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**LEVERAGING IT CONSULTANTS TO IDENTIFY  
BUSINESS TRENDS**



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Fabício Feitoza Baía Viana



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**Author**      Fabrício Viana

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ABSTRACT

This work is about identifying IT Consultancy business trends from bottom up direction for the company ACME Oy. In other words, the thesis is built on the idea of utilizing the field knowledge acquired by IT consultants, while performing customer assignments, to identifying business trends in order to increase market readiness and competitive advantage in ACME Oy.

The research problem is to find out how to identify business trends by leveraging the unused however intense knowledge acquired by IT consultants located at customer premises. Consequently having the objectives of formulating a knowledge sharing mechanism via which IT consultants can share their business knowledge with the company. And subsequently to propose a solution for what ACME Oy should do in order to motivate the IT consultants to share their knowledge.

The concept behind this thesis is that the IT consultants working for ACME Oy are knowledge workers holding a substantial amount of knowledge which can be used to identifying business trends in order to prepare for future market demands. To prove this concept, the theoretical framework was divided into three parts. The first part covered Knowledge Management focusing on IT consultancy industry, the second part covered important business related elements. And the third part of the theoretical framework covered employee's behavioural drives through incentives. The empirical research adopted in this thesis was divided into two parts. The first part had a group approach method (focus groups) which was focused on a group of IT consultants and the second part was a true experiment research based on scenarios proposals.

The main results were that ACME Oy IT consultants do acquire valuable business related information from their operational environment that could be used by ACME Oy to identify business trends. And such identification should be done through a proper knowledge management process & system. And employee incentives are vital for this process & system to work.

**Keywords**    Knowledge management, consultancy, information technology, business trends, employee motivation, knowledge sharing

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## 1 INTRODUCTION

### 1.1 Definitions, Acronyms and Abbreviations

<b>Term</b>	<b>Description</b>
ACME Oy	The case company for which the thesis is written.
Intrapreneur	An employee of a corporation who is given freedom and financial support to create new products, services, systems, etc., and does not have to follow the corporation's usual routines or protocols.
KM	Knowledge Management
IT consultants	ACME Oy employees doing consultancy at customer projects.
NDA	Non-disclosure agreement
Case company	ACME Oy
QA	Quality Assurance
Consultant allocation	How much a consultant is utilized in a customer project.
Consultant utilization	How much customer billable work a consultant has.
Test engineer	The person responsible for testing the quality of a product, software etc.
Developer	The person responsible for developing a software
IT	Information Technology
KPI	Key Performance Indicator

### 1.2 Background

In order to be competitive, enterprises must proactively increase their knowledge management activities and make sure that the related functions should be imprinted in the daily work done. In addition to these functions, there should be a common practice amongst the employees including the awareness of the beneficial side of having such practices in place.

Naturally these Knowledge Management practices are to support the enterprise goals in assuring success and viability by leveraging the best knowledge which is available that could directly impact on the enterprise KPIs. In addition, knowledge management also supports and drives the employees to work as effectively as possible in all areas of work varying from customer interface to strategy implementation and identification of market needs and business trends. (Despres & Chauvel 2000, 8.)

Usually the identification of business trends in IT Consultancy companies is done from top down direction in which decisions are based on the management team's understanding of the business situation and forecasting

what is expected to happen. Such approach is applied with the goal of being one step ahead when it comes to customer needs and technologies in addition to identifying emerging competences and respective demands.

However, in an IT Consultancy company a major source of valuable knowledge which can be used for identifying business trends are the IT consultants themselves, and not only the management team. These consultants are the ones having an insider's view of the consultancy business while performing their customer assignments, which most of the time demand the consultants to be located at customer premises.

Nevertheless, besides IT consultants and management, account managers and sales personnel are also in close contact with the customers. However they are limited to be as outsiders when it comes to visibility to customer's internal environment, operating processes and constant changes. Therefore they are not able to enjoy the privileged insider position of an IT consultant in a customer project.

Furthermore, the IT consultants which are located at customer premises, when working at customer project, have the opportunity to integrate to the customer's environment, learn about the customer's culture, processes, ways of working and ways of thinking.

In addition to having first hand visibility to which direction the customers are moving to when it comes to their business processes and business development, the IT consultants are often indirectly (or even directly) involved with other projects. And these other projects are quite often integrated or dependant on the output of the project in which the IT consultant is allocated at.

This indirect or direct involvement to other projects gives an insight of what is really going on at customer environments including demand for new technologies, new competence types or even need for extra competence resources.

Such insight or visibility gives to the IT consultants a knowledge that is a valuable source of business information which is of paramount importance for business development and sales in a consultancy company. However unfortunately such knowledge is often times not leveraged by the consultancy company's management due to lack of an effective knowledge management process.

Knowledge management processes are a must for companies having their consultants, often times, located at customer premises for long period of time (months, years) and therefore isolated from the company. The isolation of the IT consultants does impact on the feeling of togetherness which results on a negative effect when it comes to putting an effort for sharing their knowledge with the other IT consultants from the employing company or with the company itself.

The sharing of knowledge is a valuable tool for every company. Through daily interactions, employees and organizations create and use information. This is a healthy process, that when leveraged, the information absorbed is transformed into knowledge and used in combination with existing rules, values, knowledge and experience. (Davenport& Pruzak 2000, 52.)

Unfortunately, despite the intelligence of each consultant, such acquired knowledge from customer environments is not shared and in worst cases can be lost somewhere in the memory. Or as some say “replaced” with the acquisition of new knowledge related to a new assignment at a new given customer. Because, when starting a new assignment at a different customer, the consultant will focus on new adaptability and approaches customized to the new environment.

Therefore, in order to avoid the loss of valuable knowledge which could be used by the company and its employees, there is need for the existence of a knowledge management process to channel the consultants knowledge, acquired in the field, into the employer’s premises. And naturally, to the other IT consultants which are allocated at different assignments.

Thus, without a knowledge management process, the valuable knowledge acquired by the IT consultants in the field, when assigned to customer projects, is wasted. And remains to slowly fade away once the customer project ends and the IT consultant moves to another assignment which can, often times, be related to another customer from another business sector than the previous one.

It is important to reinforce that the knowledge in question can be both the business related knowledge and the knowledge related to the operational content of the assignment (actual assignment tasks). This later will be stored by the consultant and become an important element in developing his/hers experience, competence and expertise which will definitely help on the next customer assignment and also help other colleagues when shared.

Awad and Ghaziri (2004, 53) raised the question of what good is knowledge if that cannot be shared? Knowledge is seen as power, therefore by sharing it one may multiply the power across the business.

### 1.3 Research problems and objectives

The research problem is to find out:

1. How to leverage IT consultants to identify business trends?

Consequently, the objectives of this study are:

1. To formulate a solution via which IT consultants can share their business knowledge with the company.
2. To propose a solution to motivate the IT consultants to share their knowledge.

The result of this work is expected to be valuable for both corporate and operational levels in ACME Oy. It is expected to bring the awareness of the need for the decision makers to be closer to the consultants in order to acquire a better field insight, aiming to increasing the company's awareness of the current situation at the business environment.

The implementation of this study is expected to result on a valuable lever for the company to identify business trends, through its consultants, and take further actions on those.

A high impact is also expected to happen on the sales organization, as the solution for the objective of this thesis is expected to provide information which may result on future customer demand. Another high impact is also expected on the operational level where the consultants will be able to share their expertise and make such valuable knowledge available in order to avoid trying to reinvent the wheel in every customer assignment. Another affected area is the business development area which is also expected to benefit from having levers which are valuable for the planning and preparations for being able to deliver when customer demand takes place.

Therefore, the direct contribution of this study is expected to be on ACME Oy's delivery capacity and competence delivery capability improvement. In other words, by demonstrating to ACME Oy that valuable information flow being correctly channelled can lead to sales of new IT consultants into specific customers and enable ACME Oy to have the needed competences and expertise available when the market needs them. That means increasing the company's readiness for new market demands through the identification of business trends through its IT consultants.

### 1.4 Thesis content

This study belongs into the field of Knowledge Management focusing on information technology and IT consultancy. Theoretically it is based upon employee's behavioural drives and the management of existing knowledge in a company. And the beneficial impact of utilizing such knowledge for business development and identifying business trends.

The main idea behind the work is to demonstrate to ACME Oy that, by applying knowledge management, it can fortify the business by increasing competence delivery and sales capability, therefore improving its readiness for new market demands.

The key concepts behind the idea for this work are:

- **Knowledge Management**
  - To create a knowledge management based solution as simple as possible without any usability complexity to the IT consultants, so that it does not become time consuming or generate overheads to the company, i.e. the consultant spending too much non-billable time on this.



- **Knowledge sharing**
  - To formulate a solution process which each consultants feel interested in cooperating more amongst one another while operating in different customer projects.
- **Business development through existing knowledge assets**
  - To raise the awareness to ACME Oy that it can develop its business, whether in sales increase or delivery capability increase by leveraging the business related knowledge of its consultants.

This work will be empirical by nature and it will use primary information from focus groups and true experiment research.

The viewpoint in this enquiry is the one of an *intrapreneur*, within an IT consultancy company, with the goal of defining important steps and directions which can be taken in order for the company to be ready to act when the customers need it.

The business field this study will be conducted in is the Knowledge Management in IT Consultancy varying from IT consultancy to IT management and sales services.

## 1.5 Limitations

The thesis contains confidential background material covered by several NDAs signed between the author of the thesis and the commissioning company. Thus, such thesis content is required to be dealt with confidentiality and therefore the author has created a fictional name (ACME Oy) for the commissioning organization.

As according to the thesis contract, the name of the commissioning organization and any process, practice or information related to it, is under confidentiality, thus the chapter 4.1 is not to be published in the completed thesis.

## 2 METHODOLOGY

### 2.1 Empirical research

The empirical methods adopted in this thesis have the sole objective of collecting empirical evidence in order to test the feasibility of the theoretical framework. (Glenn 2010, 37).

#### 2.1.1 Groups approach method

**Focus groups** is a form of qualitative research approach which has been used in market research for a very long time. Its objective is to gather and

involve people holding a certain similarity or background in discussions of specific research topics or issues. The researcher introduces the topic and the questions to the group and then encourages the participants to share amongst the group their perceptions and opinions regarding the topic under discussion. This research method helps the researcher to revise and clarify the real situation of a topic in discussion. (Fischer 2005, 424)

Therefore the author will utilise a focus groups approach, formed by IT consultants working in ACME Oy. The reason for selecting such group is that these professionals are the source for the knowledge to be leveraged by the company and will provide important information for the development of the thesis objective solution to be utilized by the company. Such important information provided by the consultants might not be achieved without due interaction through the focus group exercise.

### 2.1.2 True experiment research

The research approach will be balanced with a true experiment research to verify and support the hypothesis that IT consultants hold valuable yet unused knowledge about the business market as according to the theoretical framework. In addition it will raise the fact that such type of knowledge could be utilized by ACME Oy management and sales team when trying to identify business trends.

## 3 THEORETICAL FRAMEWORK

The theoretical part of this thesis will be divided into three parts which will provide means for the development of a solution for the research question and objectives. The first part will discuss Knowledge Management focusing on IT consultancy industry. The second part will talk about important business related elements, which are part of the daily business activities of IT consultancy companies, and are a good source of information for ACME Oy when trying to identify respective business trends. The third part of the theoretical framework will discuss employee's behavioural drives. This is important in order to have the employee's participation in business related matters rather than just having them involved solely with consultancy in ACME Oy.

The concept behind this work is that the IT consultants working for ACME Oy are knowledge workers holding a substantial amount of knowledge which can be used to identifying business trends in order to prepare for future market demands.

There are knowledge workers in every company, and these when leveraged are a key for success, since they use available technology to solve problems and find successful solutions. There is clearly an advantage over those which do not use any technology in order to solve their issues or are on a quest for successful solutions to their business. (Awad & Ghaziri 2004, 26)

Therefore, the goal is to show a study which defends that delivery capability and competence delivery can be improved in ACME Oy, through knowledge management. Such knowledge management is aimed to provide a better market readiness based on the knowledge sharing done by the consultants, holding valuable field knowledge. Yet most often these consultants are not involved with sales or management teams, i.e. the IT consultants operating at customer project assignments.

The theoretical framework will widely cover the Knowledge Management concept, varying from what is knowledge, how to acquire, store, transfer and re-use it. In addition it will cover important elements that can influence employee's productivity and ACME Oy's perception of IT related business trends in addition levers for its identification.

### 3.1 Knowledge Management

Knowledge management is a discipline which enables people, teams or companies to create, share and apply knowledge in a collective and systematic way, in order to achieve their objectives.

(Ron Young, Knowledge-management-online, 2005)

There are several definitions or ways to describe knowledge management and according to Awad and Ghaziri (2004, 27) each definition of KM contains several integral parts:

- Using accessible knowledge from outside sources
- Embedding and storing knowledge in business processes, products, and services
- Representing knowledge in databases and documents
- Promoting knowledge growth through the organization's culture and incentives
- Transferring and sharing knowledge throughout the organization
- Assessing the value of knowledge assets and impact on a regular basis

Therefore, knowledge is needed everywhere and in one's everyday life actions, whether these are in creating something, solving something, communicating something etc, in other words, whatever action which results into an output. It is noticeable when such actions are taken without the existence of knowledge as the output may be a problem rather than a solution, a mistake, a defect and so on. Naturally lack of attention also results on negative outputs, however lack of knowledge does generate major issues in general than the lack of attention.

Hence, knowing that knowledge is so important in one's everyday life, it is definitely a must to be able to manage the knowledge in order to make proper use of it and therefore achieve the positive results expected from the

everyday actions taken by an individual. Such “rule” also applies to an organization in which knowledge and expertise is the base of its revenue. Thus, when managed and correctly channelled, knowledge can generate better results.

However, if existent, yet unmanaged, knowledge may be lost or left untouched, which means an unfortunate way to miss the opportunity to achieve a better result than the one achieved. Therefore Knowledge Management is important in order to be able to deliver better results, be it in any part of an organization or wherever the actions are taken by people within an organization.

### 3.1.1 Knowledge Management in IT organizations

In order to create and utilize knowledge efficiently and effectively, companies should focus in developing a dynamic business oriented system. That is not the same as having an information process system based on knowledge sharing routines and then calling it later a knowledge management system. (Nonaka & Reihmoeller 2000, 89.)

When knowing what to ask and from whom to ask, the chances of getting the right answers are much higher than just random questions “thrown to the crowd”. It is important to know what to ask, since the environment around an IT company is very dynamic and constantly changing. Therefore, questions must be developed, improved or changed according to the development of the environment. In other words, right questions today might be the wrong questions tomorrow, thus it is important to know the business and be able to utilize the knowledge in an efficient and effective way. That means having the right questions for each time knowledge is needed.

In order to utilize knowledge in an efficient and effective way, companies must understand that such knowledge is managed. Therefore it is important that IT companies are aware of knowledge management need, have the required infrastructure to make it work in addition to knowing how and what to utilize from it. Once knowing what kind of knowledge is needed for a specific target area, the company needs to have a system, process or mechanism to be able to fetch, store, mine, transfer and utilize the knowledge.

Therefore the IT company will need a mixture of elements in order to make knowledge management to happen, (see figure 1):

- The employees – the source of the knowledge
- The mechanism or process – the system and/or process needed in order to create knowledge from information and vice-versa
- The infrastructure behind – the IT infrastructure behind in order to enable the data flow from source to end point, in other words, the infrastructure backing up the knowledge management process to be applied by the company.

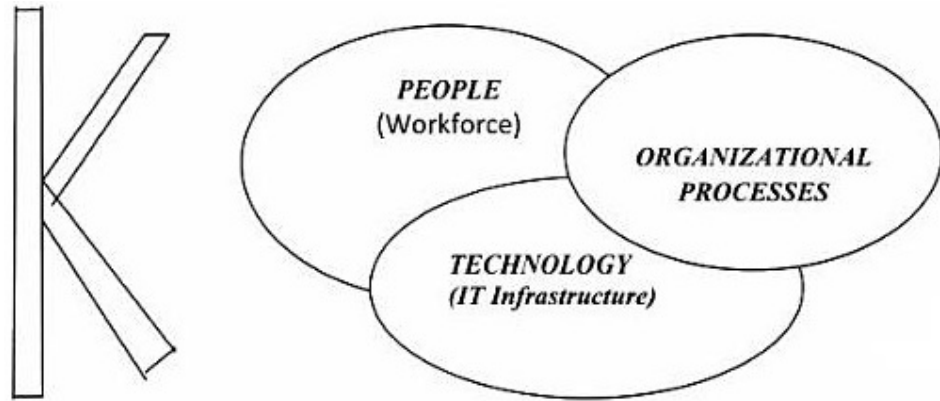


Figure 1 Overlapping Human, Organizational, and Technological Factors of KM' (Awad & Ghaziri 2004, 3)

Once having mentioned the infrastructure, the right questions, the knowledge management process and all the above mentioned elements, it is important to add that the IT company will also need to have the right people to “run the show” on the knowledge management. It is not enough to have the IT specialists holding the needed knowledge and an infrastructure capability available to support the knowledge management system or process.

Thus, the IT company will need the people behind it, the ones making the knowledge management system, process or mechanism to happen and survive. These people are the ones helping on identifying the right questions to be asked and also how to utilize and right answers or any other answer which may come. Information should not be wasted, but correctly channelled in order to create or fetch the right knowledge needed for a given situation or need. Only then the IT company will be able to receive the added value from having applied knowledge management to its daily processes.

The added value of applying knowledge management does not come without having the right guidance on the management of knowledge. Otherwise it will not be possible for the knowledge to be shared between the different areas of the company. Everybody working for the company is a source of knowledge and therefore can contribute to its promotion throughout the company. However without having the correct levers, it is most likely to become a mess as people will not know what kind of knowledge to give and people will not know what kind of knowledge is needed, therefore strong focus on the process is needed.

Knowledge management in the IT companies should be focusing on making the exchange of knowledge possible between its specialists and through the company's levels and different areas. The sharing of knowledge and nevertheless opinions and ideas is very much needed, as the main target of IT companies is to create and solve. Thus the ability to make the existing collective knowledge available to the whole company is a must in order to survive in the rapidly changing environment around it.

An effective way for the IT companies to create such knowledge availability is to develop a common sense of sharing or a sharing culture amongst its employees. The focus on a more collectivist culture within the company is not on adapting but adopting a new method of doing things, where people would feel comfortable and motivated to share what they know even when not working as a team.

However, there are those which think otherwise and claim that competitiveness between employees, rather than sharing, can generate motivation and good results. It is widely said that a healthy competition can increase employee motivation. Competition is believed to increase morale, motivation and productivity, in addition to boosting the employee's enthusiasm. (Efficiency experts, 2012)

Indeed competitiveness can generate motivation and good results. However, these are derived from an individual perspective that the winner takes it all. Naturally there are those which can perform better than others, given many factors, and the impact on others which in their own opinion try hard to win but do not manage to get there is not as motivating as it is expected. Competition might be "fun" when done once or twice, but if it is applied constantly within the company culture it will generate a negative impact on the acquisition of collective knowledge and sharing culture, which are important elements supporting an effective knowledge management process.

Hence, even though many companies promote competitive environment between the employees and that such strategy can be also very effective on achieving short term results, in another hand, it can also close the doors of the knowledge sharing. Since it is a common wish to win, therefore one employee might not want to decrease its competitive advantage by providing some important knowledge which would result on the improvement of another employee's competitive advantage. Thus in the long run the knowledge is more held within oneself than shared amongst others, which does limits the company to enjoy and benefit from having its collective expertise and knowledge shared.

There are tools and levers which enable the company to benefit from having its collective expertise and hidden knowledge shared. These are designed to aid the generation of knowledge, however the most effective ones are those focused on the sharing of knowledge. Without the sharing of knowledge one will never be aware of what he/she doesn't really know. (Wensley & Verwijk-O'Sullivan 2000, 118.)

Hence, sharing should be encouraged by the company rather than adopting strategies aiming on short term targets as promoting a competitive environment within the company, which result in knowledge remaining hidden rather than shared.

### 3.1.2 Levels of knowledge in IT consultancy companies

There can be many ways to define different levels of knowledge within an IT consultancy firm, let's take ACME Oy as an example:

- Basic knowledge – when the consultant has a high level understanding about a certain subject, however is not able to provide expert consultancy services on that subject area. That is normal within IT consultancy companies since the consultants acquire knowledge from each of their customer assignments given the combination of the tasks they are performing and the project environment which often times is more similar to an “ecosystem” due to high incidence of project integrations and also integrations of different technologies. When consulting in such “ecosystems” the consultant has opportunity to deepen his/hers expertise in his competence area in addition to learning about new areas and technologies on a higher level due to his consultancy focus being on own expertise area. Hence the consultant has a chance to see and have a certain understanding about the environment around his/hers core competence area. Trainees hired by ACME Oy fall into this knowledge category.
- Intermediate knowledge – when the consultant has acquired a substantial level of understanding and experience on a certain subject, however do not have a know-how and is not being able, yet, to have a senior role on that subject area. That intermediate knowledge can also be due to the area in question not being his/hers core expertise area. Novice consultants which are in the field for around 2 or 3 years and senior consultants which do not have the subject in question as his/hers core expertise area fall into this knowledge category
- Expert knowledge – when the consultant has a deep knowledge and know-how acquired through several years of experience and studies on a given subject which is his/hers core expertise area. Such consultants holding the expert knowledge are considered to be “solutioneers” being able to “examine a situation, explore its possibilities, determine solutions, and effectively actions them to completion.” (Solutioneers.net, Solutioneering, 2012). These are the consultants who are sent to perform on high level customer assignments holding a senior position and having a core role in the project. It is worth mentioning that naturally solutions can also be based on deep research of the situation and hours of dedication including several trials to solve the issue, however with experts the solution is often found in a more effective and quicker way with less risk of “imperfections”.

These knowledge levels or categories found in ACME Oy are acquired by recruiting experts, novices and juniors (trainees) and also by competence development through extensive list of assignments performed and trainings in one's career in the company.

Such knowledge levels are strongly influenced by customer assignments which consultants continuously take part of. These assignments are an extensive learning process in which each consultant, no matter the knowledge category level he/she holds, will learn from taking part in them (customer assignments). It is a school of experiences since the customer project environment is definitely, in a high extent, unpredictable and new knowledge elements always come along with it, enabling the consultant to enjoy a constant learning process while in working in these customer assignments.

According to Awad and Ghaziri (2004, 52) there are 3 types of Human Learning:

- **Learning by experience**
  - This type of learning is based on trial and error when trying to solve problems, which creates experience which is used later in similar situations.
- **Learning by example**
  - This type of learning is based on the use of examples or scenarios to explain to someone (a colleague, and employee, a student...) how a given subject, matter is or how a problem is solved.
- **Learning by discovery**
  - This type of learning is based on an exploratory approach which people use to address an unknown subject, matter or explore ways to solve a certain problem with yet unknown solution experience.

There is no question that IT consultancy competence development includes all the types of knowledge acquisition above mentioned. Nevertheless, as mentioned earlier, operating in a customer assignment, an “ecosystem”, has its advantages on the learning process given the rich amount of information circulating constantly from all the directions.

### 3.1.3 Tacit Knowledge

The widely used “iceberg metaphor” describes well what tacit knowledge is, by comparing the tip of the iceberg to the explicit knowledge of an individual and the major part of the iceberg which is submerged into the water to be the tacit knowledge.

Tacit knowledge is the knowledge acquired by living, seeing and experiencing something, it is embedded in the human mind and developed through the years based on one's surroundings and experiences. This knowledge is strongly influenced by culture, its related perceptions and perspectives. Such knowledge can include values, beliefs, and intuitions and can be acquired through job, friends, living environment and so on. It starts forming from one's cradle time. The tacit knowledge is the base for explicit



knowledge, it is best communicated through dialogues, creation of scenarios to explain something, metaphors, sharing of opinions and any other kind of personal communication. (Awad & Ghaziri 2004, 47.)

Tacit knowledge is a type of personal knowledge which cannot be measured or recorded, it is the know-how an individual holds which is derived from living different situations in daily basis whether at home or at work, it is started to be built from the cradle having as background the whole life story of an individual. It is imprinted into an individual's personality and life experience, and it most of an individual's knowledge yet it is unknown or unnoticed by the individual, it is part of the unconscious mind defining what is right and what is wrong (within one's concept). It can be seen as a set of unwritten rules a person carries with himself/herself, in other words, an intangible knowledge that since it cannot be recorded it fades away with the memory.

Therefore, under the risk of being lost, the tacit knowledge is a valuable knowledge derived from experience which is worth to convert into explicit knowledge in order to acquire a certain business advantage by leveraging the existing expertise and sharing it through the company.

### 3.1.4 Explicit Knowledge

As Awad, Ghaziri (2004, 47) describes, explicit knowledge is the opposite of the Tacit knowledge. It is the knowledge which is codified, printed in documents, books, sheets, memos, training materials, digitalized in emails, stored in databases and made available for future use, which means it is the type of knowledge which is much easier to store, retrieve and transfer than the tacit knowledge. The person transferring the explicit knowledge has full conscience of what is being put forward to others.

Therefore, explicit knowledge is the theoretical knowledge, it is the knowledge which is noticeable and acquired through reading and studying. The knowledge which is written, documented and/or recorded and stored for later use, therefore a knowledge which can be fetched and reused by others. It is easy to measure and to transfer to individuals. In addition, explicit knowledge can be verbalized, articulated, explained and so forth. It is also an important type of knowledge which is valuable to fetch from IT consultants when looking for important information in order to achieve a certain goal.

### 3.1.5 Organizational Knowledge Creation - The SECI Model

As defined in the previous chapters, tacit knowledge is the knowledge which cannot be measured, it is the know-how an individual holds which is derived from experience, whereas explicit knowledge is the knowledge which is measured, known, can be stored and reused. Therefore they are

two different types of knowledge which when interacted a new knowledge is born.

This process of knowledge conversion based on the interaction between explicit and tacit knowledge can be widely utilized by companies when creating new knowledge. It is through such conversion process that explicit and tacit knowledge expand in terms of quantity and quality. (Nonaka & Reinmoeller 2000, 90.)

Ikujiro Nonaka, Professor Emeritus in International Business Strategy at Hitotsubashi University in Japan and one of the most famous and proficient Knowledge Management writers to this day, proposed one of the most cited theories on the studies of Knowledge Management. Such theory describes the process of interaction between tacit knowledge and explicit knowledge through four elements of daily life which are Socialization, Internalization, Combination, and Externalization.

(Ikujiro Nonaka - Hitotsubashi University Graduate School of International Corporate Strategy, 2012 ; The SECI Model and Knowledge Conversion, 2012)

This theory is well known by the SECI Model, which is better described in figure 2.

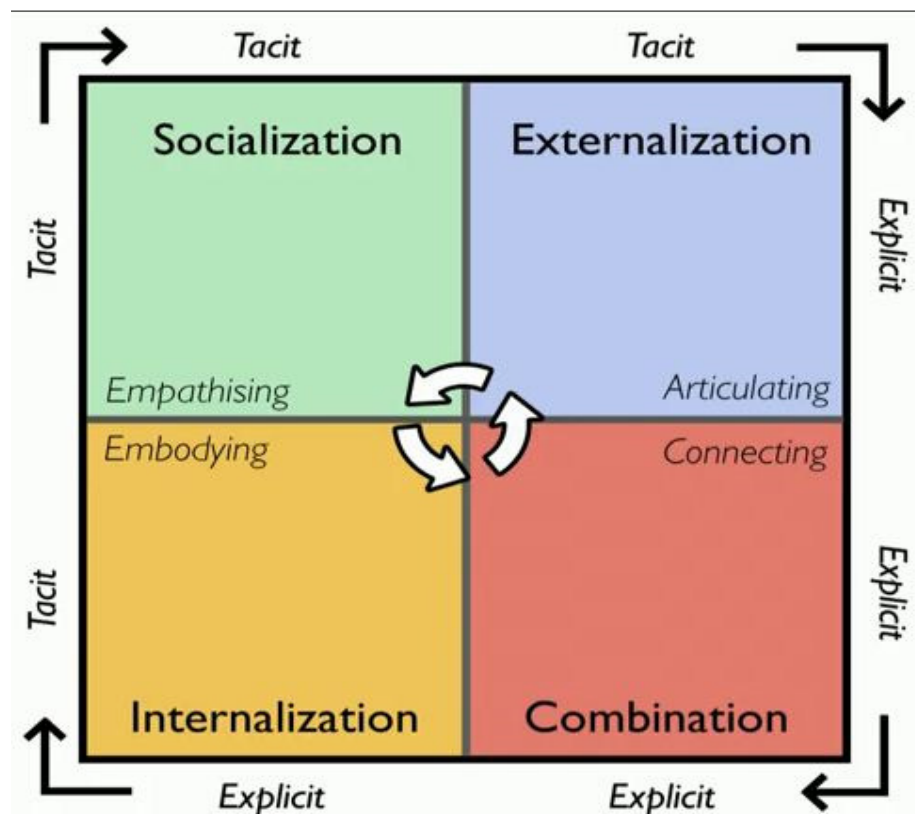


Figure 2 PDCA for Lean Marketing, Knowledge Creation, 2013

With SECI theory, Nonaka shows how organizational knowledge is created. It derives from a continuous and spiral interaction between tacit and explicit knowledge through several elements of social interaction which by each interaction the next element collects information from the previous one in an endless cycle.

The elements of the interaction between tacit knowledge and explicit knowledge, better described as conversions and acquisitions of these two types of knowledge (tacit and explicit), are:

- **Socialization** - it is the conversion from tacit knowledge into tacit knowledge which happens through social actions (i.e. interactions between individuals and experience sharing, informal communication, team work approach)
- **Externalization** - it is the conversion from tacit knowledge into explicit knowledge which happens when documenting experiences (e.g. keeping a diary, writing thoughts and opinions for later reading, brainstorming with a team, documenting information)
- **Combination** - it is the conversion from explicit knowledge into explicit knowledge which is gathering already documented knowledge and creating new knowledge from it (i.e. a thesis work, a creating a database, creating a power-point presentation from a set of documents, preparing training or educational material)
- **Internationalization** - it is the conversion from explicit knowledge into tacit knowledge which is the understanding of explicit knowledge (e.g. learned by doing, studying, attending trainings, practicing a mathematical exercise).

A metaphorical scenario to better describe the interactive cyclical process from the Nonaka's SECI Model theory:

*When a swim student receives a tip or verbal explanation from the swim instructor on what could be the good way to position the chest while breathing during the performance of a specific swimming style, the process of **socialization** happens. Then after the swimming class, the swimming student goes home and writes down in his "learning diary" about the tip and what he needs to do with his body in order to perform it as he understood. That is when **externalization** happens. Then in the next day, before going to the swimming pool for a few swimming rounds, the student takes a swimming techniques book and start comparing his notes with a similar breathing technique, found from the book, in order to improve his own breathing technique. This is the process of **combination**. And **internationalization** process happens when the swimming student arrives at the pool and starts practicing what he learned from the comparison study between the swimming techniques book and his own notes.*

Such knowledge formation cycle is normal and part of the everyday life in an IT consultancy company (or any other type of organization despite of its

business line). It is as simple as a consultant receiving a verbal explanation on new software to be used. Then being shown how the software works in practice. After that being presented with the user manual for further study on the software functionality and finally starting a hands-on practice on the software from what he/she has learned about it the prior information received and acquired.

The usage of the different metaphors above is to demonstrate that Nonaka's theory can be applied in any learning phase on one's everyday life, whether that is work-related or not. However, it is important to remember that Nonaka created this theory, having as main focus, to describe how knowledge is created and developed within an organization through the process of interactions between tacit knowledge and explicit knowledge.

In addition, Nonaka's theory, Awad and Ghaziri (2004, 33) also bring other elements which together do affect in the creation of knowledge. They define that knowledge is gained through study or experience, that it is the know-how one has or the familiarity with how someone performs a specific task. They also state that knowledge is an accumulation of elements such as procedural rules, facts or heuristics, which are better described as:

- Procedural rule - is a rule that describes a sequence of procedures relative to a main action. For example, always look at both directions before crossing the street.
- Fact - is an element of truth about a certain subject or matter. For example milk is white and water is wet.
- Heuristic - is a rule of thumb, a rule which is based on years of experience. For example, if a Finnish driver driving no more than 3 kilometres above the speed limit in Finland is not likely to be stopped for speeding.

Such procedural rules, facts, heuristics or any other element used to describe the formation of knowledge are acquired by each employee when operating at any given assignment, however when these elements are left unused after the assignment ends, they are still kept in the memory as part of new usable knowledge or are just ignored. This neglecting, when taking place, is a major waste of valuable information which affects the company.

### 3.1.6 Capturing the knowledge

As it has been discussed in previous chapters, it is important, from a knowledge management point of view, for every company to be able to capture the know-how, experiences, expertise, hence be able to capture the knowledge held by its employees for later reuse as an organizational asset. Hence, the ability to develop and support the externalization and the internationalization processes is a major competitive advantage to an organization and an important lever for it to benefit from the collective knowledge amongst its employees.

According to Awad and Ghaziri (2004, 148) knowledge can be captured through interviewing experts, where specific knowledge eliciting questions are presented:

- What do you do as first step?
- What information do you consider next?
- What constraints do you look for?

The idea behind such approach is to enable the knowledge developer (the interviewer) to have an insight of how the expert (the interviewee) performs a certain task or assignment in order to capture the know-how and best practices used while performing the given task or assignment. To better understand such interview process, it is worth quoting a passage of the book Knowledge Management (Awad & Ghaziri - 2004) which depicts a real life interview:

- “- Steve (knowledge developer): *What is your main job as a loan officer?*
- Sandra (loan officer): *I review loan applications and recommend which ones qualify for a loan.*
  - Steve: *How long have you been on this job?*
  - Sandra: *Eighteen years with this bank and 7 years with another bank before coming here.*
  - Steve: *The idea of lending and how loans are approved or denied is intriguing. Suppose you receive a loan application. Then what? I mean, what do you do next?*
  - Sandra: *Well, let me see. This is going to take time to explain. The gist of the process I follow is to mentally plug the information that the applicant provides against criteria I use that help me decide whether to approve or deny the loan.*
  - Steve: *What criteria do you use?*
  - Sandra: *The main criteria are the applicant's employment status and how long he or she has been on the job, marital status, annual salary and other sources of income, credit history, monthly expenses, and the like. There is really no set procedure, and nothing is set in concrete. It all depends.*
  - Steve: *What do you mean?*
  - Sandra: *...*

Such approach is indeed an interesting method to capture tacit and explicit knowledge an individual holds and makes use of them on a daily basis. Let alone the opportunity of the interviewer to have an insight on how an expert performs his or her assignments on daily basis.

For many companies capturing explicit knowledge is not a complicated process or a major challenge, since it requires mainly a documentation process to be set and applied. That can be done, for instance, by documenting the best practices of performing a given task, the documentation of how an issue was solved, a tip or view point on how to perform more effectively, the creation of lessons learned and/or hand-off reports at the end of performing an assignment or task, hence the sharing of the “knowing-that”.

Whereas, capturing tacit knowledge is not as simple as it is with explicit knowledge. Capturing tacit knowledge depends on the will of an individual to share it. Use of metaphors, the sharing of experiences and how one employee has learned from another and so forth are good ways to enable someone to bring out the information package which is held within, in other words, the “knowing-how”.

Aside the above mentioned, there are many ways from which a company can try to capture knowledge from its employees, however that can be a major challenge if there is not a sharing culture within the company, as discussed in chapter 3.1.1.

### 3.1.7 Storing the knowledge

In many companies, knowledge is based on information which in its essence is based on data, however if that company aims to transform this data into knowledge, there is work to be done. (Davenport & Pruzak 2000, 6).

Without the needed knowledge awareness and related work in order to make it available in a, for example, consulting company, it is almost impossible to capture, store and mine the knowledge the consultants have acquired, while working at their customer projects. It is also impossible to translate this knowledge into applicable information needed for business competitive advantage or identifying business trends.

However, all companies, including consulting companies, can easily miss the opportunity to generate such business applicable information by not knowing its hidden knowledge assets. There is no value if the company does not know what it knows. There are hidden reservoirs of relevant knowledge available in every company, however it is up to the company to explore these reservoirs, mine the relevant knowledge and store it for further use. (Anonymous 1999, 148)

After the relevant knowledge is identified and captured (tacit knowledge) or organized (explicit knowledge), it should be stored and codified for later reuse. This storing comes from documenting the captured knowledge on paper, electronic forms or many other means of storing (video, audio, photography – i.e. from black boards, flipcharts) for later access.

Naturally the storing process includes having the documented knowledge gathered and indexed on a knowledge repository or knowledge database in an organized way so to better enable its sharing and an easy and quick retrieval through a user-friendly access route. This data storing may include databases, hierarchical trees under which information should be placed or free text data including hash tagged key words (e.g. #knowledge) in order to enable fast retrievals (more on that will be discussed on the knowledge mining related chapter). It is important to notice that the knowledge, in order to be replicable, needs to be available to everyone, thus such knowledge databases cannot be placed in a local computer but in a server which can be accessed by all the necessary interest groups (knowledge seekers).

The storing process also includes the knowledge input from an individual, be that the person which is the source of the knowledge to be stored or a person who is responsible for gathering documented knowledge and inputting it, in a systematic way, into the knowledge database. And such input work does not have to be a burden since there are many technological levers for accomplishing it.

There are many supporting technologies, such as intranets, content management systems, e-mails and so forth which when combined together can generate an easy, yet, powerful lever for any company to store knowledge (Murray 2000,172). That is definitely important, since those persons (employees, consultants) which are the source of the needed knowledge have as their core responsibility perhaps something else than spending most of their time storing knowledge, thus the inputting process has to be as simple as possible and avoid any complexity or time consumption.

Given the time constraint of the consultants, the storing process does not need to be a separate task or a specific task which needs to be done, for example, once a week. Such process can be integrated to become part, as well, of the other daily tasks one has. For instance, when a sales person prepares a sales presentation for a certain customer, that presentation instead of being saved locally at ones computer could be stored into a repository accessed by the sales team. Or when creating technical specifications, instead of having it stored locally at the engineer's computer that could be stored on a repository which is accessible to all the engineers at the company. The same is valid for customer contracts, customer proposals, best practices of a team, best practices of a project, a FAQ list by the IT support team and the list continues. The figure 3 describes better the benefits of having a collective and public storage for such information above mentioned.

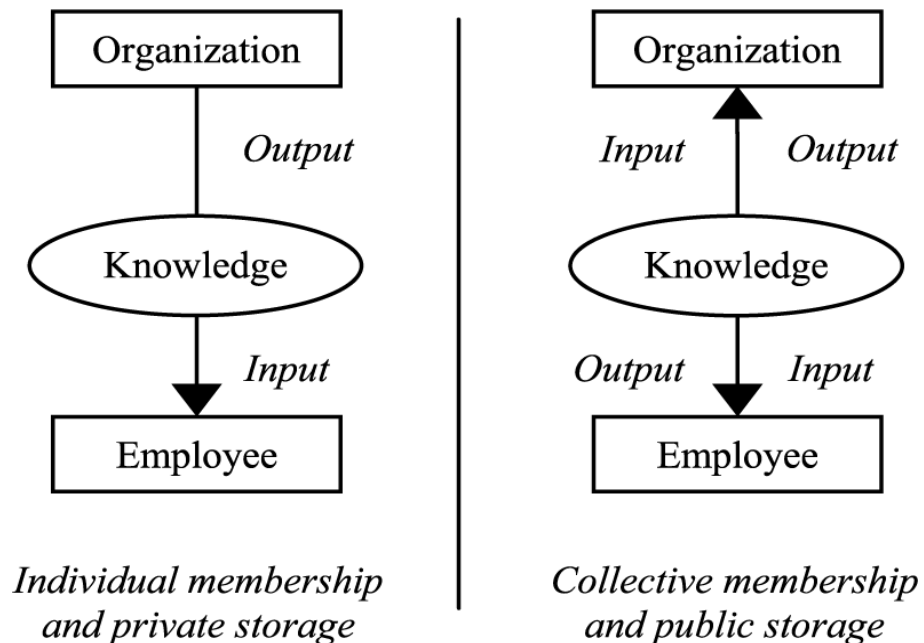


Figure 3 Magnier-Watanabe, R. & Senoo, D. 2008, 21

In order to have and store the information in singular and harmonized form, it is important to have a knowledge codification rule or guideline to backup the information storage process. As according to Awad and Ghaziri, 2004, 210) knowledge should be organized and codified when stored, and that should be done before it is accessed by company's personnel. It is an important process which enables the knowledge seeker to find the sought subject on a logical and easeful way, since there is no time to waste when knowledge is needed in order to proceed on an important assignment or on a daily routine task.

Davenport and Prusak (2000, 69) suggest four important principles in order to make a successful knowledge codification process:

1. It is important that the company decides the business goals for the codified knowledge, what are its business targets. As an example, a consulting company may choose to codify the knowledge which involves their customer environments in order to identify business trends.
2. It is important that the company is able to identify the existing knowledge, which may generate from various different forms, in order to achieve the business goals.
3. The knowledge must be evaluated and analyzed for its usefulness before codifying it aiming to achieve a business goal, and such evaluation should be done by knowledge managers.
4. The people codifying the knowledge should identify the best way to codify and distribute the knowledge so to keep its initial essence.

Therefore, according to Davenport and Prusak, no time is to be wasted on irrelevant knowledge and only specific knowledge should be stored and made available for others within a company.

### 3.1.8 Mining the knowledge

As discussed in the last chapter, knowledge must be stored in an organized way so that it can be retrieved by knowledge seekers. Without getting into details in the complexity of data mining per se (cluster analysis, neural network techniques), the author shall use the examples of knowledge (data) addressed on the last chapter (sales presentations, FAQs, contracts, proposals...). That is to keep the same line of thought and in addition taking into consideration the scope of this thesis and that it is being written for an IT consultancy company. (Merriam-Webster, Data Mining, 2013)

In order to turn the vast amount of data, generated on an everyday basis from the employees, into knowledge the organization needs to have an organized way to store the data into the knowledge database (as explained in last chapter). Such organized way can be created by applying a knowledge map system or indexing hierarchies (hierarchy trees) from which data



should be of easy access based on key terms (often based on topics of interest) such as “business unit”, “department”, “business sector”, technology, “customer”, “service”, “competence area” and so on. Such terms provide a common understanding throughout the organization which enables, more effectively, start points for the knowledge seeker. See figure 4 for a better understanding. Organizations can also try to become innovative and take advantages of new social media influencers and tools by adopting those into their own processes. For example creating a method for storing the data which is based on hash-tagging keywords within documents, e.g. #java, #projectplan, #testplan, #RFP, #customerx, so that the knowledge seeker would be able to identify the information he is looking for from different, yet related, sources rather than from a single file (which could be the case of the hierarchical three). (Wikipedia, Hashtag, 2013). Naturally such process requires a due codification process and guideline to be in place so that needed hash-tags are known and made available throughout the data stored.

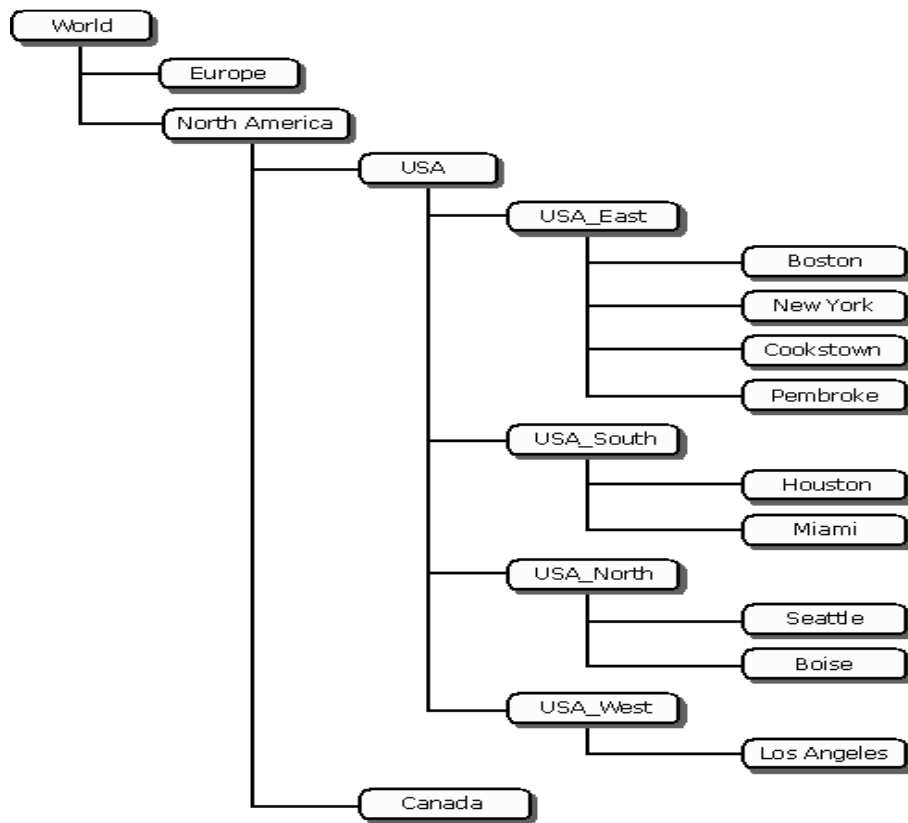


Figure 4 Microsoft, Multidimensional Schemas, 2013

The codification process can be as simple as basically reviewing information before making it available to others or as sophisticated as making information available through intelligent (often times complex) knowledge maps involving the location of important knowledge data within the organization and showing its location through a map. Such map should be followed by the knowledge seeker when trying to fetch needed knowledge. In other words, it is a guide to lead the knowledge seekers where to go, inside an organisation, in order to find what they are looking for.

Knowledge map is a useful tool which supports the data retrieval from the knowledge database in addition to showing, in explicit form, what kind of tangible knowledge is available within all organisational areas and departments. It can be compared to the map of a city which shows where places are (hospitals, schools, theatres, museums, etc.) and guide the reader on how to get there (Davenport & Prusak 2000, 72). The main goal in these knowledge maps is to provide to the knowledge seeker the opportunity to start the knowledge search from the correct start point and guide the search in the direction of the correct end point, which in other words, to find the exact knowledge which is being sought. It is definitely a major business advantage for a company to have the capability of advertising internally its collective knowledge and have levers to connect the right knowledge to the right people at the right moment.

Hence, there are many ways to mine the knowledge and those are dependent on how the organisation wishes to represent the knowledge within its boundaries. Hierarchical trees, hash-tag process, knowledge maps etc. can fit perfectly to many organisations and at the same time they might not be the very best tool for other organisations since, it all depend on how each organization wishes to represent knowledge within their departments and or boundaries.

At the end of the day, it is important that organisations are able and prepared to identify, codify, share and use the collective knowledge. In addition they should be able to apply the correct knowledge management process, with the aid of knowledge professionals and artificial intelligence. When that is done well in harmony, the goal of creating a competitive business advantage through knowledge management becomes much more achievable.

### 3.1.9 Transferring the knowledge

There are several techniques widely used for transferring knowledge and making it absorbed by the receiving parties, for example, any audio-visual appliance whether that is a blackboard, a flip-chart, a power-point presentation, a training session, news-letters, documents, working together, a “how to do this” question, job rotation practices, and so forth. The technique for the knowledge transfer will, naturally, depend on the content of the information to be transferred.

There are, in addition to the above mentioned, also information sharing tools which are used in every day basis within a company such as meetings (of several types), e-mails, intranets, messenger software, wikis, social media type tools and the long list continues. These different ways and, nevertheless, levers do cover the transfer of both tacit knowledge and explicit knowledge. Naturally the scope varies when using these levers above, since these can also be used merely for bringing availability to the knowledge and not having the core intention of making sure the knowledge is being absorbed by the receiving parties. For example, company guidelines placed somewhere within an intranet which perhaps many employees have never

even seen those... and when such unfortunate situation is reality in an organization, it cannot be labelled as a knowledge transfer since there is no confirmation or prove that there is an absorption of knowledge from such information displayed.

Such cases of non-absorption of knowledge can be easily noticed when employees keep on asking about something which should already be available for them in the organization's intranet. Thus there is a major performance inefficiency to be analysed by the company if such situations become a trend (which does remove the possibility that the inefficiency is from the employee side).

The type of knowledge transfer should depend on the scope of the message to be passed, as it can involve tacit and explicit knowledge transfers. Whether it is a training session exploring the tacit knowledge regarding a new software to be applied and taken into use widely within an organisation or the writing of an organizational blog in which employee's share their thoughts and opinions (which often times are generated from already codified tacit knowledge) regarding a certain matter under discussion.

Therefore, in order to evolve on such knowledge transfer matter, organisations need to adopt ways to identify and label the types of knowledge to be transferred. Therefore becoming to decide what could be the best channel in order to, in an effective and simple way, pass the knowledge forward to others and naturally record the new knowledge which may come from the very same transfer (i.e. feedbacks).

Awad and Ghaziri (2004, 250) indicate three important factors to take into consideration when transferring knowledge:

1. What is the origin of the knowledge:
  - Books
  - Articles
  - Databases
  - Documents
  - Lessons learned
2. The tools to transfer the knowledge:
  - Internet
  - Video conferences
  - Training sessions
  - Teleconferences
  - Meetings
3. The destination of the knowledge:
  - A team
  - An user
  - An apprentice
  - A manager
  - A technical
  - A customer

These factors are strongly affected by initial conditions and variables and how they interact together. For example what is the strategic intent behind the specific knowledge transfer, what is the culture, what is the trust between the parties, what is the form of knowledge, what is the learning capacity of the receiving party, what is the transparency level used and so on (Rolland & Chauvel 2000, 228.) Hence it is safe to say that the conditions and variables existing within the environment of every organization does affect in a positive or negative way the results of a knowledge transfer. Therefore it is necessary that each organization recognises its internal culture, the good (i.e. sharing) and the bad (i.e. intolerance for mistake and needs for help) sides, and its overall environment in order to define how to optimize the means and the outcome of such knowledge transfer process.

Therefore, in order to improve the competitive advantage of an organization, the knowledge has to be correctly channelled to be efficiently transferred.

In order to ensure that the right knowledge is being transferred to the correct people at the right time, organisations need to be fully aware of the factors surrounding the transfer in addition to what type of knowledge transfer is being planned:

- **Serial knowledge**
  - Frequent and non-routine knowledge transfer type, involving tacit and explicit knowledge, where the knowledge is transferred through changes of environment. For example, the knowledge gained by an IT consultant performing an assignment in a given customer is transferred to the next customer assignment.
- **Near Transfer:**
  - Frequent and routine knowledge transfer type, involving explicit knowledge, where knowledge is transferred through routines in an environment. For example, the knowledge acquired by an assembly line employee from doing a frequent and repeated task can be reused by other employee doing similar work.
- **Far transfer**
  - A frequent and non-routine knowledge transfer type, involving tacit knowledge, where the knowledge is transferred through experience sharing. For example, a team that has gained knowledge from doing a non-routine task is made available to other teams doing similar work in another part of the organization.
- **Strategic transfer**
  - An infrequent and non-routine knowledge transfer type, involving tacit and explicit knowledge, where the knowledge is transferred through strategic cooperation. For example, when the collective knowledge of the organization is needed

to accomplish a strategic task that occurs infrequently but which is critical to the whole organization.

- **Expert transfer**
  - Infrequent and routine knowledge transfer type, involving explicit knowledge, where the knowledge is transferred through the sharing of expertise. For example, a team facing a technical question beyond the scope of its own knowledge seeks the expertise of others in the organization. (Holden 2002,72).

Thus, when addressing and analysing the initial conditions, the organization culture, the several transference factors, the knowledge transfer types and techniques, an organization has the opportunity to optimize the knowledge transfer in order to achieve the desired output, therefore creating a positive result when the goal is to create knowledge and improve its business competitiveness in the market.

### 3.1.10 Using the knowledge

The transfer and absorption of knowledge has no value if the received knowledge does not result in anything new (for example the development of some new idea) or lead to some change in behaviour of the receiving part. It happens quite often that a person receives and absorbs new knowledge but for several reasons leaves the newly acquired knowledge unused. (Dav-enport & Prusak 2000, 101)

Hence, when knowledge is transferred and received however not used, it is a major pitfall inside any organization since it is an investment when knowledge transfer process is activated. It consumes time, effort and naturally money. When formally transferring knowledge, the organization is looking for harvesting the results of this new knowledge acquisition.

Therefore, when knowledge is transferred and received, related actions are expected to be taken and results are expected to be seen according to the acquisition of the new knowledge acquired. There is no point to train someone if that person will do nothing about it after the training. Therefore it is beneficial for the company to monitor the results of the knowledge transfer by seeing whether the new knowledge is being applied by the receiving part.

There are several factors which inhibit a person from acting according to the new knowledge received, even when knowing what to do. That can be pure shyness, pure attitude of refusal, sometimes fear to commit mistakes (quite normal in organizations where mistakes are not tolerated and punished), low quality of the knowledge transfer exercise, inappropriate content or method used and so forth. Thus the organization has to make sure that important knowledge should not just be put available to all but as well that it is being absorbed by the employees and generating results from its acquisition.

In order to guarantee the results, the organization is responsible for removing the inhibitions, which may be present inside its environment, limiting the knowledge usage. That can be approached by analysing knowledge transfer results and evaluating the situation on what transfer worked well and what did not work, or who absorbed it and who did not get it, what where the inhibitions and so forth.

When approaching the potential inhibitions, the company has the chance to take corrective actions based on the found pitfalls. This does not mean, by any means, any form of punishment, but to be able to talk things through and find plausible solutions in order to solve any issue in the most constructive way and acquire the desired and beneficial knowledge result from the first place.

Therefore, summarizing what has been discussed in the chapters above, in order to bring (through knowledge) a competitive business advantage, knowledge needs to go to the following process:

1. Identified
2. Captured
3. Stored
4. Mined
5. Transferred
6. Used

### 3.2 Business Trends

Trend is a change pattern in a market, process, business, output, condition and so forth. (Business Dictionary, trend, 2013)

Business trends are identified through retrospective process from which company perform an analysis on the past actions which resulted into success and performance pitfalls within a given time frame. That includes constant analysis of their competitive assets (key success factors) and how these have affected the competitiveness of the company throughout a defined period of time. The results of such analysis may impact in future business goals that will be measured by performance metrics (KPIs).

Analysing financial trends, running constant external analysis, analysing what have been the customer motivations and their unmet needs, are, amongst others, important means for an IT consulting company to identify change patterns throughout a given period of time which were beneficial or not to business.

### 3.2.1 Business trend analysis

Trend Analysis is comparative analysis of a company's financial ratios through a given period of time. (InvestorWords, trend analysis, 2013)

Financial ratios are important indicators for business trends and are widely used as performance evaluation tools since most firms have sales targets and profitability targets as the main elements of their business objectives. (Aaker 2001, 112)

Such ratios are detected by performing constant financial data analysis within a company. Financial ratios are important to be measured since they have direct impact on the business prosperity and performance. They are usually results of constant financial data analysis being compared to past historical finance data from the company. (Investopedia, Financial Analysis, 2012)

There are several ways to analyze financial data, and one of the most common one is ratio calculation where a company compare data against competitors or against own performance during a given period of time.

There are several ratios (ROA, ROI, EVA, Profit/loss and such) which could be performed in order to identify values and financial trends which are important to be monitored in order to guarantee the expected business flow and also to trigger new strategic actions in order to improve low figures or unmet targets.

Important profitability financial trends, which affect directly on a company's performance, are important to be monitored and measured. Such trends can be exemplified as:

- Sales
- Cost of goods
- Overheads
- Cash flow
- Net Profit

(Business and industry portal, Choosing trends and results to analyse, 2013; Analysing trends to improve business, 2013)

Naturally these, above mentioned, ratios and trend areas are highly affected by other internal and external trends resulted by several factors behind a given process (i.e. quality, timing, delivery capability and so forth) or a given market affected by how customers regard a service or product offered which has a direct impact on the profits.

As according to Aaker (2001, 113) profits are important indicators of business performance, since it is the key element for sustainability and growth. Profitability, in reality, is the basis for any profit organization to survive and grow in a fiercely competitive market.

Therefore it is important to identify and monitor trends which are affecting, either positively or negatively, the basis for a company's business objectives, since these positive and negative effects will be the source for evaluating whether strategic changes are needed or not.

However, financial ratios analysis is just one way of making a business trend analysis. And in order to identify business trends through IT consultants, the case company will need to understand that business trend analysis is not limited to analysing financial data. It can be an endless process of analysing and comparing different types past data from a number of sources and all information derived from that analysis is relevant in their respective perspectives. The business trend analysis can have different scopes and targets in addition to being internal and/or external analysis. This later can be of large extent involving a certain industry or whole economy of a country or continent and so on.

The business trend analysis has the goal of helping an organisation to forecast the direction it would be moving to, if adopting or continuing taking a certain business practice. It helps the organisation to better understand its key performance indicators and, in consequence, understand where it is doing well and where it is not doing well. The analysis of data can be as simple as sorting and categorizing and as complex as creating "what-if" scenarios. Nevertheless, from such information, the organisation can have the correct strategic decision of continuing the practice which is leading to good performance and stop or modify the practice which is leading to poor performance. (Wilson & O'Connor 2000, 74.)

Hence, business trend analysis is a collection of relevant information with the intention of optimizing a certain target area i.e. service, delivery, innovation, market readiness, competitiveness and so on. This information is not limited to finance and can be related to different sources. Such sources can be patterns in the company's competitive advantage, patterns from key performance indicator analysis, external analysis, patterns in customer motivation, patterns in customer needs and service variations and so on. These sources will be further discussed in the next chapters, since they provide the type of information which is also acquired by IT consultants in the field. By analysing these sources the case company will be able to review the trends in its business performance which are not visible on day to day performance figures.

Thus, there are several sources from which a business can perform a trend analysis and naturally benefit from such analysis. Therefore, once the trends are identified, the organisation has the opportunity to decide which business trends are to be acted upon. Naturally, the interest lays on those which are affecting or being affected by performance. Thus the organisation will focus on which trends are affecting their business in a positive or negative way and prepare strategic solutions in order to address such trends.



### 3.2.2 Key success factors

Key success factor measurement analysis in their variation is a good source to identify trends within a business. Key success factors are any competence or competitive asset which companies need in order to compare or differentiate from competitors and win market share. As an example, key success factors in the luxury hotel business can be quality of service, sophistication, ambience and any other aspect related to image. (Aaker, 2001, 23)

In an IT consultancy company, a key success factor might be the ability to deliver the exact needed competence, within a short notice, to a requesting customer. That can be challenging due to high degree of consultant utilization within consulting companies (i.e. consultants should be in the field performing customer assignments rather than on stand-by mode waiting for new assignments). Thus another key success factor might be the dynamic capacity of optimizing resource balancing since it is a must have capability in order to make sure the customer is attended, right away when it needs. Therefore diminishing the risk of making the customer wait and drive it to look for a solution (competence) from a competitor (another consultancy company).

Another example of a key success factor for an IT consultancy company is the delivery capability, in which a company is able to attend to all the customer needs, rather than solely on a specific IT competence area. That generates a more solid relationship with the customer, and a more flexible business for both parties, given the possibility of service package deliveries. For example a project, in which the consulting company can invoice from the customer an entire project delivery service as a whole rather than invoicing for specific competence roles separately, thus generating overhead costs and risk of shorter cash flows. Naturally such key success factor is built by several elements which in synergy deliver the capability for a company to be able to sell projects in a profitable way. (Aaker & McLoughlin 2010, 73). These elements are many, however in order to better explain the statement, it is worth looking at some of these elements forming such key success factor in and IT consultancy company selling projects:

- Project management skills – to be able to plan and run the project within schedule and budget, and to take immediate corrective actions on deviations from the planning. Including systematic follow-up methods and follow-through approach.
- Effective resourcing – to be able to assign the correct competences to the several roles and responsibilities forming a project. Naturally that is strongly connected to the delivery capability of the company as discussed in the above paragraph.
- Effective communication skills – to be able to pass and retrieve needed information amongst all the interest parties and key people. In addition to making that information available and easily accessible by all interest groups.
- Effective delegation skills – to be able to deliver the tasks to the correct people assigned to perform at the project.

- Involvement skills – to be able to involve the customer as much as possible, in order to reassure the harmonization between expected and actual results.

There are big risks when the elements above are non-existing in an IT project run by a consulting company. The absence of these elements can result in exceeded budget (exceeding costs usually are responsibility of the IT company if not previously agreed with customer on deviations from planned), non-kept schedule, customer dissatisfaction, short term customer relationships and so forth.

Nevertheless, these suggested key success factors for an IT consulting company are just some examples, as there can be many more. Thus, in summary, knowing the business and being able to deliver and perform in excellence does enable a company to make profitable business out of customers' satisfaction and customers' preference (amongst competitors) which, in other words, such capabilities can be described as important key success factors for a company to stay unique in the market or market segment.

Therefore, business competence, speed, quality, trust, liability and delivery capability are, amongst others, key success factors, that when well managed and deployed effectively are a major fuel for success in an IT consulting company quest to remain ahead of its competitors in the market.

### 3.2.3 Competitive advantage

Competitive advantage varies in its essence according to the environment surrounding an organization, therefore analysing the variation on the elements (skills, resources...) of competitive advantage can help the organization to identify trends.

In order to win competitive advantage and perform better than competitors, any organization needs to deploy superior skills and superior resources. Such skills and resources are, thus, result of past investments aiming to improve the organization's competitiveness and business sustainability amongst its competitors. (George S. Day 1990, 128.)

Naturally, the uttermost goal of any organization is to achieve a sustainable competitive advantage, which is a long lasting competitive advantage based on strategic synergies between several elements within an organization which create a value which the competitors do not have. (Aaker & McLoughlin 2010, 134) These synergies are better described in figure 5.

### A Model of Competitive Advantage

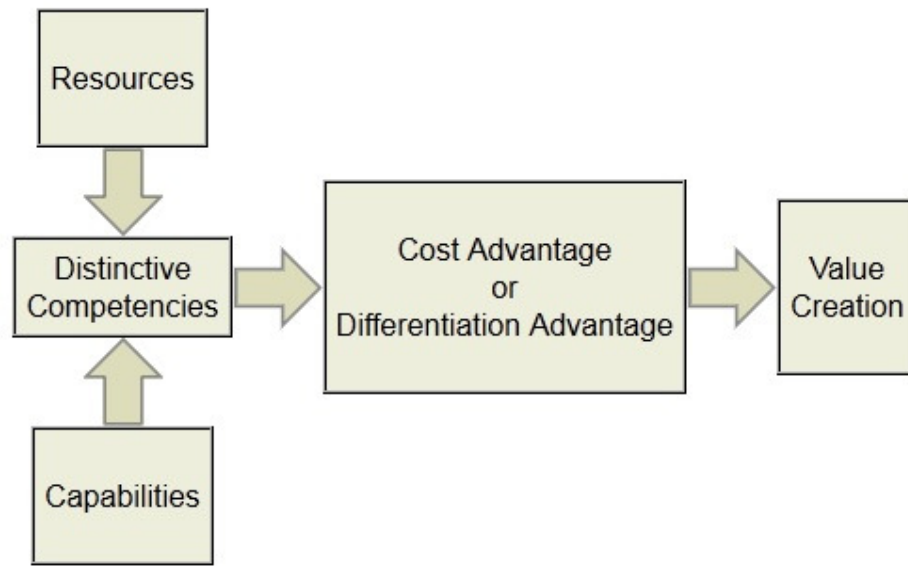


Figure 5 QuickMBA, Strategic Management, Competitive Advantage, 2010

The elements for achieving competitive advantage can vary. However, most companies concentrate on strategies focusing on resource, competence and capability optimization, resource balancing, cost effectiveness (trying to produce at lower costs) and so forth.

Such strategies' aim is to be able to deliver the same services or products than a competitor does however faster and with lower prices. Or then taking the saved money, from the cost reduction, and invest it on added value differentiation and innovation and having these implemented to the services or products, in discussion. Such investment aims to create an ability to deliver to the customers more value than the competitors are able to deliver with similar prices, thus achieving a competitive advantage.

A competitive advantage is based on providing forms of customer value with excellence amongst others. These forms of customer value are based on customer perspectives, which can be interpreted as being able to deliver goods and services, to the customers, which are better, cheaper and faster than the competitors. These actions correspond to forms of competitive advantage known as differentiation, cost leadership and quick response. (Miller 1998, 14-15)

Hence, there are drivers which enable a company to stay ahead of its customers, such drivers have to be maintained and constantly improved in order to keep their sustainability within the fast changing and fiercely competed market.

### 3.2.4 Key Performance Indicators

KPIs are performance metrics used by organizations to address specific business activities associated to targets or goals. These targets or goals are used to verify whether these specific business activities are performing according to planned or not. Through KPI monitoring, organizations are able to have the required insight of an activity performance and identify change patterns or trends within those which may result on remediating actions related to performance and its optimization. (IBM Redbooks 2005, 12)

Each and every company depends on performance in order to survive in the business market, therefore performance can be considered a critical factor for any organization. Hence, companies are required to continuously work on improving performance, however in order to improve the performance the company needs to be able to define the sources of its performance first, otherwise any trial of improvement process is useless.

Therefore, the organization has to be able to define what it needs to measure in order to improve a certain target. As a simple example, the same swimming student learning a new breathing technique in chapter 3.1.6 decides to measure her KPIs in order to qualify for a swimming competition. The student decided that in order to achieve the time qualification requirement, she needs to improve the swimming speed and raise the following question “what do I need to measure in order to improve my speed?” The answer to the question is “to evaluate and measure the elements ‘time’, ‘distance’ and ‘technique’ ”. Therefore time, distance and technique used are the KPIs the swimming student will need to measure in order to improve the speed and thus be able to qualify to the race.

The key performance indications, in order to be correctly utilized, need to be evaluated against a defined target (Aziza & Fitts & Kaplan 2008, p66). The goal for the KPI's evaluation is to determine what is going wrong and what is going good within the organization so that the company will be able to take corrective measures in order to improve its performance, either by applying major changes or small adaptations, naturally depending on the results of the KPI's evaluation.

Once the KPIs are set, they should be constantly monitored in a systematic way depending on the scope of the target to be evaluated against. For example, in an IT development project, while on the quality assurance phase, the key performance indicators are measured in daily basis, in order to keep constant track of the performance of the team. Some of the monitored KPIs can be exemplified as:

- Number of designed test cases per test engineer
- Number of executed test cases per test engineer
- Number of detected defects per test engineer
- Number of fixed defects per developer
- Number of verified defects per test engineer

The above KPIs, or performance metrics, are widely used in order to measure the performance of the project team during the quality assurance phase in a project, roughly speaking. Naturally, there are other quality assurance related metrics which are focused on measuring the quality of the work done and the quality of the product being developed. Therefore, it is important to mention that the project KPIs are dependent on the project type and the applied project methodology. However, despite the methodology, performance indicators in a project are often linked to the output of the project members.

Thus, as in an IT development project, companies are also constantly measuring the performance of their business drivers, in order to find issues to address and areas to be improved.

### 3.2.5 External analysis

External analysis are an important lever for identifying business trends, it consists on the examination of relevant elements which are external to the organization. The analysis have the aim of identifying opportunities, trends, threats, signals or any other element that would enable the organization to create strategy or make strategic choices. (Aaker 2001, 19)

Through an external analysis, a company or any organisation will have the opportunity to evaluate what has affected, is affecting and might affect its performance and profitability, therefore such analysis will provide grounds for new strategic decisions regarding the present and the future of a given target area or existing service or product.

The external environment elements, while being analysed are usually grouped within different dimensions. These dimensions usually vary in number depending on the detail level of the analysis and its scope.

According to Miller (1998, 73) there are six broad dimensions: *demographic, sociocultural, political/legal, technological, macroeconomic, and global*, whereas Aaker (2001, 19) has a more detailed approach and groups the external environment elements within 4 dimensions to be analysed:

- Customer analysis:
  - Unmet needs, segments and motivations.
- Competitor analysis:
  - Strengths and weaknesses, objective and strategies, culture and identity, performance and cost structure, strategic groups and image.
- Market analysis:
  - Key success factors, trends, profitability, cost structure, size, projected growth, distribution systems, entry barriers.
- Environmental analysis:
  - Demographic, economic, technological, governmental, information-need areas, scenarios.

The external environment can be majestic in its size. Therefore the grouping and usage of such dimensions will help the company to better focus on the purpose of the external analysis to be made. That is meant to avoid a risk of investing resources onto an information quest which can result on a large amount of irrelevant information to which might consequently do more damage than help on any strategic decision to be made correctly.

Miller (1998, p 73) enlists the different strategic influences the external environment can bring to an organization:

- It provides opportunities
- It hold threats
- It defines the competition rules amongst companies in a given industry
- It influences the availability of resources
- It influences how investments are done and naturally their results

Hence, every company should be fully aware of the environment it operates in. Any company's strategies should be reflective to its external environment with focus on any opportunities and threats, in other words, the external environment elements should be taken into consideration in any company's strategies. Such monitoring activity on the external environment can play a major role on a company's performance and financial situation. Naturally bad management and bad strategic decisions are also major factors affecting the business situation of a company.

### 3.2.6 Customer motivations

What are the fundamental facts behind the purchase decision of the customers? How can an organization best satisfy its customers? The first step in order to answer to such questions is to be customer oriented and be able to notice trends, create and adapt strategies based on the customer business trends.

Several companies are always trying to identify what is behind their customers' purchase decisions in order to acquire a new customer or increase sales with an existing customer. However, in order to keep on track with the scope of this thesis, the author shall focus on IT Consultancy Company's "usual" approach when trying to identify the customer's purchase trends.

There are several strategies in order to identify what are the customer motivations. One approach is to run a customer motivation analysis where the company create an iterative process. The first iteration is to identify motivations, the second iteration is to group and structure motivations, the third iteration is to assess motivation importance and the final iteration is to assign strategic roles to motivations (Aaker 2001, 48). Another approach is to use a Qualitative Research which is pretty much the same approach used by a student when writing a thesis based on a qualitative research.

Qualitative research is indeed a good tool to be used, when trying to understand the customer motivation, because it involves several ways to fetch the needed information. These ways can be customer interviews, customer case studies, focus group sessions, customer visits and so on, all having the sole scope of searching for the real customer motivations which may not appear in metrics and lists. (Aaker 2001, 50)

Therefore, a qualitative research is indeed a very powerful tool to be used in order to understand the motivations behind the customer's purchase decisions. However it also demands a substantial time and resource allocation which some small and medium sized IT consultant companies might not have available due to their low overheads and high employee (consultant) utilization level required in order to keep the business targets. Another limitation may be the fact that the customers might not be so open when it comes to sharing their thoughts and motivations.

In IT consulting business, at least for small and medium sized IT consulting companies, the customers are not always as transparent and open as it is desired by the IT consulting companies in order to develop their strategies. Thus these companies are often trying to figure what drives the customers' purchase decision, what are the motivations behind their decisions. That naturally depends on several factors and environmental elements, however when not having enough knowledge on these factors and elements, IT consulting companies search for their answers based on its own business and customer knowledge.

An usual way to create strategies in order to influence a customer motivation to buy is to try to answer to some questions and consequently act upon them:

- What type of bargaining power the customer has?
  - The customer bargaining power is always a risk, even more when price or terms of payment are under discussion, since not only in IT business but anywhere else the customers are always trying to push the prices down and pay as late as possible. IT companies need to be aware of their tolerance on the profit and cash flow ratio in order to decide whether to go or no go for a certain case when customer is "pushing too much" on the negative side.
- Who are we competing with?
  - Customers are price conscious, however are also interested in quality, reliable services and flexibility, therefore knowing the competitors helps when trying to win a customer.
- What relationship do we have with the customer?
  - Defining customer relationship levels is important in order to acquire and maintain the business flow with the customers. Naturally flexibility is reflected on the current customer value to the company.
- What are the best terms the company can supply to the customer?

- Customers are always looking for better terms of payments, hence, in order to be able to best meet the customer expectations, it is important that companies are aware of the need to be able to constantly optimize the profitability and cash flow ratio to its maximum without compromising the set business targets.
- What is the best price the company can make to the customer?
  - Price elasticity in IT consultancy business is mostly based on profit targets and market prices rather than the quantity vs. price ratio. Unless the subject in discussion is an off-shoring strategy (e.g. India, China). Therefore, depending on the type of customer, the type of consultancy service required and also on the type of resources available, a good strategic move in order to win a certain case is to focus on the resource sales margin rather than on the market prices.
- How can quality be improved in order to increase customer satisfaction?
  - Customers are quality conscious and thus being able to demonstrate and deliver quality services at all levels is a major winning factor to an IT company to acquire or maintain a customer. Thus, even if the core consultancy service is already being delivered at a level of excellence, the possibility to deliver extra value to the customer by adding an active service management process and constant customer attention does bring positive results on future customer purchasing decisions.
- How to strengthen customer relationship?
  - It is necessary for IT consulting companies to be able to be not only sales oriented but customer oriented, which means the capability of constantly readapting its services in order to keep the customer satisfaction and business flow is a must. Customers enjoy the opportunity to be able to trust the consultancy company's delivery capability at all means. It is important to demonstrate to the customer that no matter the market situation, the consultancy company will be there when the customer needs. Such capability strengthens the trust and relationship between the companies. Naturally, only companies enjoying a strong economic situation based on responsible business strategies (i.e. customer diversification) can really afford having such approach.

Therefore, when the customer motivations to buy are not completely transparent to an IT consultancy company, the ability to answer and act upon to certain customer oriented questions can be a decisive factor on the customer decision making consequently resulting on winning a new customer or strengthening an existing customer relationship.



3.2.7 Customer Unmet Needs

An unmet customer need can be described as the type of need which is not being met by the existing offerings. (Aaker 2001, 52).

The unmet needs or unspoken needs of a customer are a good opportunity for a company to expand its operations in service or product areas in addition to strengthen its business. These unmet needs or gaps are filled by the identification of opportunities and actions related to those, as an example the differentiation and innovative strategies when a company demonstrates to a customer the beneficial result of applying a new service or product in order to transform a certain degree of complexity into a considerable degree of simplicity for that customer. The figure 6 describes how these opportunities are identified based on what is the type of the customer need (articulated and met, unarticulated and unmet) and what is the opportunity level (higher benefit from differentiation, lower benefit from differentiation) for further differentiation to be applied.

<b>Benefits From Differentiation</b>	<i>Higher</i>	Strategic Opportunities	Transformational Opportunities
	<i>Lower</i>	Improvement Opportunities	Latent Opportunities
		<i>Articulated and Met</i>	<i>Unarticulated and Unmet</i>
		<b>Customer Need</b>	

Figure 6 Stuart Cross, Mind The Gaps, 2010

The opportunities based on articulated and met needs are:

- Improvement opportunities, which are opportunities based on improving what already exists. As an example, the high definition flat screen TVs against the tube TVs. The innovation value is yet low given the fact that most channels are not broadcasted in high definition yet.
- Strategic opportunities, which are opportunities to find better ways to meet the already existing customer need. For example, the IPTV taking advantage of the internet and delivering varied embedded services which offer a whole bundle of new features and simplicity for the end user.

The opportunities based on unarticulated and unmet needs are:

- Latent opportunities, which are opportunities that change as the environment around it changes. These can be of less value at a period of time and turn into high value opportunities over the time. For example, low mileage cars had a lower value in the USA during the era of the muscle cars with huge engines when the price of the gasoline was very low. That has changed over the time and low mileage cars are of high value nowadays in the USA given the current high prices of fuel.
- Transformational opportunities, which are opportunities to take advantage of very important yet hidden customer needs and creating new need categories. For example, the creation and introduction of Walkman to a society ruled by home stereos.

According to Stuart Cross (Morgan Cross Consulting, 2010), there are simple ways to in which one can identify unmet needs of a customer and create transformational opportunities to offer:

- Customer frustrations - what are the customer frustrations when utilizing a product (yours or your competitor's)?
- Compromises - what are the compromises the customer is willing to do in order to achieve a target? For example, several workarounds adaptations done by a customer in order to achieve a target or deadline.
- Haves and have-nots – what can wealthy customers afford that less wealthy customers cannot? For example, open source solutions are a great opportunity for IT companies to deliver similar services to all customers despite of the costs.
- Technology and customer convergence – what are the emerging changes in technology which could be combined to your existing solutions in order to create and meet new customer needs? For example, mobile and cloud solutions for IT consulting companies.  
(Stuart Cross, Mind The Gaps, 2010)

### 3.3 Employee incentives

Almost anyone in an organization has the capacity to perform better. However, in order to achieve a better performance from the employees, the organization needs to be able to influence the employees' behavioural drives to improve the way they do things. Therefore organizations should have performance improvement incentives. (Fisher 2008, 2)

Naturally, employees are hired to perform with excellence, however in reality that is not the case given the several factors, around the employees, influencing motivation and commitment levels. It is important that organizations are able to provide incremental benefits for employees which are performing with excellence and working hard in pushing the business forward. These are the employees which take overall responsibility on the business and take intentional actions in order to cooperate with business development and improvement, despite of his/her role at the company.

These types of employees can be anyone in an organization, it is just a matter of the organization to understand who it is trying to motivate and find out how to trigger such actions and attitude in each of them. Naturally for this to work well, the company needs to be able to demonstrate through recognition that the employee is being rewarded for something he/she is doing very well. Such positive impact will depend on what is the basic situation of the employee in the company, in other words, if employee is not satisfied with his current work situation (e.g. low basic pay) then whichever incentive or recognition might not influence his/hers behavioural drive to perform better or deliver more. According to Maslow's theory of the hierarchy of needs, fancy incentives, benefits, prizes, recognitions and so forth mean nothing if the basic needs of the employee are not being attended. (Fisher 2008, 39)

Hence, in order to incentive employees to perform better or deliver more, organizations need to make sure that employees are already satisfied with what they are doing. Only then appraisal and recognition will be taken as a prize for an action of excellence.

### 3.3.1 Rewards and Business Objectives

A reward program to be executed well needs to be in line with the business strategy and with the company culture. This synergy is orchestrated by having actions with the intention of pushing the business forward rather than actions with the intention of receiving prizes. A reward program should be created with the aim of assuring the success of the company through the commitment of its employees to drive the business forward.

The reward program should be built based on what the organization expects from it, and it should contain the blueprint of the organization:

- It should be based on the company targets, values, culture and people management philosophy
- It should be aligned with the existing systems and processes of the company in order to support the strategic alignment and the employee engagement
- It should provide competitive (in value) rewards based on what the company is able to offer

(Jensen & McMullen & Stark 2006, 33)

Hence, the incentive program should be a tool to support the company to achieve a strategic goal or target. For example, a health insurance company made heavy investments on developing, through several trainings, the customer service skills of its representatives, and kept a previous reward system with an incentive pay based on the number of calls completed. When the company received the results of the first customer feedback survey, the results were dreadful. All customers agreed that the representatives were very polite but at the same time extremely unhelpful in resolving issues. When investigating the issue, the company noticed that if a representative would spend more than 4 minutes on a call, he/she would never get the bonus based

on the existing bonus model. Thus, there was a conflict between the company's strategy in increasing its customer service skills and the incentive program chosen for it. (Jensen & McMullen & Stark 2006, 36)

Therefore, it is a must that when creating a reward program, the company has to guarantee its synergy with its own culture and its set of strategies. What works well in another organization does not mean it will work in another in the same way, reward programs need to be customized and adapted in order to work well.

### 3.3.2 Reward Strategy

It is important for an organization to have a reward strategy in order to make clear or transparent to all interested parties what is the goal for the rewards and what is the process behind. In addition, the reward strategy must ensure that the reward program supports not only business goals but HR goals as well in order to meet the needs of all stakeholders, in other words, to include both employer and employee's perspectives.

The transparency of such strategy must be supported by clearly communicated practices and processes in order to keep all interest parties aware of what it is and how it works, so to avoid future conflict of interests based on lack of mutual understanding.

Armstrong and Cummins (2011, 32) have a good description of how a reward strategy should be built in order to meet the interest of all parties, it describes a strategy (figure 7) covering the analysis of reward practices and existing strategy if any, the environment analysis, the diagnosis of the situation and finally the development and implementation of a reward strategy.

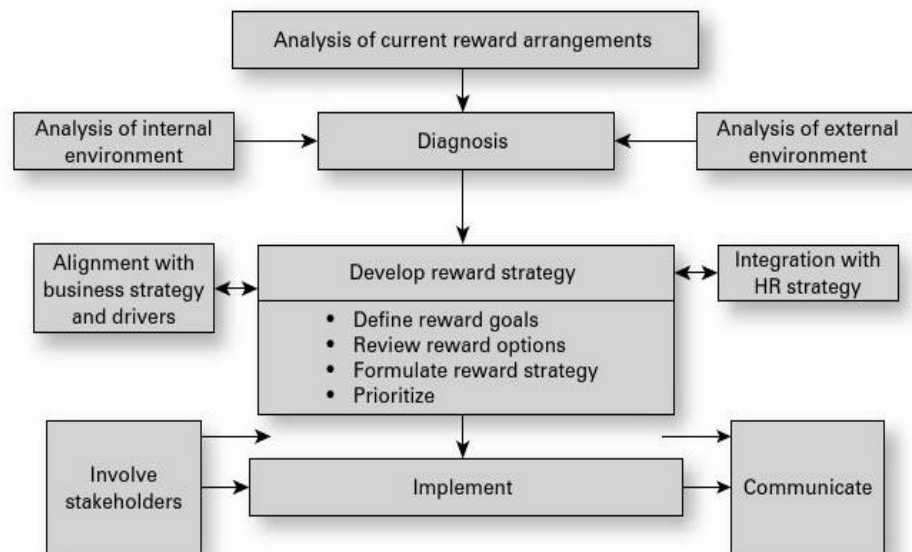


Figure 7 Armstrong & Cummins, Reward Management toolkit (2011, 32)

Hence, the reward strategy is another tool for the company to achieve its goals. It should not be a mere tool to keep employee motivated, but a tool which drives the employees' behavioural drives to deliver better results which are supporting a business goal.

### 3.3.3 Types of employee incentives

Employee productivity is an important factor influencing the salary, and the practice goes that more productive employees tend to have better salary than the less productive ones. Companies would go quickly bankrupted if they paid salaries which are higher in value than the employee's productivity, however some companies would quickly lose its workforce if it paid salaries which would be lower in value than the employee's productivity level. (McKenzie & Lee 1998, 50)

As Fisher (2008, 85-92) says, money is usually the first thing which comes to mind when thinking of incentives or employee motivation, since it is one of the easiest ways to agree about when deciding a monetary reward. And there are several ways to manipulate the monetary reward in order to fit to an employee:

- Base salary – simple for the company to administrate, however does very little when it comes to incentive employees to improve performance or deliver an extra effort, since base salary is not based on performance level.
- Sales commissions – a commission on top of basic salary which is based on sales. It encourages the (sales) employee to improve performance. However, if the ratio between salary and commission is not set right, it can lead to negative results. If commission is very small, then employee may lose its interest in exceeding performance and if the commission is too big there is a risk that employee may cut corners on service quality and ethics in order to keep the monthly incomes at top level.
- Performance related bonuses – a pay linked to the performance of the employee. It works under the belief that people are more motivated if their pay is linked to their performance. This type of remuneration might be risky since it might not be clear to an employee how to make a difference with his/her personal performance which might result on a refusal to behaviour change. Also, it might cause a negative effect when the performance measurement is done by someone else. For example, IT consultants vs. excellent customer feedback related bonuses, when sometimes the customer misses to give the needed feedback (hurry, lack of interest). Or a neutral feedback is given, because the person giving the feedback might have not had direct contact with the consultant's work.
- Stock options – when the company offers a call option on the stock of the company to its employees. If the company stock market price rises, during an agreed period of time, above the call price, the employee can exercise the option and get financial benefit from the

price difference between the call price and the higher stock prices. (Wikipedia, Employee stock option, 2013.). Naturally, the real benefit of such incentive model varies from organization to organization and to which employee groups such program is more beneficial (i.e. managers vs. line employees). Nevertheless it is fully dependant on the market fluctuation.

- Other benefits – health care, vouchers, trips, several types of merchandise, etc.

Nowadays, it is unlike that companies would make use of just one of the above elements. It is natural that companies manipulate the monetary reward in a way that looks interesting for an employee. Also, another thing to keep in mind is that money is expensive, therefore it is good, from the business perspective, to have a small basic salary (fixed costs) and bonuses of a kind on top of that (variable costs). However a good question for any company to consider when working on improving employee productivity and motivation is, is money really the right motivator when it comes to employee performance? Everywhere can be found people overpaid for bad performance and poorly paid for good performance.

## 4 EMPIRICAL RESEARCH ANALYSIS

### 4.1.1 ACME Oy's case

ACME Oy, a subsidiary of ACME General Ab (Sweden) is an IT and Management consultancy firm specialising in communications, software development and business-critical IT. It is located in Espoo and employs around 220 employees. It has a highly competitive company culture and operates solely in the Finnish capital area.

It has been widely discussed in the theoretical framework (Ch. 3.1.5) that knowledge develops through the time and through what one absorbs or experiences from reading books, participating in courses or things which one has done and experienced in the past. Hence is through experiencing, and experimenting the new, that one's expertise is formed.

ACME Oy's IT consultants are no exception to the above stated. They all acquire knowledge from the several facts and elements which come across during their customer project assignments from different business sectors through a single year of working.

The customer assignment projects in which ACME Oy's IT consultants operate throughout the year do vary in length which can last from a mere 2 weeks to more than a year or two. The length, however, generally effects on the amount of knowledge the consultant will acquire from that customer environment, which can be useful for ACME Oy to identifying business trends. Besides length, these projects can also vary in their types or scope as according to ACME Oy's consultancy delivery model:

- **Third party consultancy**

- Where ACME Oy's IT consultant goes alone, for a previously agreed period of time, to join a team of consultants from another consulting company and through that consulting company ACME Oy's consultant would do consultancy working to the customer of the "middle-man" company.

Such type of consultancy definitely provides a good insight of how the business is handled at other companies. In addition it shows how the business with the customer in question is and, last but not least, information on the operational environment where the assignment is being fulfilled.

Such type of projects happens often, since consulting companies might not have the needed competence available for their customer acute need (recruiting and employing in Finland can be a long process) thus consulting companies seek for the missing competence from another consulting company which may be available at once.

- **Direct ETL consultancy**

- Where ACME Oy's IT consultant goes alone, for a previously agreed period of time, to join an IT team running a project at a given customer's premise. These projects are usually filled with employees of the customer or consultants from other consulting companies (competitors of ACME Oy). When consulting in such projects, ACME Oy's IT consultants have the opportunity to learn how to operate under end customer's guidelines and processes (which can be very different approach when consulting on third party consultancy) which results on a voluntary integration to customer's environment and ways of working.

Such learning exercise brings quite much important information and knowledge to the consultant since the processes can also differ quite much from ACME Oy's own processes and guidelines. When balancing the work between these processes and guidelines (ACME Oy and end customer), the consultant gets to communicate with people from customer side and learn how he/she should customise his/hers consultancy approach so that both sides are satisfied.

When working on customizing the consultancy approach, the consultant gets to interact with customer's internal employees and often times (naturally depending on the duration of the assignment) gets to socialize with those employees. Such interaction helps the consultants to learn how the customer's business is doing and also what kind of needs there might be around the project which the consultant is operating currently at the customer.

- **Project consultancy**

- This type of consultancy happens when the consultant goes together with a group of ACME Oy's consultants to deliver a full project ordered by a given customer. Usually such projects are located at customer premises (depending on the size of the customer) but it is also very possible that the project is run from ACME Oy premises. Nevertheless, when providing consultancy through a project to the customer, ACME OY's IT consultants have the opportunity to learn new processes and approaches from the customer and also discuss and compare (within the project community) them with ACME OY's own processes, approaches and guidelines.

Usually such type of comparisons can generate several improvement suggestions towards ACME Oy from the IT consultants at the projects. That is nothing else than the project consultants transferring a part of the knowledge they acquire from the customer into ACME Oy. However processes and guidelines are not the only type of information and knowledge they receive, since such projects are (with almost no exception) integrated to other projects being run at the customer.

Therefore, consultants in these projects have the chance to learn and see what is happening at the case company's business environment and which direction it is moving to in the market.

Each of the above consultancy scopes bring different types of experiences to the IT consultants, these experiences being derived from the type of environment the consultants operate at the customers. These environments can vary from a very relaxed and affable working atmosphere into a very uptight and conservative environment. In the later, it is possible that time cards are being used to track the time of arrival and departure of the employees including fixed working hours. Whereas the relaxed environments do offer the option of flexible working hours based on everyone's own schedule and assignment deliverables.

When operating in such different environments and atmospheres, the IT consultants from ACME Oy will have the opportunity to experience different sets of rules, values, guidelines, contextual information, expert insights, approaches which differentiates from the ones existing at ACME Oy's office and, nevertheless, provides a framework for evaluating and incorporating new experiences and information. These knowledge elements give the chance for each consultant to compare the different ways amongst the customers and ACME Oy, and see which one, in one's opinion, fits better to the consultancy business environment and therefore present a valuable knowledge for ACME Oy to improve and further develop its competitiveness at the customer market around it.



Therefore, when such elements are leveraged for future usage, having as input source the IT consultants from ACME Oy and as receiving part an information based knowledge sharing mechanism, ACME Oy can enjoy from a gold mine of information which can be used for business development, business trends and sales. This later being strongly affected by being enabled to have an insider's view and opinion of how things are at customer premises or how things should really be however, yet, they are not. And each consultant can share their specialist opinion on their consultancy area including vital information for ACME Oy's as a whole, involving other consultants, management and the sales team.

### 4.1.2 Business processes

The current existing process that is closest to a knowledge sharing process in ACME Oy is based on e-mails from which business related questions are sent, usually by sales people, via e-mail to the whole company and people answer to those questions. This might be an effective approach for the sales person sending the question and receiving the replies, however that is not beneficial to others given the fact that nobody else than the sender receives the replies to the questions. And if replies would be send to everyone, then that would become more of a SPAM than knowledge management. Nevertheless, such approach is very rare and infrequent and not part of any sales process.

Currently sales at ACME Oy is happening as in any other normal company in which the sales personnel is in constant contact with the customers and also looking for new customers. Another good portion of the sales are resulted from the existing customers and diligent account management approach by ACME Oy. However, sales numbers is at the moment the main process driving the business decisions and there is lack of business strategy.

There are weekly war-room meetings where, through CRM system, the amount of customer visits per sales person is counted and also there is an analysis of the sales pipeline. Reactive actions are based on these numbers which are based on a team of around 10 sales people.

There is not such a process to identify business trends based on other type of elements than sales related data and only these elements are being used under a reactive way, in other words, the management is reacting if weekly sales visits targets are not being reached. Also some reactive measures are taken when a certain customer demand for a specific service is decreasing or increasing. In addition to the sales centred approach, the company promotes several customer related events in which customers and sales people are united and also encourage sales people to participate to business related events. The expectation of the company is to generate customer meetings, customer requests and new customers.

However, when considering the current processes in place, if instead of having 10 sales people providing sales related input for the whole company in Finland, ACME Oy would have over 200 IT consultants (with first-hand business insight) fetching and providing information which could lead to

new sales, new business opportunities and insights, the current level of market readiness in the company would definitely rise. That would result onto a better capability of identifying business trends in order to remain competitive in a dynamic business environment. However that will not happen without a due employee reward program in place to give incentives for the employees to contribute to the business (besides their customer assignments) with their knowledge. There is not any employee reward program at the moment in ACME Oy.

Another important element for utilizing the existing employee business knowledge which is missing is an information sharing mechanism in order to mine such existing knowledge, store it and make it available to those taking the decision on which direction the company should go.

At this stage it is worth pondering whether the usage of CRM for the whole personnel would solve this issue. However, this thesis is focusing on employee knowledge from a target group whose sole responsibility is to do IT competence consultancy at customer projects, be these located at ACME Oy's office or at customer premises. By no means the author expects the sales responsibility, for example CRM related duties, to be shared between the sales personnel and the IT consultants.

As mentioned earlier the concept of this thesis is to leverage the knowledge the consultants have in order to better identify business trends. And for that to happen, ACME Oy needs to recognise that the substantial knowledge consultants have is a valuable lever for such needed identification.

### 4.2 Empirical research methods

The author opted to collect empirical evidence by utilizing group approach method and true experiment research. This decision was based on the need for acquiring company related knowledge based on means of direct observation and experience.

#### 4.2.1 Group approach method

The researched was focused on a group of IT consultants because those are the ones expected to provide the knowledge which can later be used to identify business trends by the company's management and sales. The participant selection was based on the experience criteria that the consultant must have been assigned to customer projects which took place at customer premises and must have at least 5 years' experience in consultancy. This selection type casted out the new employees in addition to those in junior positions.

There were 2 groups formed with 5 IT consultants (a mixture of Software Developers and Quality Assurance professionals) each.

Group discussions were arranged in order to discuss whether they would consider themselves having valuable business related knowledge and what

would be a good Knowledge Management system for them to share their knowledge. It was explained that the knowledge management system should be simple for the consultants to use, given their very busy customer project work environment, and yet be effective when sharing and fetching work related knowledge within ACME Oy.

There were 2 closed-ended questions and 3 open-ended questions created in order to identify whether the IT consultants understand that they hold valuable business knowledge and also what would be a good way to make that knowledge available to others for further use. The discussion questions were:

1. Do you have business related knowledge which you consider to be important for generating new sales to ACME Oy?
2. Do you think ACME Oy is leveraging this knowledge?
3. How do you feel about the sharing of knowledge amongst ACME Oy colleagues?
4. What do you think about receiving an incentive for sharing your knowledge with your colleagues?
5. What would be a good way to share & fetch knowledge amongst your colleagues?

It was not a surprise to hear that indeed the IT consultants consider having important knowledge based on their operational environment. They have access to technology demand and competence needs, they have first-hand visibility of good and bad business practices and they get to know their customers very well. However, most of the groups' members feel that they are just one in the crowd and that the interaction is between the company and their CVs only, and that the company could make better use of what they know. Some members would like to participate more in sales support, but also would like to receive an incentive for giving such support. Some mentioned that they could receive prizes for the succeeded sales cases which they had given support.

Both group members said they do not have time to be sharing information or knowledge because they are very busy at customer premises. However if the company would give them incentives for sharing their knowledge, then they would could consider doing information sharing after they had handled customer work, some also said they could contribute "out of office hours". It was a common opinion that they would not be willing to be giving an extra effort without recognition from ACME Oy.

Regarding a simple yet effective way to share the business related knowledge, there was a consensus about utilizing a type of forum based discussion website (since many were familiar to this concept by being members of several technology related forums). Some members also questioned whether the Yammer platform, which is already being used by ACME Oy however for trivial discussions rather than business related, could be utilized for it. However the majority of the members agreed that SharePoint would be a better solution, given its level of customization, and they would prefer to have Yammer for the trivial discussions only.

### 4.2.2 True experiment research

Two groups of 5 people were created. One group was formed by ACME Oy consultants who were at customer premises and the other group was formed by ACME Oy employees working with ACME Oy's own projects/technology solutions and located at ACME Oy premises with no customer interface.

In order to discuss what kind of customer knowledge these groups had acquired from the last 1 year of customer related projects, a scenario was presented to these groups. The scenario was that, if any of them would be promoted to a sales director or business development director, would they have any business related information acquired from their customer assignment environment which could help them in the new role?

It was clear, through the discussions, that the employees having customer interface in their assignment projects knew a whole lot more about the customers and their environment than the ones without customer interface.

The consultants who were located at ACME Oy's office, mentioned that they were exposed solely to their specific tasks whereas the ones allocated at customer premises had a whole variety of business elements from business roadmaps to customer organizational culture.

It was also mentioned that the business interaction acquired during the customer assignments located at customer premises brought new perceptions to the consultants based on different people's approach and opinions which they had the opportunity to experience. Whereas the consultants allocated at the ACME Oy office mentioned that their teams have a common approach to operate remotely and most of the interaction (if not all) was with the ACME Oy team rather than with people at customer site.

### 4.3 Data collection

The theoretical data was collected through desk research and the empirical data was collected through group discussions. In addition, empirical data was collected by analysing ACME Oy's current business processes and practices. The collection of data happened throughout the development of this thesis. This means, the work was being written as data was being collected.

For the theoretical part, books were collected before the actual writing, however, in order to proceed within the scope, the writing process demanded further literature than the earlier collected one. In addition, there were challenges to organize the group discussions during the empirical research, since many participants were busy with customer assignments. A solution was to arrange the discussions over the lunch and notes were created from those discussions.

## 5 RESULTS AND ANALYSIS

In order to answer to the questions related to the research problem and objectives of this thesis, it is important to combine the findings from the theoretical framework and the empirical research analysis covered in this thesis. The targets of this combination are to prove that ACME Oy, should leverage the unused however intense business related knowledge acquired by the IT consultants while operating at customer assignments. And that such knowledge could be used to identify business trends. In addition, to prove that a Knowledge Management mechanism is the correct solution for leveraging the IT consultant's knowledge and that employee incentive could improve the consultant's participation in this knowledge sharing quest.

### 5.1 Identifying business trends through IT consultants

The research problem of this thesis is to find out how to identify business trends through the company's IT consultants. In order to answer to this research problem and the thesis objectives, the author had to perform studies on what kind of knowledge the IT consultants acquire from their operational environment (customer assignments). In addition, how to further utilize such knowledge, what are business trends and what are important business trends source elements that company could look for through its IT consultants, and how to influence consultant's behavioural drives in order to share their business knowledge. The studies resulted in a conclusion that in order to understand how to identify business trends through its IT consultants, the company needs to understand what business trends are. In addition, what is knowledge and it's types, what kind of knowledge IT consultants have which can be further leveraged into identifying business trends and how to motivate the consultants to share such knowledge.

As discussed in the theoretical and empirical parties of this thesis, trend is a change pattern in a market, process, business, output, condition and so on. ACME Oy consultants operate in dynamic environments under constant change. However the consultants' focus is on the assignment rather than monitoring and analysing change patterns at their operational environment. It is the interest of the company that consultants keep on focusing on their assignments. However it is definitely beneficial to have them providing some input information which are related to their operational environment, i.e. an increase on the demand for certain competence, an increase on the demand for certain technology and so forth.

ACME Oy IT consultants have access to information which can be important for identifying business trends, for example they have access to see what are the key performance indicators (what is working best at their operational consultancy environment), what is missing (customer unmet needs), what are the success factors (what they do not see elsewhere, etc). They have close insight of what is the competitive advantage of its current operational environment (customer or project), what is the customer motivation to do things.

In order to enable the consultants to participate in such business development activity of identifying business trends, ACME Oy needs, in addition to creating an employee reward program, to help the consultants to understand about external analysis and how to perceive the business environment they operate at, so that consultants start to notice business related trends around them.

As discussed in the theoretical research, business trends are important signals for companies to act upon. It is a lever for the company to forecast the direction to move or to decide whether to keep or change a certain business practice based on its performance results.

According to the theoretical research, there are several ways from which ACME Oy could gather important information elements in order to identify business trends through existing knowledge assets. However, at the moment there is not a specific process from which consultants working in the field can share their business experience with management or with the other consultants. Despite the lack of a knowledge management process, there is not even a dedicated system into which the experiences and knowledge of these consultants could be recorded or saved for posterity. In addition to that, according to the empirical research, ACME Oy is not trying to identify business trends. It is rather reacting at a later stage to business events. The major business process is the sales monitoring process focusing on customer and sales related activities. It is clear that the awareness of the business knowledge the consultants have is not existent.

ACME Oy must realize that the customer assignments performed by the consultants can be considered to be a business learning centre and that this knowledge should be leveraged, as it is not being done at the moment according to the empirical research.

What ACME Oy employees know about products, customers, processes, success and failures is knowledge. One can find such information from documents or databases and naturally from each employee's mind which, this later, is a result of their experience acquired through their professional life. This type of existing knowledge amongst ACME Oy employees, which is not codified, can be compared to the submerged part of an iceberg, which accounts to over 80% of its volume being under the water. Therefore such type of hidden or tacit knowledge can account for the major part of the company's knowledge value.

However, it is important for ACME Oy to know that even if knowledge can be hidden or shared, it does not have an objective universal standard. It can be in various forms depending on its source, it is a collection of what the employees know or assume they know and where they stand about it. Despite its non-form status, knowledge does have its properties:

- Knowledge is generated by individuals
- Knowledge can be acquired
- Knowledge can be shared
- Knowledge can be expandable

- Knowledge can be stored in books, documents, databases, human head, content management systems and so on
- Knowledge can be re-used
- Knowledge can be forgotten  
(Holden 2002, 66)

Each and every person working at any company acquires knowledge by several ways, being one of these experiencing and living different situations within the work life. This fact definitely does not rule out ACME Oy IT consultants, which in nature, have a more dynamic type of work life than any normal desk employee. This is due to the fact that the consultants have the opportunity to experience several different environments, different people and technologies in such extent within a year that a normal desk employee might not have the opportunity to experience that professionally during, perhaps, a whole lifetime. Such knowledge is vast in its form and can be labelled in several ways to ease the understanding of it. Nevertheless, as presented in the theoretical part of this thesis, when the knowledge is left unused or hidden, it can be lost and resulting in a major waste of existing assets. (Davenport & Pruzak 2000, 7)

Hence, knowledge is a must in order for ACME Oy to survive in the competitive market. This is not only in the perspective of consultancy but also in the market knowledge perspective, competitors, sales and customer knowledge. Thus, it is of paramount importance that ACME Oy knows and understands its surroundings so that it is able to keep its competitive advantage and pursue its goals “quality, profitability and growth”. Another important aspect is that knowledge is a commodity for ACME Oy, given the fact that the company sells competence and knowledge to its customers, and this knowledge and competence comes mostly from people (see figure 8) Therefore it is also very important to know not only about how to sell the knowledge to the customers but also about knowing what kind of knowledge is being sold to the customer, in other words, what is the knowledge the consultants are carrying with them.

Having the above said in mind, it is important that ACME Oy is able to identify business trends, act upon those and deliver the exact competence or service (knowledge) which the customer needs. That affects the brand of the company, since being seen as a trustable and effective partner when supplying competence and knowledge to the customer is very important for keeping a good and lasting customer relationship in addition to, as mentioned before, keeping a strong brand in the business market.

## Knowledge Components

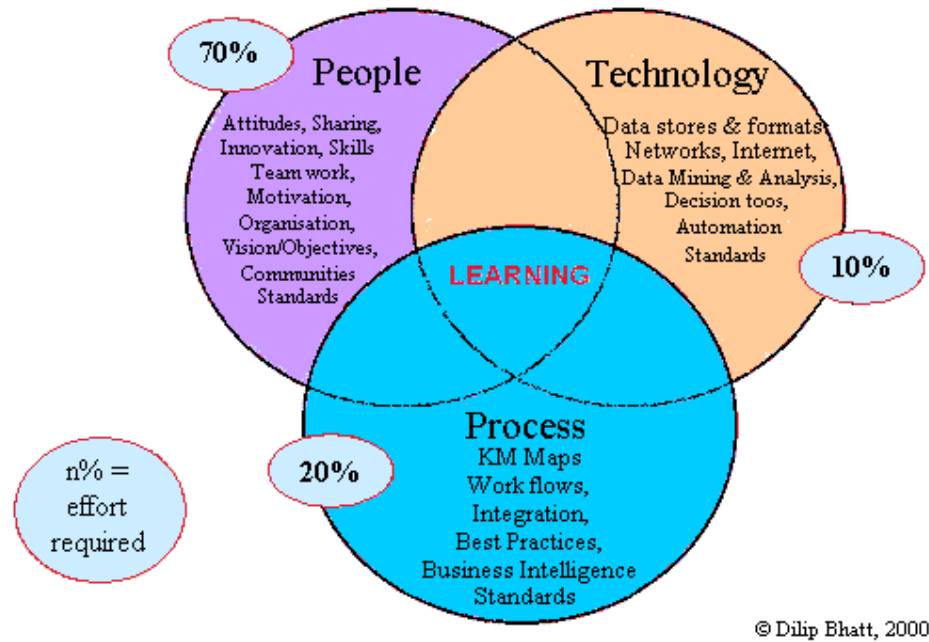


Figure 8 Dilip Bhatt 2000, EFQM, Excellence Model and Knowledge Management Implications

Customer relationship and strong brand go together with delivery capability based on knowledge management. If ACME Oy does not manage to deliver what the customer wants, that can be very expensive (service or contract liabilities) and also “forces” the customer to look for other options (other companies, suppliers). Which, this later, does also affect very drastically on the business of the company since losing customer revenue due to lack of delivery capability is a “death sentence” for any company in the long run.

Thus, being aware of the current knowledge owned by the consultants is of paramount importance to ACME Oy. Therefore in order to fully take advantage of such substantial amount of knowledge within ACME Oy's IT consultants, the company needs to develop and apply a knowledge management process. Such process is to be used for fetching, storing and reusing such needed and yet hidden knowledge amongst the knowledge workers, in addition to being a lever for identifying business trends.

### 5.2 Sharing through knowledge management

According to the theoretical research, knowledge management is an efficient tool to leverage existing knowledge and competence which can easily be wasted, in other words, knowledge needs to be captured, stored, mined, transferred and used through knowledge management and for that it requires an infrastructure, organizational process and people. ACME Oy has these three elements available, however in order to have them in synergy some adaptations in the cultural organization might be needed given the fact that



the highly competitive company culture might not come hand-in-hand with cooperation and knowledge sharing. The knowledge sharing should be encouraged by ACME Oy rather than having much emphasis on competition as it can result on hidden employee knowledge remaining hidden rather shared.

The theoretical research also demonstrated that knowledge is everywhere within a company and new knowledge is constantly created. And that knowledge should be managed if it is to be further utilized, otherwise it can just be left unnoticed. ACME Oy is not an exception and its IT consultants hold an immense amount of valuable business knowledge. This knowledge might not be directly related to their working tasks but yet is important knowledge for the company since it is related to the business environment in which the employee operates. Furthermore the fact that consultants allocated at customer premises acquire a bigger amount of business knowledge than desk employees or those ACME Oy employees which are working at customer projects however allocated at ACME Oy's office only proves that field work provides a rich amount of knowledge that can be further leveraged. And according to the empirical research, the consultants' hidden knowledge in ACME Oy is not being leveraged and there is no existing knowledge management process.

Hence, there is definitely a need to create a knowledge management mechanism based on an information sharing system, if the company is to pursue the identification of business trends through its consultants. Such mechanism is to be used by ACME Oy's IT consultants, ACME Oy's Management and Sales team in which the consultants will be able to share their experiences and knowledge. The shared knowledge can then be leveraged by the whole company for further use when working on identifying business trends and planning the next steps to take according to it (technologies, new competences). In addition to sales related activities (identifying new sales leads) and knowledge reutilization in new customer assignment (no need to reinvent the wheel in every customer assignment or project).

The knowledge management mechanism, according to the empirical research, should be based on a web forum concept which could gather new knowledge by covering the elements of interaction between tacit and explicit knowledge (socialization, externalization, combination and internationalization), as according to SECI model. And in addition, the forum could gather valuable business information that could be further used by ACME Oy to identify business trends.

However, such knowledge management based web forum requires the existence of a process in order to function well. According to the theoretical part, knowledge when stored should be accessible by everyone, therefore not stored locally in one's own PC. And also the knowledge input process should be as simple as possible to avoid complexity and time consumption, and naturally the knowledge should be fast retrieved. Thus, there is the need for a knowledge manager to filter the knowledge entered for later use by the management. That is to avoid the type of knowledge which is not within the business scope/goal/target.

Knowledge should be organized and well codified when stored and that should be done before it is made available for the rest of the management/organization. Knowledge should be evaluated and analysed for its usefulness. Only specific knowledge should be stored and made available for others within the company. The process should be simple, as basically reviewing information before making it available to others. As said in the theory part, a short knowledge map of the knowledge management forum should be created in order to show what tangible knowledge is available in the forum and also guide the user into the his area of interest.

### 5.3 Incentives for knowledge sharing

There is definitely the need for an incentive solution in order to motivate the consultants into feeding their knowledge into the system and getting a reward in return.

According to the empirical research, consultants feel that it would be more than fair if the company rewarded them for providing important business information. This reward can vary from value prize incentives to employee recognition.

## 6 CONCLUSION

When the consultants are sharing their knowledge, the utilization of #hashtags, which are based on key business elements presented in the Business Trend theory part of this thesis, enables ACME Oy to identify business trends by analyzing their incidence through a given period of time. Naturally that will not be possible if the knowledge of the consultants is not being managed. Therefore, the creation of an innovative, simple yet powerful knowledge management mechanism to capture, store, mine, transfer and use the knowledge is a must.

Therefore, ACME Oy shall think out of the box, break boundaries and have all employees more involved with the business through the sense of responsibility for the future of the company. Existing processes, tools, approaches which have already been tried are out of context. This innovative involvement needs to be orchestrated through a simple manner and the change process is to be based on a built shared responsibility in which each employee feels motivated for pushing the business forward thus generating more dynamic and smarter results for the company and for themselves. Therefore, ACME Oy should work smarter and not harder. Creativity and innovation are the key factors for surviving in a fast changing and unpredictable business environment, however they are useless when tried without knowledge.

### 6.1 Knowledge Management Mechanism proposal

The idea is to improve the Knowledge Management (KM) in ACME Oy by creating a KM forum from which all IT consultants would be able to share competence with one another and to share with ACME Oy's management what are the IT business trends they notice on their daily basis consultancy assignments. These business trends include, but not limited to, customer needs, niche competences, new technologies, new practices and nevertheless sales leads including resource needs. Hence, such KM forum should give a good base for ACME Oy management and sales to identify the business trends through a defined process for information input. It should also be a valuable tool for the consultants to share and acquire new knowledge.

By having such KM forum, ACME Oy is expected to have a better vision of its operational environment and its needs thus being able to well prepare itself to better attend to these. In addition, this KM forum is expected to enhance the sales and delivery capability. Furthermore, this same KM forum will bring awareness to the consultants themselves, as they will take some time to stop and think about their work environment from a business perspective rather than from an IT consultancy perspective. Besides the business awareness, consultants are expected to share their knowledge not only with ACME Oy's management but with other ACME Oy colleagues as well. Therefore, this web based KM forum needs to have two sections in which consultants can share with management, in an open form, what they notice about the work environment around them (against certain business criteria or specific #tags) and also, however in another forum section, share with the colleagues what they know best regarding their competence.

From this KM forum the user can find out what is going on within ACME Oy customer environments, what is going on with their ACME Oy colleagues at other customer assignments and at the same time be able to share tips, tricks, best practices related to their competence, find necessary documentation and reference material related to their competence area.

The forum is expected to be a tool of interest for the consultants, which means, it has to provide some value for everyone participating in sharing business related information, market hunches and consultancy competence. In order to drive the consultant to contribute to the KM forum, an incentive process has to be created in order to backup the KM forum process.

Thus, a KM process backed up by an effective knowledge management tool, as demonstrated in figure 9, is definitely the key for ACME Oy to be able to leverage the knowledge of its consultants given the unavoidable fact that most IT consultants are isolated, from the company, when located at the customer premises.

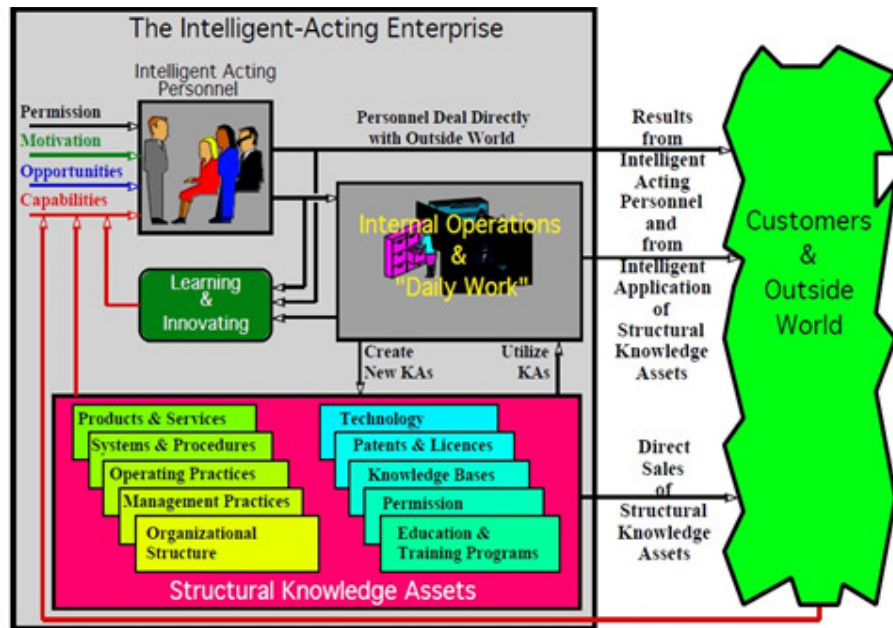


Figure 9 Depres & Chauvel (2000, 8). Individuals, Knowledge Assets, Learning and Innovation, and Internal Operations in the Effective Enterprise.

### 6.1.1 Functional requirements

1- The knowledge management sharing mechanism should be developed in the form of a forum web application, preferably implemented on a Share-Point web application platform.

2- The forum should have two sections:

1. Business leads section - where the IT consultants will be able to, through an open form text, share information related to customer needs, niche competences, new technologies, new practices and nevertheless sales leads including resource needs.
2. Competence sharing section - where the IT consultants will be able to create discussion threads where they can share tips, tricks, best practices related to their competence, work products (i.e. attach templates) and ask for support.

3- The users should be able to use specific #hashtags which are business related, and also create new #hashtags. The forum should display what are the last created #tags in weekly and monthly periods, the ones which have been most mentioned and the ones which have been the most searched.

4- The user should be able to create graphs on what is the #hashtag mostly used by the consultants under a given scope (e.g. competitive advantage, customer motivation, customer unmet need)

5- The KM forum should include in its first page a short knowledge map in order to show what tangible knowledge area is available in the KM forum and also guide the user into the his area of interest. Example of areas:

- Competence sharing
  - Quality Assurance
  - Software integration
  - Software development
  - Project management
- Business leads
  - Open business leads
  - In processes business leads
  - Closed business leads

6- The users should be able to create sub-areas under the knowledge areas (e.g. Software development - java, C++, etc.)

7- Visibility restriction functionality should be available in the business leads section and should be based on groups (e.g. Sales, Management, Consultants).

8- There should not be limitations on the amount of users, concurrent users or the amount of content.

9- The forum should provide statistics - how many visits a user has made during given period of times, what is the most visited thread, what is the most active knowledge area.

10- The forum should provide the possibility for user moderation in the business trend input information side. Information inputted should be subject of approval before being made public to others.

11- The users should be able to "endorse" the knowledge available in the competence sharing side. This endorsement can be based on a rating label such as "helpful" (for example).

12- The forum should offer poll functionality in the business leads section and in the competence sharing section.

13- The forum has to have a search function in both sections.

14- The forum should provide a badge functionality to rate users based on amount of points resulted from activities such as content generation, replies, threads started, endorsements.

15- The forum should provide work flow functionality on the business trend side. This work flow should be based on business lead statuses, so that the IT consultant can follow-up whether his/her given business lead is being handled based on its status and whether it has generated results.

16- The forum should have automated mail messages based on the handling of the business leads. Which means each time it advances in the work flow,

the user is informed. The e-mail message should indicate who is the person handling the business lead.

17- There should be a functionality to assign a business lead to a responsible person, whether by choosing a name or group from a dropdown list or by using #tags with the name of the responsible person.

18- Depending on the implementation of the requirement 17, forum should send an automated message each time someone is #tagged in the forum.

### 6.1.2 Knowledge forum business process

Since qualitative researches can be way too expensive for small & medium sized companies, ACME Oy can have a constant external analysis through its consultants by having them helping into identifying opportunities, trends, threats, signals or any other element that enables the organization to make strategic choices.

In addition, as presented in the theoretical part, financial ratios are not the only way ACME Oy can identify business trends. There are other source of information and different business elements from which business trends can be identified. Therefore, ACME Oy should be looking into analysing what are its key success factors, its competitive advantage and its key performance indicators from managerial perspective and from employee perspective. See if there are differences between these two perspectives and find the route cause for any differences found. In addition ACME Oy can utilize its IT consultants as a main source of information for an external analysis and try to identify, what are the customer motivations, unmet needs, what are emerging technologies and competences, or any other topic of interest regarding the business market.

This quest for utilizing the consultants for identifying business trends requires a process of explaining and teaching the consultants what a business trend is and what kind of information is needed from them.

The business process behind the knowledge forum should include (however not limited to) the following items related to the respective sections:

#### **The business leads section:**

1- Create the role of a knowledge manager (the author proposes that this role should be given to the team leaders given their profound knowledge on the teams' competence and customers.

2- The knowledge manager should analyse the #hashtag metrics once a month, or then have an automated message from the forum if a given #hashtag achieves a certain amount of repetitions.

3- The IT consultant can input a new business lead into the business lead section, and that should be subject of approval by the knowledge manager

before made available to sales team or ACME Oy management for further actions.

4- Once the business lead is reviewed (is it a sales lead, trend, new technology lead etc) and approved for further visibility, the knowledge manager assigns the lead to the responsible group (Sales, Management, Consultants), for the further processing of the lead.

5- Once the business lead is under process, management & sales people are able to comment on the business leads and choose the visibility for the comments based on groups (sales & management group, consultants group)

6- The business leads should have statuses:

- New (when created)
- Under approval (when being approved by knowledge manager)
- In process (when assigned to responsible group/person)
- More info (when more information is needed from the IT consultant who created the business lead)
- Implemented (when the business lead generated a result)
- Open (when no actions can be taken at the moment)
- Closed (IT consultant can close the business lead, if he/she has no further input when business lead is set to "more info" status)

7- Knowledge managers should create retrospective scenarios in form of queries, in order to search for business trends, for the IT consultants to analyse, within a certain scope, what changes have they noticed given a certain period of time. e.g. what positive changes have you noticed during the last six months in your operational environment? Or what negative changes have you noticed in your operational environment?

8- As theory part of the thesis says, knowledge can be captured through specific knowledge eliciting questions (What do you do as first step? What information do you consider next? What constraints do you look for?) Therefore the knowledge managers could propose to the IT consultants to create free texts, based on their assignment experience using one or more of given #hashtags or create new #hashtags. For example, present in the proposal specific #hashtags according to different business elements:

- Key success factors - #shortnoticedelivery, #rightcompetence, #timemanagement, #resourcebalancing, #deliverycapability, #effectiveprojectmanagement, #effecticecommunication, #effectiveresourcing, #commitment, #projectplanning, #businesscompetence, #quality
- Competitive advantage - #superiorskills, #superiorresources, #betterthancompetitor, #rightskills, #rightcapabilities, #costeffective, #differentiation, #innovation, #quickresponse,
- KPI - #performanceimprovement, #deadlinemet, #targetmet, #QAgates, #improvementneed
- Business environment analysis (external analysis) - #competitor, #competition, #opportunities, #trends, #threat, #newtechnology, #newcompetence, #salesopportunity, #consultantneed

- Customer motivations - #customersatisfied, #customernotsatisfied, #customermotivation

9- Knowledge manager should analyse the metrics related to the #hashtags monthly, to see identify trends in their usage. And further investigate when certain #hashtag has reached a certain quantity within a given period of time, e.g. monthly, within 6 months, etc.

10- Based on noticed trends in the #hashtags usage, the knowledge managers can further investigate those by creating polls based on the management assumption of a certain trend. Then consultants can vote and comment on the management assumption of a business trend. With the results of the pools, the knowledge managers can identify differences between management & sales perspective and IT consultants' perspective and further investigate the reason for such.

11- Users should receive points for providing business leads. The collection of these points would result on earning badges and related prizes.

### **The competence sharing section:**

As presented earlier, the other section of the knowledge forum would be for the consultants or even management and sales people to share their know-how related to work. For example, on how to create a good sales presentation, where the user will put there an example of a sales presentation and other users will be able to access it and improve it. Or add comments based on best practices etc. Then the related know-how will be gathered and available for later use.

The competence sharing section can be separated by competence areas, e.g. project management, software development, quality assurance, software integration etc. Users should also be able to use #hashtags on this know-how side when creating documents or creating comments.

Also, the knowledge managers (team leaders) should create discussion threads based on their group competence areas:

- What are good contents for a project plan?
- What are good contents for a test plan?
- What are good metrics for an agile project?

In addition, knowledge managers should implement a simple process in which people could "endorse" the knowledge available in the KM forum, this endorsement would mean that the information/knowledge/know-how provided is proven to work well for others as well.

Another important factor is that knowledge managers should encourage consultants to search for support from the knowledge forum, whether from an existing topic (thread) or creating new threads asking for support. Such factor could be complemented with the implementation that each thread, post/reply should have the possibility of being rated as "helpful" or then



"thanked". Therefore when the user is looking for support in the knowledge forum, he or she could thank or rate the support found/received.

In addition to the thread rating process, the users should also be rated, through electronic badges, according to their yearly participation:

- Super user badge - for those users having high amount of points (i.e. 200 points/ year).
- Gold user badge - for those users having huge amount of points (i.e. 500 points/ year).
- Guru badge - for those users who have a high amount of "thanks", or endorsements ("helpful").
- User badge - badge is earned after user posts for the first time in the knowledge forum.
- Viewer badge - automatically set to every user before he/she posts anything to the knowledge forum.

The points could be distributed based on user activity, for example:

- 20 points for business lead implemented
- 5 points for business lead set to "open"
- 5 points per each thread started
- 5 points per each endorsement received
- 3 points per each "thanks" received
- 1 point per each post/reply

### 6.2 The reward system proposal

First of all, ACME Oy needs to have a reward strategy which drives the consultants to share their knowledge with the company. The strategy must be set in a way that it does not correspond only to business goals, but also HR goals by ensuring that consultants will feel recognition and that they are definitely receiving something of value back. In addition it needs to have well described and transparent rules in order to avoid conflict of interests between business and HR. The company needs to define the rewards (money or other kind of rewards) based on the business strategy and HR strategy.

The reward strategy can be based on a system in which consultants earn points for their participation in the knowledge forum and after reaching a certain amount of points, they could choose a type of prize from a list of options.

As discussed, money might not be the most effective motivator in cases of productivity improvement, since it can cause conflict of interests and effect on productivity quality. Therefore, the company could have a good chance to create a reward process with a purpose of which both sides (business and HR) would benefit from. Therefore, the prizes related to the collected points

should aim into competence development through certifications, educational trainings and so forth. In this way the IT consultant benefits from his/her productivity. Another target for the rewards should be family related prizes (SPA weekends, family related programs etc) which could give the opportunity for the consultant to be recognised for his/her productivity displayed to his family, therefore possibly generating a feeling of pride. And in case educational or family related prizes are not of interest, then culture related prizes could be offered. It is important to remind here, what was discussed in the theoretical part that if the basic needs of the employee are not being attended (i.e. employee dissatisfaction based on salary or work tasks) the likelihood that these incentives would work as expected is very low.

The rewards could be distributed in both knowledge forum sections:

- Business lead section - All IT consultant participation should be subject of recognition, no knowledge input should be neglected or ignored. If the business lead is set to "Implemented" the consultant should receive a direct prize (based on the reward strategy). If the business lead does not generate an immediate result and is set to "Open" by the knowledge manager, the consultant should receive an amount of points in order to achieve a badge. If the business lead is not applicable and is set to "More info" by the knowledge manager, the consultant should receive a smaller amount of points for his/her participation anyway.
- Competence sharing section - Once a year prize distribution for the "Gold users", according to the reward strategy. Once a year prize distribution for the "Super users" (not as valuable as the ones for the "Gold users"). And when a user receives the "Guru" badge, that person should receive a prize (as valuable as the "Gold user").

Therefore, such mixture of prize and status recognition can be a good motivator for the consultants to participate in sharing their thoughts and knowledge through the knowledge forum, which, when correctly used, is a lever for ACME Oy to identify business trends.

## 7 PROJECT PROPOSAL

This is an application and process investment project of which the main goal is to implement a Knowledge Management system, in ACME Oy, through a forum based solution which will enable ACME Oy's IT consultants to share competence with one another and to share business trends related information with ACME Oy's management and sales. The implementation of knowledge management system includes respective processes related to identifying business trends and employee's incentive or rewards. The implementation of such system has to aim to improve ACME Oy's vision of its operational environment through the consultants input in addition to improving market readiness affecting directly on sales and delivery capability.

In addition, such system will be a valuable tool for the consultants to share and acquire new knowledge.

Required investments are on resources, however the project should utilize available resources which are on the bench (waiting for customer projects) in order to minimize the costs. No booking of resources are to be made without management's approval.

## 8 PROJECT PLAN

### 8.1 Purpose

This is the Project Plan to enable the implementation of the knowledge management forum proposed in this thesis in addition to its related processes. This plan includes the project description, the implementation milestones, risk management, quality control and in general project tasks what are expected in order to manage the project into a successful completion.

### 8.2 Definitions, Acronyms and Abbreviations

<b>Term</b>	<b>Description</b>
ACME Oy	ACME Oy
SG	Steering group
Wow	Way of working
QA	Quality assurance
Mx	Milestone
KM	Knowledge Management
UAT	User acceptance testing
MD	Man day
PMC	Project monitoring and control
PO	Process Owner
PM	Project Manager

### 8.3 Project Description

This project plan collects the activities to be performed in order to achieve the successful implementation of the:

- KM forum from which all IT consultants would be able to share competence with one another and to share with ACME Oy's management what are the IT business trends they notice on their daily basis consultancy assignments.
- KM forum process and business trend identification Wow.
- Employee incentive strategy

8.3.1 Objectives

To implement the KM forum, its related business process and the employee incentive strategy in a timely manner with high quality and cost efficiency.

8.4 Delivery Plan

The project will be delivered through milestones, which are divided into planning (~ 3 MD), requirements and scope definition (~ 6 MD), implementation and QA (~ 10 MD), UAT (~ 10 MD) and deployment (~ 1 MD).

Milestones related schedule (duration) above mentioned are just high level proposals, given the advanced state of functional and business requirements found in the thesis. Naturally the correct scheduling is to be made during M0 by the project manager taking into consideration the internal resource availability in ACME Oy.

8.4.1 Milestones entry and exit criteria

<b>Milestone</b>	<b>Entry</b>	<b>Exit</b>
M0	Thesis concept is analysed. ACME Oy Management and HR commit to start the project. There is an agreement on the project scope. Project manager is nominated.	Project is initiated, thesis is read by the project manager, planning documentation is gathered from the thesis. SG is defined. Initial project organization is defined.
M1	M0 is approved	Project plan is approved. Forum functional requirements from the thesis are refined, KM forum business process is purified and approved. Reward strategy is created, documented and the scope is defined according to the thesis. Business trend identification Wow is defined and documented. The type of rewards and specific guidelines are defined, documented and approved by ACME Oy management and HR. Concept design is ready. implementation work effort, costs and risks are defined.

M2	M1 is approved	Implementation of the KM forum solution over SharePoint platform is performed. QA (usability testing, system testing and performance testing) is performed. All detected defects during QA are fixed.
M3	M2 is approved	Knowledge forum is open for a selected number of users to perform an UAT round. All defects found in this milestone are to be fixed, and improvement ideas or change requests are to be analysed and acted upon.
M4	M3 is approved	KM forum and related processes is communicated to the whole company and open for all users in ACME Oy.

### 8.5 Deliverables

Project deliverables are:

- KM forum
- KM forum related business process documentation
- Employee reward guidelines and documentation
- Business trend identification guide based on thesis work

### 8.6 Project resources

The project resources will be identified during M0 and M1. Nevertheless, Team leaders and HR manager should be involved from the beginning together with the project manager (which can be one of these).

### 8.7 Project Cost

Project costs are based on costs of the resource utilized and how it is being utilized. Given the expectation that ACME Oy consultants are fully allocated to customer projects, project could utilize resources (consultants) which are on the bench waiting for customer project, so to diminish the costs. Nevertheless, project manager should track the consultant hours allocated to

8.8 Organization, roles and responsibilities

8.8.1 Steering Group

SG should review the milestones deliverables and approves or reject those. Once all deliverables are OK, SG approves the milestone. SG has the decision power to cancel the project. SG is formed by:

- Knowledge Managers (team leaders)
- HR Manager
- Project Manager
- Management / Sales representative
- IT consultant representative

8.8.2 Project organization

This section indicates the individuals involved in the project and their roles.

<b>Role</b>	<b>Responsibilities</b>	<b>Contact information</b>
Project Manager	Project management and milestones approvals	(phone number)
SharePoint Developer	KM forum development	(phone number)
Test Manager / Tester	KM forum testing	(phone number)
Process Owner (HR)	Reward process development, documentation and milestones approval	(phone number)
Process Owner / Knowledge manager	Reward process development, business process development, documentation and milestones approval	(phone number)

8.9 PMC

Project manager arranges and leads specific project status report meetings in accordance to the resource availability for the project.

Project meetings should follow specific agenda:

- Task status - what is achieved so far
- What is the next planned task
- Deviations from planned
- Risks follow-up (status & mitigation action)

8.10 Risk Management Plan

8.10.1 Risk identification

Risk item	Description	Severity	Probability	Owner
1	PO availability	High	High	PM
2	Resource availability	High	Low	PM
3	SG members availability	High	High	PM
4	Processes are not clear	High	Low	PO
5	UAT testers availability	Medium	Medium	PM
6	...			
7	...			
8	...			

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