an unstable financial condition that could compromise its capacity to meet obligations, Deloitte will not proceed. Finally the matter of independence is analysed. Being part of DTT, Deloitte will not engage in commercial relationships that would potentially hinder its independence due to corporate legislation worldwide regarding auditing services and others. The management team is consulted before there can be a first contact with the client.

3. Company Pre-analysis

Making use of all medium available, the manager responsible for a particular client assisted or not by members of staff, researches the target prospect trying to attain as much general information as possible that could be useful on a first approach. This initial research can be delegated to Deloitte's department of knowledge management & research. Some technical information is often also analysed in regards to possible projects or investments that could benefit from incentives consulting. This analysis, though, is superficial as there is no need for an exhaustive analysis before confirmation of the client relationship with exception to the financial analysis of the prospective client which is always extremely thorough.

4. Contact

On the first contact, there can be a preliminary meeting scheduled to discuss a possible engagement. At this time there is a pre-analysis of the client's projects and investments resulting from the interaction created where incentive opportunities are presented and there is a first attempt to match with the client's strategy to understand if both sides will have a fruitful outcome.

5. Company Analysis versus Incentives Opportunities

The Incentives division engages in a thorough analysis of all client's projects, investments, strategy and everything else that can be deemed as an incentive opportunity. After identifying which incentive system or systems best apply to the client's needs, the Incentives division

produces a list of all potential investments for application accompanied by an internal analysis of resources needed for the project and an estimate of results for pricing purposes.

6. Proposal

Using a template from the previous most recent proposal, a member of staff composes a document using the knowledge and information gathered about the firm and incentive opportunities. The proposal also contains the pricing decided by management based on fee estimate, knowledge and all previously conducted analysis.

7. Negotiation

The client analyses the proposal, to which gives a positive or negative response. The manager responsible, if given a negative response, will analyse the results to ascertain if this particular client is to receive a counter-proposal. The case is then closed or carries on to a process of negotiation where the client's expectations and the Incentives division value offer are analysed again moving the CRM process back to 5.

3.2.3 Internal versus External Clients – A Management Concept

Deloitte organises itself in a very particular manner. There is a strict hierarchy that is common to the entire organisation. The hierarchy is representative of an employee's level in the organisation in regards to his/her career inside the firm. The title that every specific place in the hierarchy holds denotes retribution and level of authority being comparable amongst all other functional areas and divisions of the firm. The different hierarchical levels are, from top to bottom:

- **Partner** – They hold part of the member firm equity and are at the highest point in the organisation. They are responsible for top management decisions such as strategy direction, supervision and control over all activities as well as commercial interface with the clients of their specific division.
- **Associate Partner** – Very much the same as partners, it is an intermediate point between managers and partners. Although sharing similar activities as partners, their share of responsibility is smaller as they do not hold a share of the company's equity.
- **Senior Manager** – Senior Managers are the leaders of operational management teams. Their responsibilities include CRM, assembly and coordination of teams for specific clients and/or projects. Their main performance goal is to grow the practice, namely by achieving maximum billable hours and consequent returns.
- **Manager** – Very much the same as the senior manager, he/she shares similar activities without the same degree of responsibility as there are no coordination responsibilities at the management level.
- **Senior Consultant** – Senior Consultants are the backbone of the enterprise working as the interface between management and the team staff. Their main responsibilities include managing and coordinating a number of clients' and/or projects' operational service development.
- **Consultant** – Consultants conduct most of the operational service work with help and guidance from their senior consultants at every particular client and/or project.
- **Analyst** – Analysts are somewhat of a consultant in training. They are the base of the organisation and are composed fundamentally by professionals with a very low level of expertise and technical skills related to their specific tasks. As on-the-job trainees they perform similar activities as consultants do.

For the Tax – Incentives division, in 2009 the team spread across the following hierarchical pyramid:

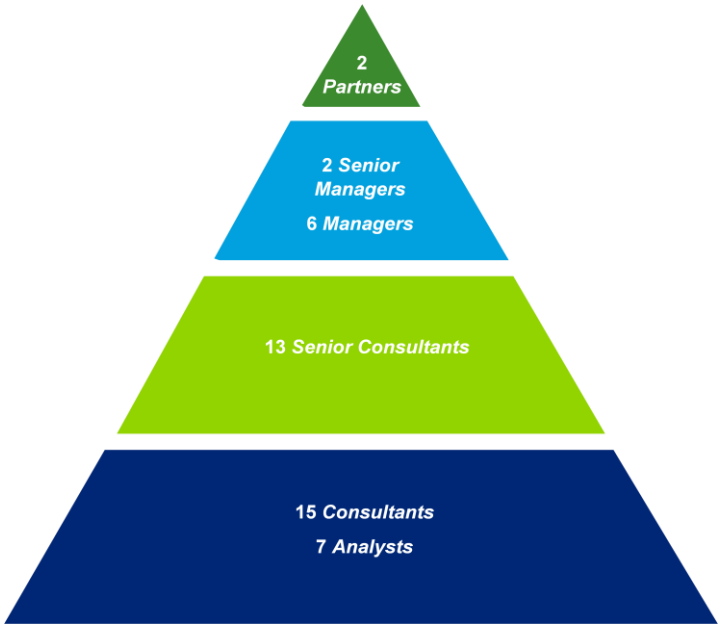


Figure 11 - Hierarchical structure for the Incentives Division

There is an important separation that is made at Deloitte, which dictates the organisational processes and work flow of the firm. The primary goal of all employees regardless of hierarchical position is to satisfy the client's needs. There are two types of clients though, internal and external clients.

To any employee, his potential internal clients are all fellow employees that, inside is division and functional area, hold a rank above his/hers on the organisational pyramid. When a new assignment or engagement, always related with a specific client and project, is created, it means an on-going agreement or new proposal has been accepted. A specific manager and partner are previously assigned to monitor and coordinate all activities. Following the CRM process, the manager responsible contacts a partner to "sponsor" his/her project or the partner "hires" a specific manager to do the job. The next step is for the manager to assemble a team that will carry on the job. This team will be leaded by a particular senior consultant that the manager "hires", which in turn has the responsibility, together with the manager, to decide which consultants and analysts will require. This market works very much the same as a traditional one would function. Considering the demand created at one extremity by the needs of an external client, that demand is met by the supply of knowledge and expertise of the partner who then delegates to a manager that supplies his knowledge and expertise. The relationship goes all the way down to the analyst and functions by meeting the demands of a specific need with a supply that is characterised by availability, technical expertise, knowledge and other factors that relate with CRM like historical performance, perception of quality and on the "hired" side, their ability to have long term acquisition, retention, loyalty and profitability of clients. Profitability for internal clients materialises in the "tap on the back", compliments and ultimately promotion and career development. This management concept allows for the optimisation of resource utilisation as available resources supply internal demand as it appears. It also incites internal competition considerably as successful

suppliers go on to create fruitful relationships with their internal clients having more and more demand for their services which leads to rapid career growth.

One other particularity of the work methodology at Deloitte is how the hierarchy validates the deliverables produced for final release to the external client. As the analysts and consultants at the base of the pyramid finish a task and produce a deliverable, this is handed over to their internal client, generally the senior consultant. The senior consultant revises the entire deliverable making all modifications he/she sees fit or even returning it back with a note on all adjustments needed, until it is on his/her view ready for delivery. This relationship goes all the way up the hierarchy satisfying all internal clients until it reaches the external client and ultimately satisfies the original need. The following figure shows the relationship described above:

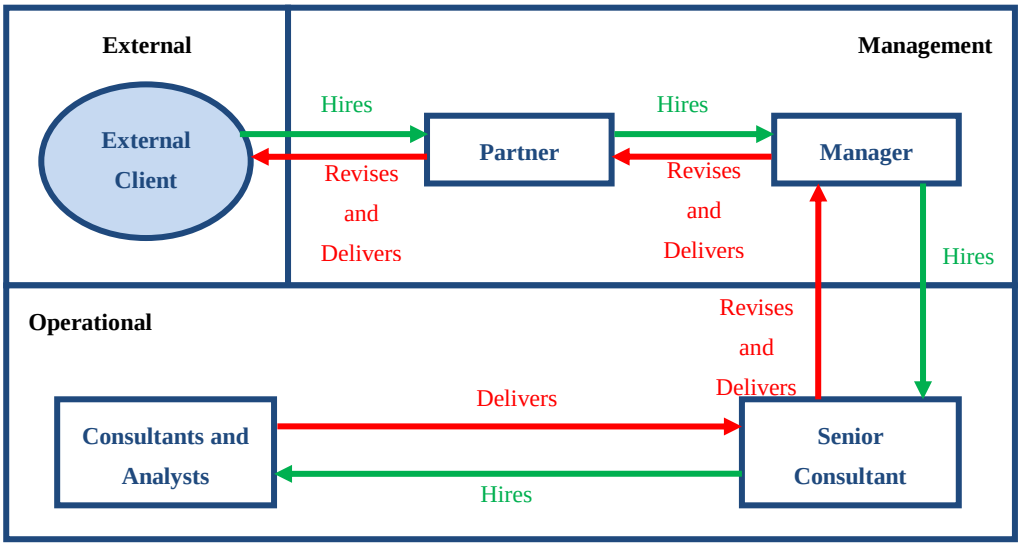


Figure 12 - External/Internal client relationship

3.2.4 Corporate Culture

Deloitte has a very strong culture reference provided by DTT's global shared values and the most-sought after qualities that provide with a conceptual model for what each employee should aspire to excel in his/her function. The competitiveness instilled in the entire firm through the internal – external client work methodologies, together with the fast-track career based on performance and peer comparison, as well as division and functional area competition inside the firm, are prone to creating an environment that might potentially compromise trust. Being knowledge an important asset that can much influence the value of any given individual, the employee might feel reluctant to engage in knowledge sharing if it is perceived that it will diminish his/her edge. Deloitte balances the equation with a strong incentive to cooperation on all levels, from cross-selling to casual questions concerning detail. Deloitte has an open policy that incentivises all employees regardless of rank to address one another using casual language (Portuguese language particularity). Furthermore, everyone should be as much available as possible to help a fellow employee on any particular subject, including personal issues. The organisational well established career track also is an important enabler of knowledge transfer as in order for a consultant to grow into a senior consultant, a senior has to share his/her expertise with him. The senior has a strong stimulus to share his/her knowledge as he/she will only be able to grow to a manager if there is someone to take his/her place.

Apart from the organisational culture generated by DTT and Deloitte's sense-making practices at the firm, there is also the Portuguese national culture influencing each individual's behaviour and actions. The analysis of all factors working together will presumably allow for a close representation of the Incentives division's corporate culture. Hofstede [30] uses a framework to analyse national cultures held by four different dimensions which are:

- **Power Distance**, which indicates how much a society accepts that power in institutions and organizations is distributed unequally;
- **Uncertainty Avoidance**, which levels to what extent is a society prepared and willing to accept uncertainty and ambiguous situations or opts for more certain safe situations;
- **Individualism-Collectivism**, which evaluates how people think of their role in society, as providers for themselves and their immediate families opposed to a situation where individuals consider society in in-groups and out-groups where their in-groups (relatives, clans, organizations) are expected to look after them in exchange for absolute loyalty;
- **Masculinity-Femininity**, which focuses on features usually associated with gender such as assertiveness and accumulation of wealth from masculinity as opposed to quality of life and good relationships more denoted on femininity.

His assessment denotes the Portuguese national culture as a breeder of people that have a large power distance, strong uncertainty avoidance and present the collectivist and feminine traits. Together with Deloitte's corporate culture it is possible to deduce that creativeness is being crunched because of uncertainty avoidance that is opposed to risk taking innovation initiatives. The collectivist temper of the Portuguese is a great premise for effective knowledge transfer but is being countered by the individualist competitiveness in the firm. High power distance is a factor that can harm KM by the creation of isolationism and divisionism inside rank spheres e.g. management and operational groups. Finally the feminine traits provide a good premise for creating the trust relationships that enable knowledge transfer but might not be fostered properly by the highly competitive result-focused environment of the firm.

3.2.5 Human Resource Management (HRM)

Deloitte's HRM's strategy is focused on many vectors. Considering recruiting, there is an alignment with every specific division of the firm to filter applicants towards the one which best matches their profile. Keeping the most-sought after qualities in mind and the specific gaps in the organisation, after the initial filtering, interviewing is conducted by the managers and partners of each specific division or functional area. As there is a very high outflow of employees, a common feature of consulting firms, inflow is also devised accordingly. As a relatively recent division in Deloitte, the Incentives division has been doing their recruiting outside of the normal process until recently, targeting resources as needed to cope with a considerably rapid growth. As for retention practices, the effort of aligning expectations with opportunities is met by the numerous possibilities of career growth inside the firm as well as the mobility enabled by being a big organisation. Being part of the Tax functional area, the Incentives division shares very little resemblance to all the other divisions which creates a difficulty to integrate it in its organisational learning and growth practices. For this reason the division designs its own specific programmes and trainings. All processes of HRM are aligned with Deloitte's global Excellence model (gEm). The gEm is the basis for recruitment,

learning, career management, performance reviews, compensation plans and promotions. The model is displayed below:

Figure 13 - Global Excellence Model (extracted from [77])

On a note on the individual development plan, KM at Deloitte acknowledges the importance of learning as an indisputable requirement for organisational and individual career growth. It is a knowledge transfer relationship motivated by Deloitte's organisational structure and everyone's own ambitions and aspirations. 3 factors influence the individual learning plan:

- **Function specific needs** – curriculum developed for each function according with the organisation's competency model.
- **Specific Needs** – identified individually according to self assessment and feedback attained at performance reviews.
- **Personal interests.**

3.2.6 Performance Review

One important part of managing human resources is managing their growth inside the organisation, rewarding and penalising the behaviours and output of employees in comparison with the firm's expectations and peers performance. How an employee is evaluated reflects what the organisation expects of him. To achieve good results, an employee aligns him/herself with those expectations and has a tendency to disregard other points that are not covered by it. Deloitte's performance evaluation's prime objective is to create a tool that will allow for all employees to receive an effective feedback about their present professional performance. Through the performance review, an employee is supposed to clearly identify which are his/her best traits and where should they focus to improve, receiving guidance and orientation to tackle those issues in the immediate future.

There are two specific formal moments in time where evaluation takes place: the Mid Year Review (December/January) and the Year End Review (May/June). The employee's performance is discussed in a meeting with his evaluator, the superior who most interacted with him on job assignments. Both are based on periodical evaluations that are made through the year, the 5 Minutes Feedbacks, although the Mid Year Review concerns only half the working year and the Year End Review builds on the Mid Year Review and concerns the entire year. 5 Minutes Feedbacks are simple reviews made at the end of a particular project or

task that by their length or particularities justify a review. It is every employee's own responsibility to ask for feedback on his/her performance every time he/she sees fit. Year End Reviews are binding and are the main tool in deciding pay raises and career growth.

The performance reviews are aligned with the gEm integrating all quantitative and qualitative performance standards. The competences evaluated are divided amongst two segments: specific competences for a particular job description and shared competences that all employees from all functional areas should possess. For the Tax Incentives division the specific competences or core technical skills evaluated are:

- Tax client service and other relationships;
- Quality processes and risk management; technology skills;
- Growing the tax practice; tax practice economics;
- English skills;
- Specific incentives technical skills.

As for the shared competences, they are:

- **Service excellence** – Defining clients needs, serving the client and retaining the client.
- **Marketing sales & communications** – Understanding the market, building the market and making the sale.
- **Management effectiveness** – Making decisions, implementing, following through and managing the practice.
- **Leadership effectiveness** – Creating a vision, developing commitment, achieving results and team-playing.

According to the level in the hierarchy each of these dimensions is evaluated with a different weight as for example analysts and consultants will be more focused on their core technical skills opposed to management that will be more focused on the shared competences.

3.3 Knowledge management Processes

3.3.1 An overview on the Knowledge Management Process

KM is of great importance to DTT and all of its member firms. At the beginning of 2010, DTT's member firms were awarded in regards to their KM processes by being a part of the 2009 Global Most Admired Knowledge Enterprises (MAKE) Report. DTT's member firms competitive edge is based on the results their knowledge embedded services provide. Providing a wide range of services through their 170 000 employees spread throughout the world, the complexity of the KM endeavour is substantial. Each member firm, with its own national culture and particular organisational detail, has room to engage in its own KM practices specific for its business needs. Even inside the organisation, the member firm's different divisions and responsibility centres have particular KM practices specific for their specialisation requirements adding up to the medium already available. There is an important distinction to make in the case-study in relation to KM at Deloitte. The object of this dissertation thesis is to acknowledge and propose improvements for the KM processes at Deloitte's Tax – Incentives division, not addressing though the entire organisation. The Incentives division benefits, from being part of Deloitte and DTT, of tapping into the enormous knowledge pool made available at DTT's resources web site. There are also several resources at Deloitte's intranet that are available for the Tax – Incentives division apart from the division's own KM processes and KMS. The KM process, as described by Deloitte's Knowledge & Research responsibility centre is presented below:

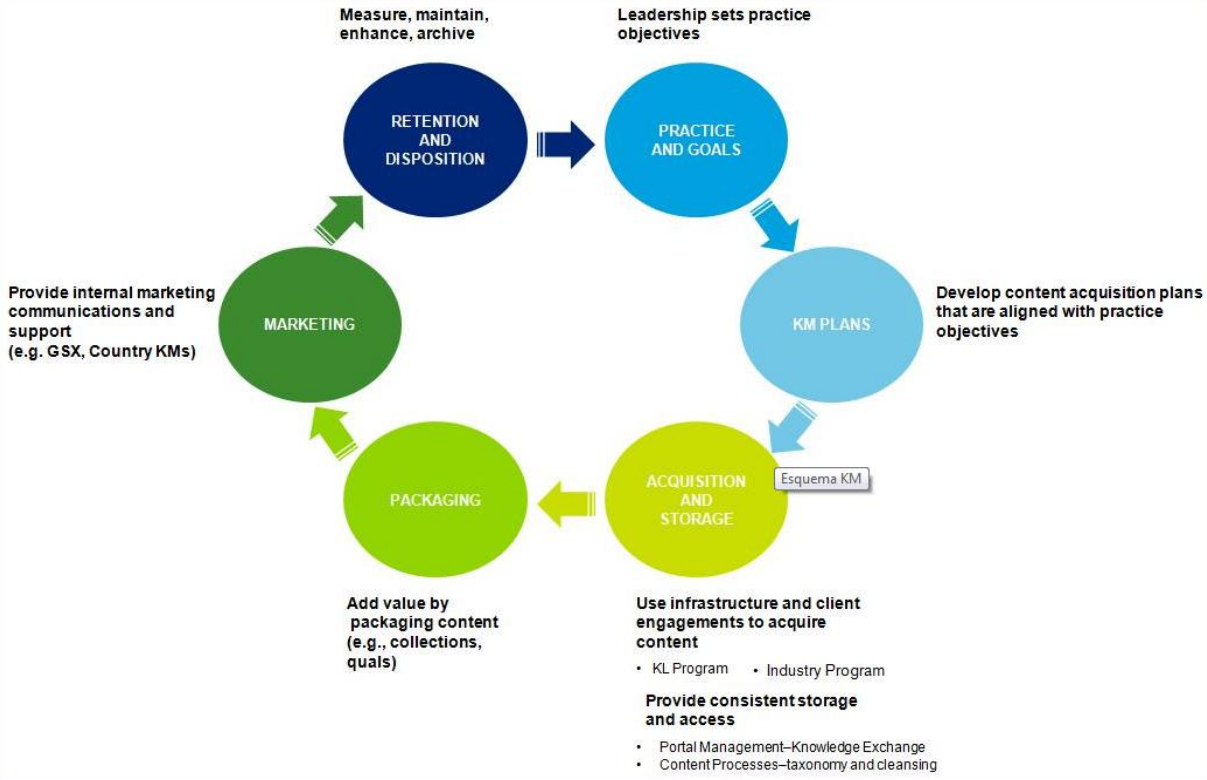


Figure 14 - Deloitte's KM process (extracted from [77])

The Knowledge & Research department is responsible for all KM processes in Deloitte at the corporate level providing support for all business and functional areas. Its mission is to proactively potentiate knowledge sharing and consistently provide with value added services for the business by being an organised knowledge centre that focuses on Deloitte's objectives and practice needs. Its principles and objectives are:

- Create and adapt knowledge assets to produce added value as a differentiating factor for the business.
- Promote global know-how at Deloitte
- Participate proactively in knowledge planning and the commercial processes.

Finally it states its core challenge to be: "To consistently and efficiently convert project experience and individual expertise into organisational, intellectual capital, and innovation." The Knowledge & Research department's activities include:

- **Document management** – Client information, deliverables and credentials management
- **Content management** – Maintenance of the Industry Toolbox and Deloitte Portals
- **Supplier contract management**
- **Sharing of studies and publications** – Newsletters and database management
- **Sales Help** – Tool that provides key information about the client, the firm its financial indicators, Deloitte contacts and Thought Leadership that should be employed to make the sale.
- **Information requests** – Information gathering to address specific needs such as marketing campaigns, leads, proposals, projects and others.
- **Information analysis and market studies** – Market insights, company and brief insights, competition benchmark and tailored studies.

The Tax – Incentives division makes use of these resources made available to them in a number of ways. Market insights provide with analysis and presentation of specific national economic sectors according to Deloitte's industry classification. This enables the identification of opportunities and warnings that can best direct the management's focus. Research studies, using surveys and tailored studies of a particular theme like competitive benchmarks and external economic analysis are useful tools to prepare management and grasp their attention for important issues. Company insights and sales help are amongst the most important tools in CRM when approaching a particular new client. All reports made are available at Deloitte's intranet and could be retrieved at any time. When a report providing company insight for sales help is needed, the process in which the manager or partner obtains it starts by sending an email with the target firm's name. The content of a sales help report is a brief overview; financial indicators; organisational structure; Deloitte Power Map, which represents, if applicable, all of the firm's contact with that firm throughout the years and the employees that have contacts or had interaction within the firm; Press review; and Studies and Publications regarding the firm. Moreover, there can be specific questions that the manager or partner wants answer. The Knowledge & Research department guarantees a 48 hour deadline to deliver.

Available to Deloitte's employees, there are several internal and external knowledge and information sources. The internal knowledge and information sources followed by a brief description are:

- **Business Process & Application Solutions** – Web site responsible for aiding the outsourcing professional services provided at Deloitte.
- **Deloitte Audit Plus** – This is the main knowledge source for the Audit practice, containing technical support, best practices and tools
- **Deloitte Research** – Through a selected group of DTT's consultants worldwide, each possessing a specific level of expertise, Deloitte Research identifies, analyses, and develops the main issues related with the various business areas of the firm producing technical opinions and predicting trends.
- **DeloitteDEX** – This tool contains products and processes based in benchmark studies on various subjects.
- **Deloitte On-line** – Portal containing a number of e-rooms where Deloitte's main sharing of explicit knowledge and information takes place internally between employees and externally with clients, partners and suppliers.
- **EMEA Tax Intranet** – European intranet devoted to sharing explicit knowledge of the tax practice.
- **Global Enterprise Risk Services** – It is the global knowledge and information sharing platform for the Enterprise Risk Services functional area.
- **Global Tax** – Global intranet of the tax practice
- **IAS Plus Website** – Web site containing all information about International **Accounting Standards** – IAS and International Financial Reporting Standards – IFRS.
- **IFRS Knowledge Resource Centre** – Contains all internal knowledge on IFRS.
- International Tax and Business Guides – It contains several guides designed to aid in transnational business, having all legislation and regulations, including operational issues on over 50 jurisdictions.
- **Knowledge Exchange (KX)** – It is the main working tool for Deloitte's consulting services containing knowledge on various industries concerning proposals,

deliverables, thought leadership, project case-studies, methodologies, tools, points of view, etc.
- **Tax Research Resources** – Research studies regarding the tax practice.
- **UK Tax Intranet** – United Kingdom's intranet of the tax practice

As for knowledge sources outside of DTT's and Deloitte's network, the external knowledge sources are:

- AMR Research
- BVD Amadeus
- Coface – Mope
- Economist intelligence Unit
- Factiva
- Forrester Research
- Informa/Dun & Bradstreet
- Mynetpress
- OneSource
- Specialised International Magazines
- Thomson Research
- Verdantix
- Wall Street Journal

As for the KM processes specifically at the Tax – Incentives division, most of the knowledge transfer phenomena is carried on-the-job through peer coaching and guidance at carrying out various activities. Experience from performing the tasks of the Incentives division's projects and observing best practices instils with the tacit knowledge needed. The before mentioned corporate culture enables an environment of knowledge sharing where employees are quick to provide aid to their peers when needed, being by telephone, email or face-to-face. Together with dyadic knowledge transfer and sharing, the Incentives division complements KM with its own KMS.

Part of the individual development plan, every year there are given lectures and training sessions made specifically for employees in every level of the hierarchy devised to form a standardised knowledge base that every employee should possess at that level. These training sessions are made once a year and cover the various fields of core technical skills needed for the Incentives division practice at a specific level. They are the "Steps to Incentives". A newly hired analyst will receive the "First Step for Incentives"; consultants attend the "Second Step for Incentives" and so on until management. Apart from these, other training sessions specific or general are planed throughout the year particular to each hierarchy level.

3.3.2 The Knowledge Management System

The KMS is composed by several medium made available to all employees of the Incentives division to which they are supposed to contribute accordingly and proactively. The system is managed by a knowledge manager, which main responsibilities include filtering, processing and maintaining the KMS, controlling access and contributions by the employees monitoring their dedication and conveying information and knowledge concerning the latest developments that affect in any way the Incentives division's practice. The KMS is composed by the Incentives' e-rooms, the e-learning platform, document sharing area (area F), sporadic announcements on important particular issues (Newsflash), and final version deliverables backups.

There are 5 e-rooms dedicated specifically to the Incentives division practice. They are:

- **Backlog Incentivos** – This e-room contains a backlog of all employees devoted to the Incentives division. At the end of each month, every employee composes a prediction of his/her availability for the following month, writing down their estimate on all time expenditure for a particular client or activity. This backlog is supposed to be updated throughout the month depending on the month's developments.
- **Deliverables Incentivos** – At this e-room there are final versions of documents delivered to clients made available. It is an archive that holds intermediate versions of deliverables for projects that are in progress and past project final versions to be used as benchmark. It is organised by years, each one having sub-folders that divide the documents by client. The documents reside inside each client's sub-folder. Not all deliverables are here. Only documents deemed representative that are considered case-studies.
- **Sistemas de Incentivos – e-room** – The goal of this e-room is to share relevant information and knowledge on all the incentives systems the Incentives division operates with. Such information and knowledge include legislation, news, announcements by the incentives' systems' management entities, etc. The e-room is organised by the different incentives' systems folders and one for general information. Each folder is divided further into subfolders specifically built for each system.
- **Tools – Incentivos** – This e-room is a repository for all documents deemed relevant or an important reference for the Incentives division as well as working tools. This platform contains all applications developed with the purpose of facilitating specific tasks, making them more efficient as well as support documents used in certain assignments and reports, templates and final versions of deliverables that are considered case-studies. It is a collaborative area for sharing and validation of working tools. Contributors are supposed to add notes contextualising every document and application made available so the user is fully aware of its possibilities and limitations. The platform is divided into several folders, each one covering a specific area of interest.
- **Other Support Documents – Incentivos** – Finally, this e-room contains all information and knowledge that, being useful for the Incentives division practice, it is not suitable for any of the e-rooms described previously. This platform includes Newsflashes previously released, training session support documents, news, publications, studies, flyers, brochures and others.

Each e-room is accompanied by a brief description note explaining in short what it contains and its purposes as well as a file with a map of its structure. Access to all e-rooms is restricted to employees of the Incentives division but can be made available to clients or others when needed. All e-rooms but the Backlog Incentivos are repositories where one cannot add new files or alter existing ones; only appointed KMS managers have that ability, which means they are the sole direct contributors to the KMS. Indirect contributors will have to submit their explicit knowledge or information to a KMS manager which in turn will filter and decide whether or not it should be processed and included in one of the e-rooms.

Apart from the e-rooms, concerning training and development, the e-learning platform is a web site containing 600 courses developed by DTT, over 200 podcasts, courses and certifications by Harvard Business School, online library with over 20000 books (Books 24x7) and a help-desk on chat and email for trainees. There is a suggested learning plan for every functional area and hierarchy level as well as other suggestions to tackle specific issues

that are conveyed every other week by email to every employee. The courses cover a wide range of knowledge areas from emotional intelligence to time management.

Area F is a folder available to all employees of the Incentives division that is divided by year. Each year contains a subfolder for every client which in turn contains all documents related to that client from project work to proposals used. It is a sharing platform for work in progress and backup that is arranged variably case-by-case.

Newsflash is document with a standardised format that is released by email to every employee every time a particular matter, issue or information denoting a recent development in the market will affect in any way the Incentives division practice.

Deliverables backups are made at every project's closure. All relevant documents produced are introduced into a standardised format to be burned into a CD and a printed in paper to include a physical folder to be archived.

3.3.3 Knowledge Sharing

3.3.3.1 Knowledge Sharing in a Consulting Firm

According to the European Innovation Survey 2005 in Rjnconsult, Houten, made by Allied Consultants Europe consultants and knowledge-workers in professional services firms often fail to share knowledge actively within their business. A consultant might refuse to share his/her knowledge for a number of reasons. The survey points for the deliberate concealment of valuable knowledge from colleagues as one of the main reasons. When there is a need to share knowledge, one of the other foremost important reasons is simply the lack of time because most of it is spent in client work or/and the existence of a faulty knowledge management system. Poor knowledge sharing is an extreme financial risk for a consulting firm as if the consultant holding specific knowledge decides to leave the company, the knowledge leaves with him. Knowledge loss can result in further financial loss if this exit results in the creation of a new firm by the consultant (first-mover advantage) or if he/she joins a direct competitor.

"Much of the key knowledge is held by individuals unless there is some effort to retain it within the organisational memory" [17].

Knowledge sharing must be maximised to ensure the knowledge-creating firm can make use of it to cause a beneficial impact throughout the entire organisation leading to organisational performance increase. In a consultancy, tacit and explicit knowledge sharing goes hand in hand.

3.3.3.2 Informal versus Formal Knowledge Sharing

According to Taminiau [70] the concept of knowledge sharing is described as a continuum with two extremes: formal knowledge sharing and informal knowledge sharing. The continuum is depicted below:

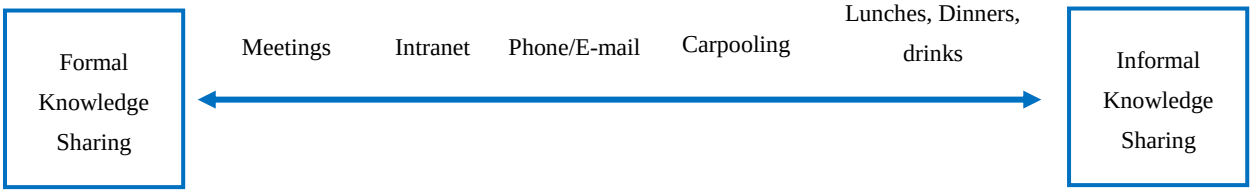


Figure 15 - Knowledge sharing continuum (extracted from [70])

Formal Knowledge Sharing – Basically it comprises all forms of knowledge sharing that are institutionalised by management. These are resources, services and activities that the company designs or organises with the goal of knowledge sharing and organisational learning. Nonaka [49] attributes great importance to formal exchange mechanisms in regards to the exchange and combination of explicit knowledge. These are procedures, formal language, exchange of handbooks, brainstorm sessions, meetings and many others. An often occurring mistake is the excessive amount of information available to convey the knowledge. Information and work overload together are hard to manage leaving no time to codify the knowledge one has attained. It can even result in the opposite result the company is trying to achieve: organisational performance decrease. Because of the high volume of information available and the inherent difficulty to sort through it all to obtain what one is looking for or needs, consultants often rely on interpersonal connections to get advice and a filtered, faster, and easier knowledge that way.

Informal Knowledge Sharing – Al forms of knowledge sharing which exist alongside all the institutionalised forms of knowledge sharing. It is closely related to the resources, services and activities used to facilitate knowledge sharing but are not necessarily designed for that purpose. Examples would be exchanging ideas on the coffee break, meals together, commuting to work or to a client, etc. As there is much talking involved in consulting services, knowledge sharing has a tendency to be done orally.

Taminiau [70] proposes three routes for attainment and acquisition of knowledge following sharing:

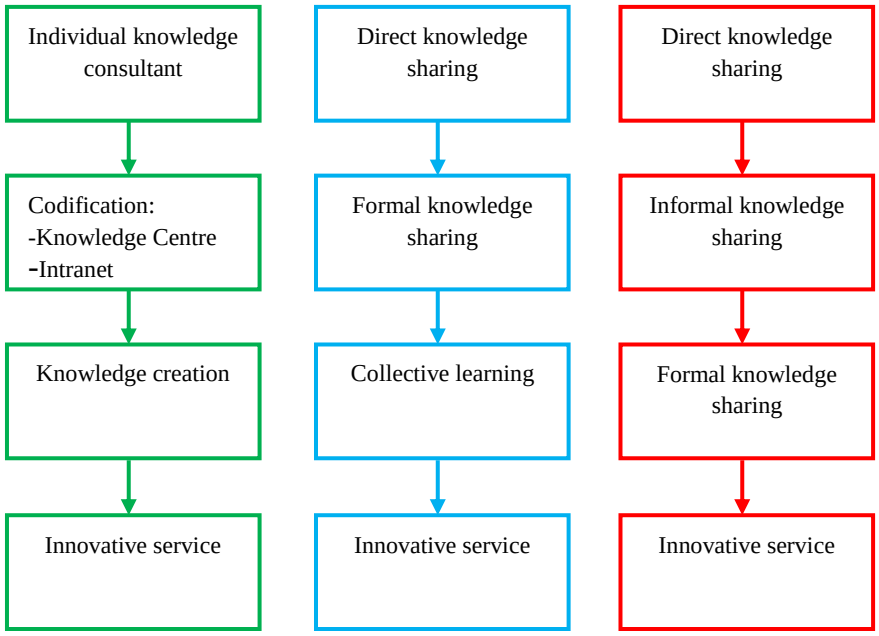


Figure 16 - Possible routes for knowledge sharing (1, 2, and 3 left to right, extracted from [77])

Route 1 leads to the accumulation of knowledge as in accumulation of best practices, methods and tools stored in a repository that will lead to organisational learning. This route poses a great difficulty in a consulting firm as consultants don't have the tendency to write down their knowledge for sharing and it is quickly outdated. It varies depending on the type of consulting but one can formulate the hypotheses that in order for this route to be effective there must be incentives for participation and efficiency towards a greater agility and filtering (information overload and design/structure).

Route 2 focuses on formal knowledge sharing that is shared during institutionalised activities such as meetings and workshops. It facilitates the learning process between participants.

Route 3 is focused on informal knowledge sharing. It is the one that will probably nurture more creative knowledge because of its inherent characteristics. It can lead to formal knowledge sharing for example when informal discussions gain support and interest from management evolving into an in-depth study, development and implementation (ref).

3.3.4 Knowledge Transfer

Knowledge transfer is suggested by O'Dell [52] to be the vehicle for achieving enormous benefits in the organisation. His focus was on the transfer of best practices across the organisation. In his findings the key for making knowledge transfer work is to treat like any other strategic change initiative.

A map is only valuable if you know where you're headed [52]

At the very core of the best-practice transfer model are the organisation's value propositions, its goals and what it expects to gain from implementing or improving its knowledge management system and knowledge management altogether while using a proper knowledge transfer model. The model proposed by O'Dell [52] is as follows:

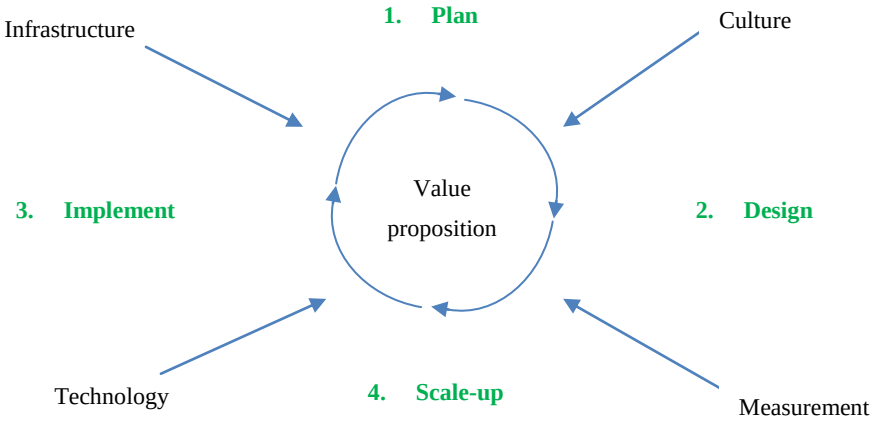


Figure 17 - O'Dell's knowledge transfer model (extracted from [52])

Infrastructure, Culture, Measurement and Technology are the four enablers of knowledge. An initiative on all these vectors intertwining between each other in concert is the way to achieve long-lasting sustainable success. As they are all very important, O'Dell [52] gives greater significance to Culture as it has the potential to create a powerful impact and is at the same time extremely complex and difficult to alter.

Goh [21] elaborates on the key factors for knowledge management and knowledge transfer successful projects. Technology and Infrastructure as in support structures provide a channel to convey knowledge faster and more efficiently with an organisation wide breadth. Now that vast amounts of data can be easily attained at the click of a mouse, the assumption that knowledge as its embedded base, follows the same logic couldn't be more wrong. Knowledge is an intrinsically "sticky" asset that tends to accumulate in pools that hold it and create friction between other functional divisions and people in the organisation [3]. Horizontal communication flows, cross-functional teams and dynamic teamwork are often stressed as good solutions to avert knowledge being retained in one person, team or "silo" of the organisation. As for measurement, Bartlett [3] perceives a great impediment to organisational learning in the way the management control systems are devised. Although management has

come a long way since financial driven measurement systems that evaluated the organisation and its employees performance based on return on investment and budgeted profit targets, there is still a great deal of focus devoted to these that often leads to pathological behaviours. An evaluation based on concepts like the Balanced Scorecard and 360º evaluation processes enable better horizontal information flows vital to the creation of a knowledge network. Goh [21] states that a fundamental variable in cooperation within groups and between individuals is trust. This is an essential condition for the willingness to cooperate that potentiates the knowledge transfer. Management practices such as fair treatment and rewards that emphasize shared success and the attainment of non-financial goals aligned with the knowledge management system objective are good examples of environmental factors that contribute to KM success.

Trust is most easily recognised in the transparency and openness of management processes that provide employees with a sense of involvement and participation [3].

Goh [21] provides an integrative conceptual framework of all the main key factors in effective knowledge transfer with a clear focus on the "soft" ones that require long term effort and are harder to develop as opposed to the "hard" factors such as information technology and structured organisational processes. The model is described below:

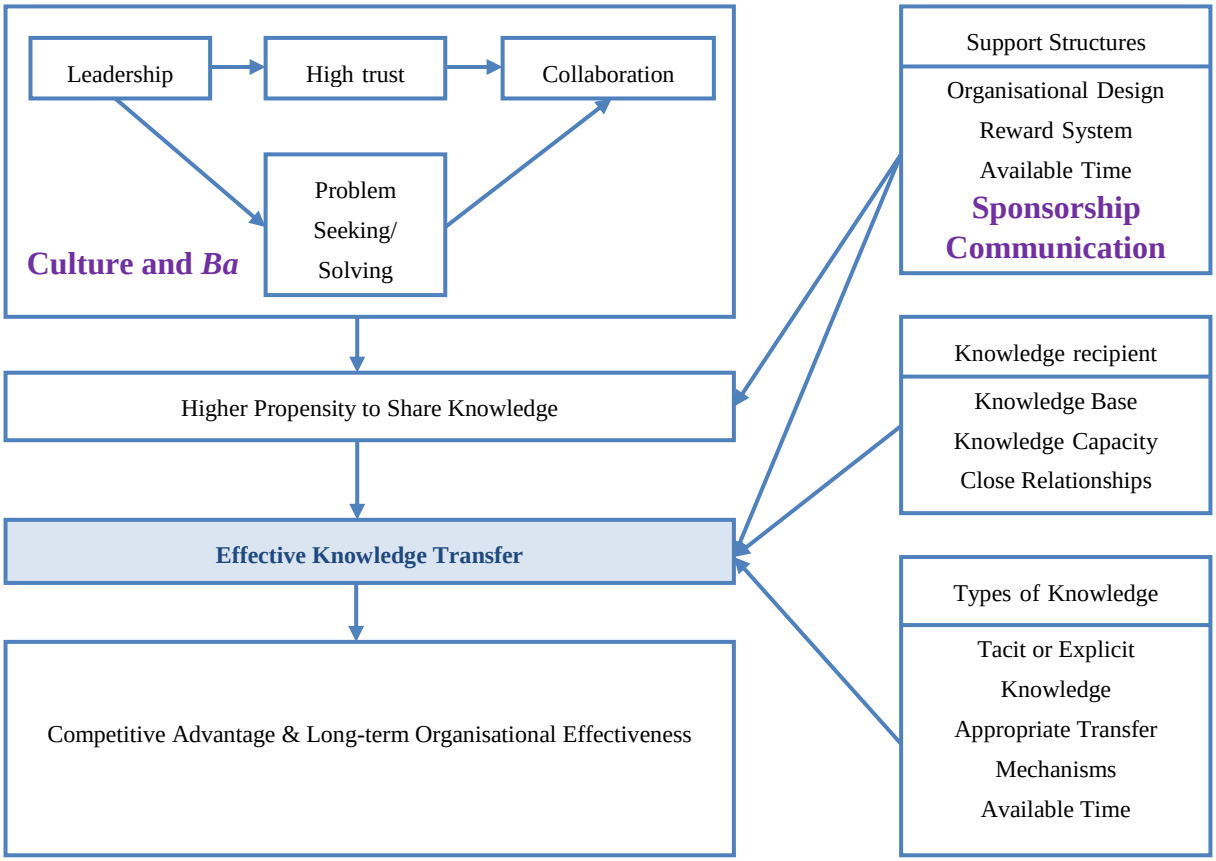


Figure 18 - Conceptual framework for effective knowledge transfer (adapted from [21])

Building on the premises of strategic perspective of the knowledge management project Goh's [21] integrative conceptual framework provides insight in what management areas should receive special dedication when designing, developing and maintaining a knowledge management system. The organisation's traits and managerial practices essential to ensure the effective knowledge transfer process from a qualitative assessment approach are:

- High Level of trust, transparency and openness

- A strong and pervasive culture of cooperation and collaboration with emphasis on teamwork and cross-functional work teams
- Culture of continuous improvement and learning towards constant innovation
- Organisational design with few hierarchical barriers that encourages horizontal communication and has easily accessible information technology systems
- Skills and competencies amongst the employees must be relatively consistent providing a common ground basis of knowledge
- Knowledge transfer must be encouraged in a balanced manner combining both formal and informal processes and practices effectively
- Reward systems must not be solely focused on financial measures that incite internal competition. Criteria such as successful knowledge sharing, cooperation and teamwork yield better motivational results.

3.4 Knowledge Management and Industrial Engineering and Management

Defining KM as the sum total of all activities that enable the creation, storage, distribution and application of knowledge in organisations is not enough for the effective dissemination of knowledge that creates Nonaka's knowledge-creating firm [47]. Focusing on the management factor of KM, the KM problem can be viewed as the management of a complex system while being extremely efficient in minimising the use of resources. Complex systems are broadly defined as relationships of two or more contributors that interact in a non-linear dynamic manner. With a most diverse knowledge base that ranges from highly quantitative studies in calculus, algebra and physics to the more qualitative studies of social science and management, the industrial engineer often dabbles in the design, implementation and development of complex systems. DeSouza [14] identifies a number of knowledge management issues that assumes all knowledge managers must face to some extent. These issues are:

- How to organise a knowledge repository (a layout problem)

Very much the same as the shop floor of a factory, workflow principles and layout design are extremely relevant in minimising the employee's effort for attaining knowledge. Explicit knowledge sources such as intranet portals that simply display knowledge can be compared to a factory that has its raw materials, manuals and tools in different locations without any layout considerations. As for tacit knowledge sources, at a proper efficient factory everyone knows where a particular item will be at any given moment in time. Effective knowledge management should in the same way map where the tacit knowledge resides and how can it be obtained. Mapping out all existing knowledge also enables for redundancy and failure planning, knowing which resources are lacking, which are essential or even in excess, making room for strategic planning and minimising duplication of efforts.

- The best mechanism for knowledge transfer from employee to employee and from system to employee (a transportation problem)

Ad hoc and inconsistent approaches for knowledge transfer processes without a specific standardised protocol are often in organisations and lead to a significant loss the same way as in logistics the lack of an optimised planning adds a great deal of costs to the distribution process. Push and pull strategies for knowledge transfer in regard to process timing is also of great importance when devising a proper way to get the message through in the most efficient

and effective manner. Scheduling algorithms can be applied to resolve the knowledge transfer timing problem in the same way as goods and constraints are analysed in a common industrial engineering scheduling problem.

- Maintaining a knowledge management system (a maintenance problem)

After designing and implementing a KMS, the focus of the knowledge manager migrates into the systematic dynamic maintenance of the system while putting forward initiatives for continuous growth and improvement. A proper maintenance is in order to avoid redundancy and irrelevancy that can lead to Dunford's "information junkyard" [17]. Teachings from industrial engineering maintenance management also apply in regard to proactive maintenance of the system predicting what assets will be needed or lost in downsizing, mergers or organic growth.

- Making a knowledge management system user-friendly (a human factors problem)

Beyond the aesthetic design of a system built to maximise usability, the human work factor is often disregarded. To utilise a KMS people often need to stop whatever task they are doing and engage in the system. Inefficiencies resulting from concentration loss and waiting time finding and retrieving the needed knowledge lead to poor usage which leads ultimately to lower organisational performance. Industrial engineering can aid in the integration of knowledge management into the work processes building on the parallelisms with the industries' need for holistic views of the organisation to obtain cost optimisation. Management control systems also play a big part providing the right incentives.

Finally, in a highly competitive environment, the industrial engineer's grasp of both economical and technical issues that companies must follow provides with one more twist in his/her potential contribution. The adaptive and dynamic mindset of the engineer with case-solving expertise can provide with a truly unique solution.

"The more you're sure you know a process in a company, the more likely that your competitors know it. So you have to make your processes simple enough for employees to understand and complex enough so it's hard for your competitors to steal them" (Thomas H. Brush).

3.5 Diagnosis and Improvement Opportunities

From analysing best practices and the case study, there are a number of inconsistencies and KM opportunities of improvement identified. Similar issues hinder successful KM in companies studied in the literature as in the Incentives division.

Motivation/Communication - One recurrent issue is the matter of trust. Effective communication of KM improvements to the organisational performance as well as awarding KM contribution accordingly can counteract these issues relieving the competitive pressure of the perception of career growth in spite of others. The main issue appointed by management that is believed to be obstructing the KM processes is the employees' lack of motivation in regards to KM. There are no apparent incentives to collaborate and participate proactively in KM and/or the KMS. Employees' perception of KM's impact on their effectiveness, efficiency and personal growth is not made evident. There are a number of reasons identified that should be tackled concerning the matter of motivation. It is hard to measure KM contribution and results, results are not communicated, KM procedures take time away from client related work (chargeable time) disrupting regular work flow, employees are not sufficiently evaluated for their contributions, the KMS is perceived as extremely time

consuming and ineffective in relation with alternatives (negative incentive to users), and resistance to change (corporate culture momentum).

CRM – Taking a close look at the CRM processes, there is a huge knowledge pool available at the Incentives division that does not seem to be used to its full extent. Knowledge sharing that can be used to identify prospects and aid securing the business relationship can be complemented by input from ideas within the Incentives division. Studying success and failure cases to enable application of best practices and lessons learned is also a great opportunity that is not being addressed.

Internal/External client management concept - Having an overlook of the division's employees' availability and level of expertise that is both up to date and integrated with each individual's development plan can increase efficiency significantly. The backlog can be hugely improved by KM integration.

Innovation - Innovative ideas in the division have no formal place to be fostered. A proper incentive to innovative ideas can result in significant improvements for the business practice creating room for informal ideas to grow to consistent formal proposals. Encouraging creative thought on an informal setting, counteracting the uncertainty avoidant culture is a great opportunity to find potential new lucrative services and approaches.

Work Performance Standards - As best practices and trends play a central role in the Incentives division work methodologies, a lack of formalised standards for task deadlines and performance metrics on the operational level can hamper the employees' learning curve. Consistently segmenting and standardising work performance for specific tasks enables a better alignment of expectations and making results evident which can aid the KM success measurement by providing with a good basis of comparison for performance growth with and without the KM practices.

Sponsorship - Sponsorship of KM is possibly insufficient as there is no organisational perception of the importance of KM. Communication of initiatives, relevance and results is not conveyed sufficiently and effectively as there is small acknowledgement of KM and no proper stimulus to contribute and utilise its means. There is no value proposition; there is a need for KM Vision. Ineffective sponsorship also materialises in the lack of KM effective measurements that align with performance evaluation providing with proper incentives and consequently low motivation to engage in proposed learning, knowledge sharing and transferring activities.

Time - Disruption of work flow from the KM practices when contributing to the KMS or engaging in other activities is derived mostly by a lack of standardisation of procedures. Counteracting the disruption will remove an important impediment to the motivation to contribute.

Potential - The immense huge pool of tacit knowledge available that can potentially be made explicit is a great opportunity for increasing the steepness of the division's learning curve. Also there is grave danger of losing very important knowledge along with an employee leaving the division if measures are not taken to understand what knowledge exists in the division, tacit and explicit, who holds it, and how to transfer it for organisational learning.

KMS - It has significant opportunities for improvement. Tackling the time constraints, an overall optimisation and standardisation of knowledge storage and utilisation can minimise time consumption, while creating a more user-friendly structure. Lack of context and best practice methodology guides is a factor that can be easily addressed significantly improving

the system's usability and effectiveness. Systematic and proactive maintenance procedures that guarantee the system's content quality assure and motivate utilisation. Easily accessible knowledge and information on current and past project work can be of great use for the practice for which there is no listing and organisation made for uncomplicated retrieval.

3.6 Knowledge Management Critical Success Factors

If only HP knew what HP knows, we would be three times more productive. (Lew Platt – Hewlett Packard CEO 1992-1999)

There are many studies concerning KM implementation focusing on the key issues that enabled success stories. Sarkar [64] found out that most common KMS projects involve the creation or improvement of intranets, corporate portals, data warehouses and knowledge repositories. Generalising the critical success factors has been addressed by a number of authors with some degree of agreement. Saunders [66] argues that the main reason for failure of the KMS project has very close ties to methodology or lack of it. Before launching such project it is of the utmost importance to properly define the project methodology that will guide it and maintain it afterwards as any other project, using best practice concepts from project management. Chalmeta [6] proposes the KM – IRIS methodology which consists of: (1) Analysis and identification of target knowledge; (2) Extraction of target knowledge; (3) Classification and representation; (4) Processing and storage; (5) Utilisation and process improvement. Wong [73] analysed a case-study in which one of the first tasks for implementation of the KM initiative is to identify the capability areas in which knowledge should be captured, organised and leveraged in its repository.

Wong [73] appoints the key success factors to be:

i. The existence of a KM champion

ii. The creation of a proper improvement implementation team

iii. Constant support from Top Management

iv. Have a well-defined structure for a knowledge base enabling user-friendly easy to develop and maintain KMS

v. Having a persistent and systematic process for collecting, reviewing, deleting, classifying and storing knowledge into the repository

Knowledge sourcing methods have an important impact on performance outcomes [23]. Given the many channels by which individuals can access knowledge, the effectiveness and efficiency of a successful knowledge transfer is influenced by the type and vehicle of the event. To achieve maximum performance, Gray [23] proposes a pre-analysis of the knowledge assets to transfer, grouping each one of them according to purpose and recipient, and choosing the correct vehicle afterwards. Three distinct forms of knowledge sourcing behaviour where identified considering all electronic and non-electronic forms:

- **Dyadic** – Based on person-to-person communication wherein a single knowledge provider communicates directly with a single knowledge seeker
- **Published** – Involving the codification and storage of knowledge from a single knowledge provider that may be accessed be many knowledge seekers
- **Group** – Where knowledge is exchanged amongst multiple seekers and multiple sources in an open venue

As for performance expectancies, when one gets a hold of new knowledge, the firm expects him/her to utilise it in a certain way. Generalising potential knowledge applications, Gray [23] groups performance outcome expectancies into three major possibilities:

- **Behavioural replication** – Building on the concept that organisations have an incentive to ensure that their best practices are diffused widely throughout the firm reducing costs and improving predictability of quality levels, they must work for behavioural replication. It is defined as the extent to which an individual's behaviour has changed over time to more closely reflect others' successful behaviour within the organisation.
- **Behavioural adaptation** – The knowledge-creating firm is a constantly evolving organism. Encouraging employees to adapt to evolving circumstances is a concept beyond applying best practices towards individual-level effectiveness. The incremental changes that occur are derived from improved understanding of the work environment.
- **Behavioural innovation** – This performance outcome leads to the experimentation and development of entirely new solutions, approaches and work practices. In the KM literature, such creativity occurs as the result from new re-combinations of existing knowledge.

Gray's [23] studies conclude that published knowledge sourcing maximises replication outcomes, group knowledge sourcing is fit for all kinds of performance expectancies and dyadic knowledge sourcing enhances adaptation in the most effective manner. Considering the various different models in the literature about KM implementation, the one that provides the critical success factors that best fit the object of this study are the ones specific for small and medium enterprises (SME's). Deloitte's Incentives Division can be compared to a small enterprise in itself for the very specific issues it deals opposed to the other divisions of the firm. Of course it relies on the immense infra-structure and resources that the firm as a whole can provide; nevertheless its KMS is viewed from to vectors: the firm's and the division specific section of the intranet devoted solely for Incentives' consultants. As this dissertation thesis ultimately stresses the latter, it is assumed that the KMS should be viewed from a SME point of view allowing for the case-specific exceptions. Wong's [74] proposed highly comprehensive model that puts forward 11 critical success factors (CSFs) for KM which are:

- Management leadership and support
- Culture
- Information Technology
- Strategy and purpose
- Organisational infrastructure
- Processes and activities
- Motivational aids
- Resources
- Training and education
- Human resource management
- Measurement

4 The Knowledge Management Improvement Implementation Project

4.1 Project Overview

It must be considered that there is nothing more difficult to carry out nor more doubtful of success nor more dangerous to handle than to initiate a new order of things. (Machiavelli)

Implementing KM improvements in the Incentives division is an endeavour that goes way beyond applying surgical modifications and approaches to the KMS and handing over some guidelines. As identified in the previous chapter, the main issues are not all technical. The users have no incentives whatsoever to use the KMS and are used to a particular modus operandis that was gradually created since the beginning of the practice to this day. Corporate culture and a failure to grasp KM's benefits to the entire organisation further incite resistance to change. On that premises, the project has to include a component on change management if it is bond to succeed. There is no general formula for success, but there are critical factors that will most definitely greatly influence the project's execution [45]:

Change depends on management – Sponsorship of the project is key to involve the entire organisation. People will especially be on the look out for leadership and guidance in any important structural project. Having top management's well recognised interest and support on the project is a requirement for full participation and commitment.

Change depends on commitment to management of the implementation project – To achieve successful change, the managers appointed to the implementation project have to be fully aware of all developments at all times and proceed with a well devised management course for achieving the pretended goals.

One other factor that can motivate the project's success is the effective divulging of its goals, implications, milestones, and results to everyone that is influenced by it. Communication and formalisation of all project related activities are best practices in stimulation everyone's participation as people tend to disregard what disregards them. [1]

4.2 Intervention Vectors

Considering Yew's 11 CSF's [74], it is possible to group them into particular areas of intervention due to the similar issues or kind of initiatives associated. The project is therefore divided into three directions using the three legged stool analogy of Myers [46] as reference. The division facilitates implementation and focus whilst addressing all relevant matters identified in the case-study. The intervention vectors are:

- **People** – Includes Management leadership and support; Culture; Strategy and purpose; Motivational aids; and Human resource management.
- **Processes** – Includes Organisational infrastructure; Processes and activities; Resources; Measurement, and Training and education
- **Technologies** – Includes solely Information technology

4.2.1 People

To attend to the issues related fundamentally with people involvement in the KM project, there are several points to be tackled.

Management leadership and support - it is extensively discussed the importance of sponsorship, both in KM and PM literature. The project must be sponsored by top level management. A specific partner should be responsible for ensuring project success and people's involvement by providing counselling to all intervenients, especially the knowledge officer as well as making announcements and communicating important matters of the project's development.

Culture – it is an extremely complex matter. To foster innovative creative thinking in the division, building on Taminiau's [70] informal knowledge sharing path for innovative services, special discussion forums connecting worldwide Incentives practices should be created to allow for collaborative development in an informal environment. As for the Incentives division, this informal path can go a little further creating a specific moment and place where innovative ideas can be submitted with no special worry on structuring a presentation or having to hold on more substance than an hypotheses or hunch. After the KM filter, if one such idea would create interest, it would be developed further for a formal analysis. Motivational initiatives are in order such as oficial announcement leading to peer recognition and a financial/career stimulus prize to best ideas and the ones that materialise into successful innovative services. To counteract excessive competitiveness and cultivate trust there should be periodic situations on the informal knowledge sharing edge of the continuum such as scheduled informal after work gatherings to create long-lasting productive relationships and knowledge sharing. Other factors such as HRM and motivational aid initiatives intertwine with the corporate culture issues and will be discussed afterwards.

Strategy and purpose - it is widely discussed as vital for KM success. Central to O'Dell's best-practice knowledge transfer system is the value proposition or the KM Vision. The proposed KM Vision is to achieve organisational outstanding performance by consistently, effectively and efficiently manage knowledge in the Incentives division so it is continuously created and disseminated for everyone's benefit. The KM project's strategy will be to consistently address all issues identified by priority level and impact on the organisation. Also, implementations that are quicker and have apparently more tangible results will be given priority as they constitute an important motivational aid for knowledge managers, contributors, and users.

Motivational aids – this might be one of the most important CSFs discussed in this project. It is of utmost importance that employees get evaluated on their KM contribution and utilisation towards organisational learning and individual development otherwise short-term result-oriented variables will absorb all the attention. Positive incentives to objective KM results will greatly aid in diverting employees' focus to KM issues. How to attain specific measurements for comparing and awarding outstanding involvement in the KM practice is an extremely difficult task to which there is no consensus in the literature. The matter will be discussed further when addressing measurement specifically.

HRM – it can greatly benefit from integration with KM. Securing knowledge inside the firm and attending to knowledge gaps and potential future gap areas can be all achieved by possessing a list of all knowledge contained inside the firm. A map of all explicit knowledge and tacit knowledge with its respective location in the KMS and/or in knowledge experts and non-experts is a starting point to appointing knowledge area experts for the KM project, though is also a extremely useful tool for HRM to perceive the organisational human resource needs, weaknesses and strengths.

4.2.2 Processes

Organisational Structure – here as in a specific team that devotes a specific part of their time to KM, is a requirement to the KM project. Although other functions in the Incentives division such as HRM and IT already have been working with knowledge issues, the creation of a group of people with specific formal responsibilities for KM is crucial. They are the Knowledge Officer and Knowledge Managers.

Processes and Activities - taking the industrial engineering and management (IEM) point of view, logistics and maintenance of KM need urgent response. Integration in the work flow as well as having structured and systematised KM processes is vital for efficiency and having all employees involved. To resolve the logistics problem, at first, an analysis of knowledge performance outcomes using the Gray framework is conducted. Afterwards all knowledge sourcing methods are directed accordingly. For example best practices knowledge transfer as in behavioural replication such as an the last updated proposal template is conveyed through the KMS while behavioural adaptation such as adapting to doing business with a new industry, client or country can be best enabled by a dyadic or group source such as a webcast, personal meeting or a group session. The maintenance process is described in detail at the next subchapter when addressing the project implementation.

Resources – extensive analysis in regards to time and attention management is in order. Integrating KM into the normal workflow as users is enabled by layout optimisation, quality assurance and contextualising documents properly. These procedures are described in detail in the technologies subchapter. As for KM activities of knowledge managers and knowledge officer, as stressed before they must have specific responsibilities created in regards to KM that do not disrupt their other functional tasks.

Measurement - issuing a list of month's biggest contributors together with a point system is a way of quantifying knowledge contribution. Only effective knowledge is considered, taking into account the quality factor, after knowledge managers and knowledge officer filtering, as use is appointed as a poor measure in the literature [33]. It should include process and outcome measures, such as impact on business processes, impact on strategy, leadership and knowledge content. After the development of standardised metrics for task completion, measurement of performance outcomes crossed with KM contribution and usage can potentially assert about the KM outcomes. Analysis of average metrics evolution and individual performance growth can also be utilised. The measurement should be multidimensional to avoid wrongly made causal inferences. Kaplan and Norton's balanced scorecard (BSC) is an important integrator of all financial and non-financial measurements that could be applied to KM practices in the organisation. Using once more the example of the commercial proposal template, the KM process enables quick retrieval of the template together with the contextualising note that provides for a fast proposal composition embedded with best practices. This in turn materialises in quantifiable few working hours for the same outcome constituting a gain in the financial dimension. At the client dimension, proposal acceptance translates into the division's growth in the financial dimension adding to the number of clients/ongoing projects. The KM process is enabled by organisational learning and IT at the bottom of the BSC model.

Training and Education – it can be extensively complemented by knowledge area experts training sessions and webcasts made available at the intranet incrementing everyone's knowledge base according to knowledge gap analysis.

4.2.3 Technologies

Considering the knowledge repositories' (e-rooms and area F) layout problem there should be a complete restructuring following Wong's [73] implementation approach. The KM project aims to define knowledge domains and a standardised manner to which all repositories are organised. As for the area F, the restructuring will be the following: Accessed by year or industry or incentive system, then client or incentive system (depending on precedent), then incentive system, then standardised subfolders for that specific incentive system. When a project is closed, the final version deliverables can be introduced if applicable, in the deliverables e-room as a case-study.

The e-rooms will be also restructured on a standardised manner using the same principles as F area. All templates, working tools and best practice documents will have a special location in the e-room where everyone can retrieve the latest updated version. The case-study deliverables will be organised according to the same logic of area F, standing by industry domain and incentive system. These versions must be updated consistently so they are the main source for this kind of information. Systematic maintenance of the intranet is described on the next chapter. It includes a necessities analysis and proactive maintenance through assessment of potential problems by periodic enquiries.

4.3 Project Implementation

Having the above mentioned premises in mind the project will excute all presented measures and improvements following Wong's [73] case study and integrating it with project management (PM) concepts. On a practical point of view the four-phase process for achieving a successful best practice knowledge transfer system integrated in a KMS is presented with the following guidelines (adapted from O'Dell [52]):

- ***Phase I: Plan, Assess and Prepare***
    - Assess your current opportunities for knowledge sharing
    - Discover your value proposition
    - Find a champion for the initial project
    - Inform and prepare the organisation
    - Define the business case
- ***Phase II: Designing the Transfer Project***
    - Decide the scale of the initiative
    - Benchmark. Use the learning of others when designing the KM project
    - Create the action plan and marshal all the resources (including technologies, people and communications)
- ***Phase III: Implementation***
    - Launch the project
    - Provide support for both content and process
    - Observe and learn
    - Achieve results and communicate them.

  - Measure and motivate

- ***Phase IV: Transition and Scale-up***
  - Capture success stories and publicise early results
  - Use knowledge gained to expand the scale-up

The first and second phases are discussed in this dissertation, as phase III will be initiated basing on the premises devised on them.

The identification of the key knowledge areas or domains is a crucial step for KM success. It constitutes the way architecture will be developed and consequently the basis for the system organisation. For each domain, a domain guide should be created that includes the following:

i. Introduction or overview of knowledge area
ii. Summary or a scheme that organises the folders and their contents
iii. A list of essential reading
iv. A list of supplementary reading
v. A set of keywords for internal searches
vi. A list of keywords for external web searches

Championship and ownership of the project are also pointed as critical as well as the definition of specified roles for performing the knowledge-related tasks. Wong's [73] case study creates a specific knowledge officer aided by knowledge managers. For the Incentives division the knowledge officer coordinates the knowledge managers that will be expected to:

i. Collect documentation/literature in their knowledge area and to do this consistently
ii. Keep up to date in their area
iii. Look after the technical development of their area in the company
iv. Provide a "front-desk" point of contact for staff with queries regarding their area
v. Ensure the availability of documentation/literature and direct staff to relevant sources and/or Subject Matter Experts where appropriate
vi. Ensure that relevant information is available to interested parties, subject to security and commercial constraints
vii. Determine if staff have any knowledge requirement
viii. Actively seek lessons learnt/project close-out information
ix. Brief the sales and marketing team on new developments/thoughts/techniques
x. Bring interesting material to the attention of those who may find it useful (either the whole company or specific project teams)
xi. Develop, write and promote best practices or identify case-studies on each area.
xii. Give guidance on task metrics (e.g. duration estimation to accomplish certain tasks)
xiii. Where possible, identify areas where additional information is required

xiv. Be prepared to act as Subject Matter Experts who can participate in internal problem solving regarding their knowledge domain

xv. Write articles for journals, papers and relevant publications

xvi. Go to and present at relevant seminars and conferences or training sessions.

The process in which the knowledge base is updated goes by the following KM implementation framework:

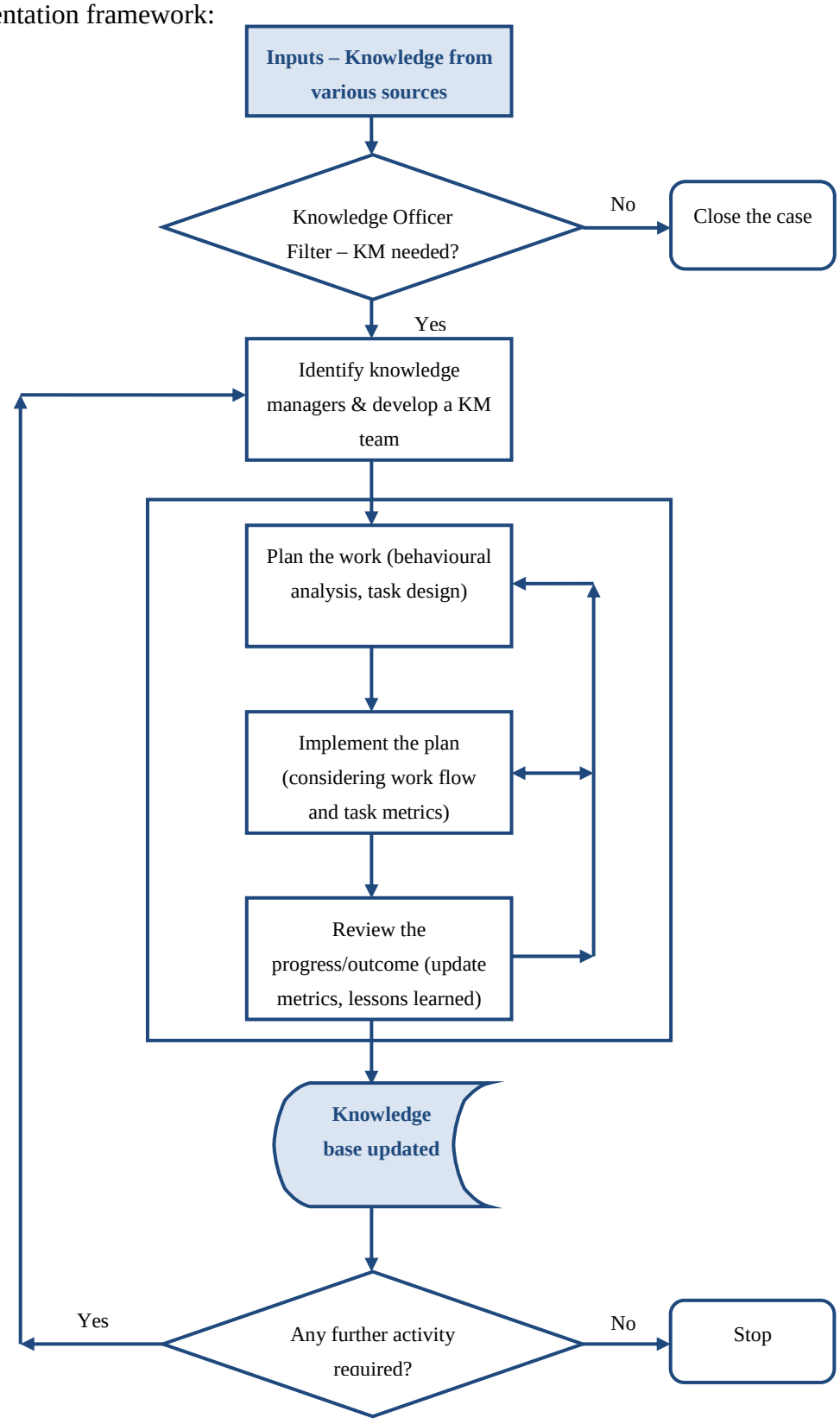


Figure 19 - KMS update (adapted from [73])

Having established the knowledge domains and what specific task would the knowledge managers take, Wong [73] presents a KMS improvement implementation process consisted of six steps that will be adapted for the Incentives division KM project in the following manner:

i. Identifying what information was at that time, held in the repository. This entailed manually examining and sorting out all the files and documents that existed

ii. Auditing the information, and deciding whether or not it was relevant, useful and in a format that could be readily used

iii. Removing and purging duplicate, obsolete and irrelevant information

iv. Establishing the structure of each of the new knowledge areas, i.e. introduction folders' organisation scheme, essential reading, etc.

v. Migrating the information into the knowledge areas and organising it properly

Dunford [17] elaborates on Wong's key success factors [74] stressing that without good constant management of the repository it might become an "information junkyard" which makes it almost impossible for knowledge receivers to extract it efficiently. He states that in order to do so more easily one can take a few facilitating measures. The following measures will be implemented:

i. Appointment of selected subject matter experts

ii. Contextualising documents

iii. Assign a knowledge manager for each specific topic

Following O'Dell's [52] four-phase process, having identified all improvement opportunities, the next step is to select a champion. The champion is the project manager and knowledge officer that will monitor and supervise all KM related activities. A position to be held by the current KM responsible for the Incentives division, he will coordinate the knowledge managers' efforts while having final say in organising, filtering, processing and updating the KMS with new knowledge created and validating maintenance procedures and decisions. Knowledge managers are employees that formally devote a small part of their time to focus on a specific area of expertise, relating with their own skills and experience. Activities performed include filtering knowledge assets, ideas and opportunities to the knowledge officer and making explicit all possible tacit knowledge of their area of expertise to the Incentives division. Finally, Deloitte's network manager and information manager for other sources of knowledge outside of the Incentives division responsibility are complementary to the project's initiatives. The project's main actors will be organised in the subsequent manner:

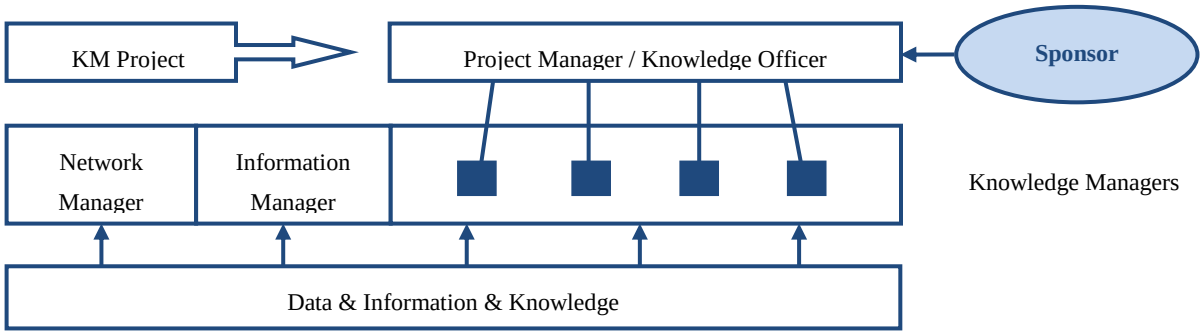


Figure 20 – The KM project

5 Conclusions and future work

Plans are only good intentions unless they immediately degenerate into hard work.

(Peter Drucker)

In this day and age knowledge is frequently appointed as one of the most important assets for enterprises, both as a differentiating factor and ultimate source for competitive advantage. Consequently, the awareness for issues related with managing knowledge in organisations has been increasing significantly since it was first formally addressed by the scientific community and the corporate world. As companies find themselves competing in global markets with ever-increasing dinamism and innovation, effective KM appears more and more as a vital differentiating factor. In this fast-changing market, Deloitte's business, as a professional services provider, relies fundamentally on its knowledge and the ability to execute on that knowledge. Its strategy to hold a competitive edge is consistently being "one step ahead" as a fast-adapting innovative firm that can consistently lead in technologies, approaches and methodologies. In order to do so, knowledge must be constantly created and disseminated throughout the organisation by means of effective KM. The Deloitte's Incentives division, growing consistently in size and complexity, feels the need to improve its KM practices and KMS in order to reach higher levels of organisational performance and effectiveness. This dissertation thesis addresses such issues and proposes a solution path.

There are several grave impediments to effective KM at the Incentives division. Namely, the employees' lack of motivation to contribute and collaborate in using the KMS or sharing their knowledge is appointed as one of the biggest issues. A lack of standardisation in KM practices is also inedequate, generating loss of efficiency and further aggravating motivation.

This dissertation allowed for the identification of several improvement opportunities that resulted in the definition of a number of important measures to implement at the processes studied. These are expected to achieve significant results at both the organisational and operational level once the implementation project is launched. Naturally there are time restrictions to further develop some of the issues discussed. One very important issue adding up to the limited time frame is the beaurocracy contraint that compromised the execution of the implementation proposals. The improvement measures are made explicit in this dissertation thesis in an attempt to make them as clear and complete as possible for execution after top management approval.

The theme of this dissertation thesis is a relatively intricate endeavour, having many of the traits of a complex system where there are no standardised solutions to apply. It is required to analyse extensively in order to reach and in-depth understanding of the whole organisation, its culture, its processes and methodologies, its motivation and aspirations, its market, its goals, and its needs. It takes considerable time to fully absorb and comprehend the case-study in order to devise measures that would effectively meet the Incentives division's real needs. Financially, the investment required is fundamentally people's time. As the outcomes focus mainly on organisational performance improvement, as in more efficiently (less time needed) and more effectively (better outcomes for time use) perform the tasks required, the proposal's viability is met. There are several operational measures proposed that are easy to implement on the KMS layout and organisation procedures that can potentially result in significant change for the better. As for the organisational measures, the process of implementation will be longer and more complex, but vital for the success of the KM improvement project. It is

crucial that the Incentives division sponsors the project and supports it persistently long after the improvement measures are executed, as KM is an on-going practice that needs fostering to continually enable the dynamic knowledge-creating firm.

In the future, after the project being launched, there are many issues that will be interesting to explore. Measurement is a very important issue for successfully asserting about the true value of KM to organisations. Organisation-wide participation and contribution in KM practices is vital for KM success. To effectively measure the value created through KM in order to accurately award, communicate and motivate the whole organisation is also fundamental for achieving a triumphal change in organisations. Studying and experimenting with measurement methods can potentially result in more precise techniques yielding great benefits for both companies and the scientific community. Considering the huge knowledge pool and opportunities in DTT's member firms worldwide, KMS integration would enable knowledge sharing and leveraging that would potentiate new business relationships and knowledge creation and dissemination at an outstanding level. Leveraging the KM project to other divisions and functional areas of Deloitte is also an interesting opportunity to explore analysing if there are chances to produce organisation-wide improvements and integration of KM practices.

This dissertation enabled the author to increase his knowledge of the theory subjects addressed significantly as well as contributing notably to his personal growth. As it deals with a number of particular subjects, the research needed to understand and apply the theoretical concepts to a case-study is extremely wide and extensive. From corporate culture and HRM to CRM and measurement of intangible assets, there are several important issues that relate to KM and need considerable understanding. The difficulties originated from applying theory to a real problem, which would not be possible in an academic setting, greatly enriched the author's understanding and contributed to his insight of the corporate world. The possibility to develop the KM theme on a firm that is recognised and awarded worldwide by its knowledge creation and dissemination and already possesses a sophisticated approach that applies state-of-the-art KM practices is a great opportunity that contributed immensely to the dissertation thesis.

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APPENDIX A: Deloitte's Organisational Information

All images in Appendix A extracted from [77]

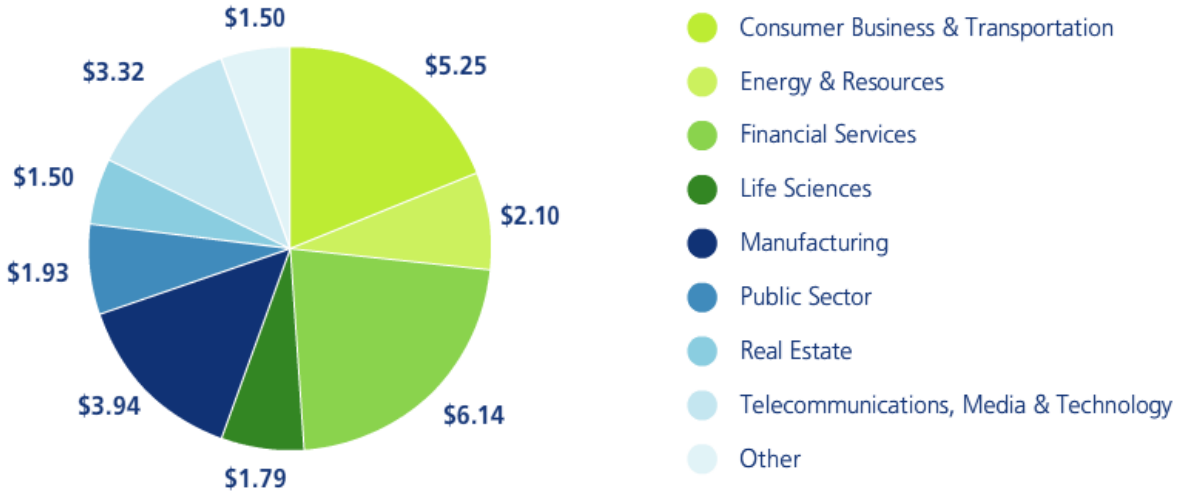

Figure A.1 - Aggregate member firm by industry group (in 1 000 Millions of US$)

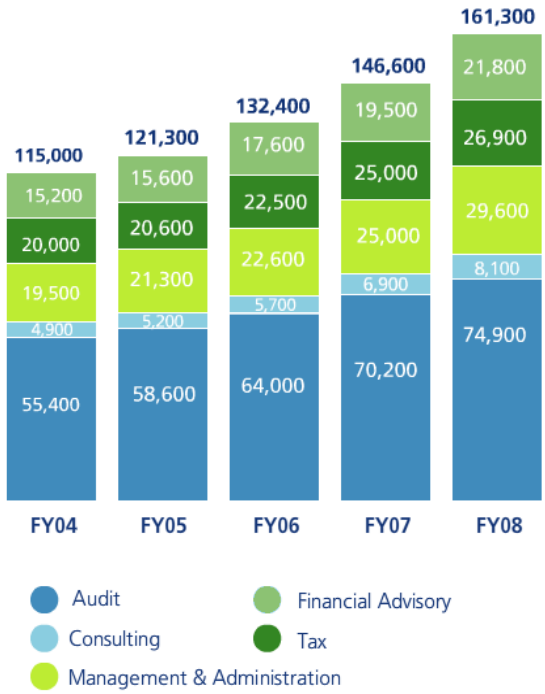

Figure A.2 - Member firm people by function

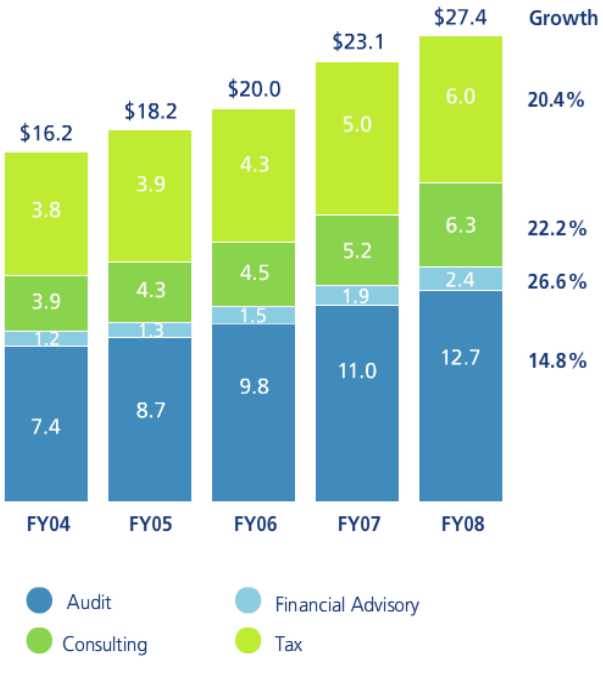

Figure A.3 - Aggregate member firm revenue by functional area (in 1 000 million of US$)

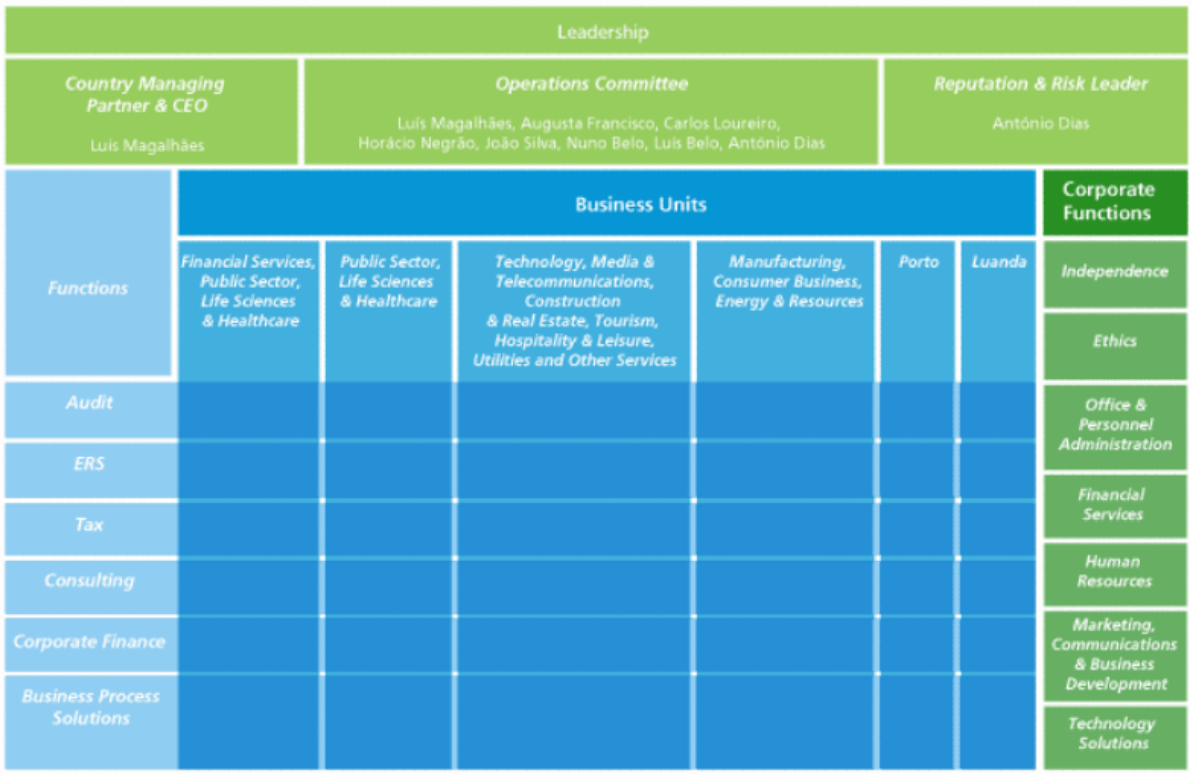

Figure A.4 - Deloitte Portugal's Organisational Matrix

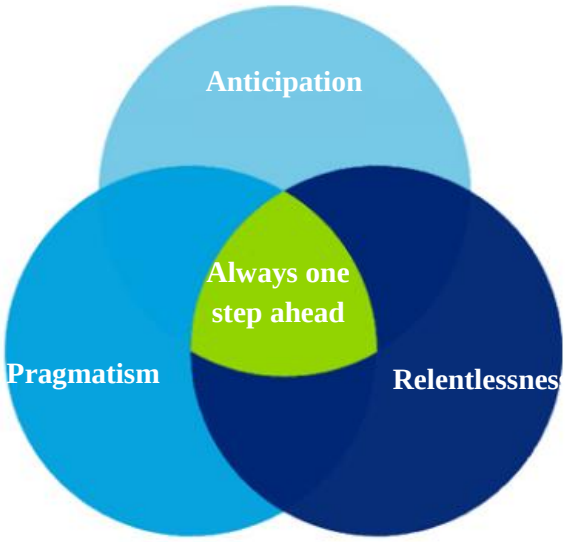

Figure A.5 - Most sought-after qualities in Deloitte Portugal's employees