

# **The Effectiveness of the Knowledge Management in the Business Organisation Environment**

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ABC Data Clearing House

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Jasim Juma Omar

## Abbreviations

ABC - Refers to the organisation's name

KM - Knowledge Management

KMS - Knowledge Management System

US – United State

IDC - International Data Corporation

GSMA - Global System for Mobile Association

GSM - Global System for Mobile

TAP - Transferred Account Procedure

EDI - Electronic Data Interchange

IMS - Inelegant Manufacturing System

ERP - Enterprise Resource Planning

OLAP - On-Line Analytical Processing

B2B - Business to Business

HR – Human Resource

KOL - Knowledge On-Line

KRD - Knowledge Resource Directory

XML - Extensible Mark-up Language

PIP - Partner Interface Processes

ODS - Operational Data Stores

KB - Kilo Byte

SD - Service Desk

GM - General Manager

IPP - Individual Performance Plan

KPI - Key Performance Indicator

OSS – Operation Support Systems

TMF - Tele Management Forum

PPR - Post Project Review

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## Abstract

The following paper aims to explore the effectiveness of the Knowledge Management (KM) employed in the case of ABC Data Clearing House through the implementation of a high performance KM systems and the subsequent effect on the business environment. However, the concentration of the paper will be on the concept of Knowledge Management System (KMS) followed by the importance of applying knowledge management and knowledge management practices. Semi-structured interviews will be used as a main methodology for collecting data among the Organisation. Also, different KM techniques and technologies will be used in the KM concepts such as a mentorship program and video conferencing. Furthermore, the findings and discussion will focus and study the challenges faced by the organisation and the viable solutions to the organisation presented in the form of KM systems and the benefits. However, the concentration will be on the main challenge which is using KMS more effectively than other competitors do. Experiences of other organisations and companies are also included in different organisations. These experiences were analyzed to investigate the effect of KM of work performance in their companies. The research is also including some recommendations on applying a successful KMS and the advantages of using the technology as one of the best practices to capture the market. Finally, conclusions are drawn based on the discussed topics.

*Keywords: Knowledge Management System, business environment, organisation, techniques, technologies, methodology, Challenge and performance.*

# Chapter 1

## 1.0 Introduction

The field of Knowledge Management (KM) is the study of how organisations know how their employees have about its organizational systems, services, products and intellectual properties. Specially, KM represents the processes and strategies that an organisation utilizes to capture, identify and control the knowledge contained by its mutual memory. KM is becoming a subject of very high demand in business environments. It exists in several different places for instance: employees' minds, documents, filing cabinets, Emails, databases and also distributed right across the organisation.

The changing dynamics of new technologies in the business environment everyday makes it necessary for companies to develop an appropriate stratagem for their workers' knowledge to adapt to the changing environment and maintain continuous learning of new advancements. That is why the way of processing and managing an organisation's knowledge is becoming a key factor in creating competitive business advantage in product innovation, improvement of organisational processes, strategic decision making and customer relation. The findings of Gartner Group in 1998 confirm that "implementation of knowledge management systems has begun, and is currently being deployed by most large companies. One third of Fortune 1000 companies are now including knowledge management initiatives in their 1999 plans." (Smalley-Bowen and Scannell, 1999). This proves that the field of KM is getting more attention in the business world. It also proves that the spending on KM programs is increasing by a compound annual growth. Appendix A shows the comparison of top 10 agencies in United Sate (U.S.) within federal government in terms of KM expenditures (Million Dollars) for the years 2004 and 2009.

Not only public sectors but also private sectors have been invested in the KM programs. In the public sector, the International Data Corporation (IDC) estimated that the U.S. Government will spend 30% on the KM programs in the coming years (IDC, 2010). On the other hand, convinced industries in the private sector appear designate a higher attention of expenditures (see appendix B).

The paper scope will be carried out on a private international organisation targeting international roaming businesses. It is one of the companies that provide remotely services related to roaming facilities for Global System for Mobile Association's (GSMA) operators all around the world. Most of the work tasks in ABC Data Clearing House depend on tools and technology. This makes the nature of work environment in ABC to become more task oriented.

As a result of growing in the volume of data transfer, ABC Data Clearing House has been established specially to offer a single source of assistance for the roaming facilities by the GSM network operators in authenticating the data to international principles that are compatible with the requirements of the GSMA. ABC started as a small section in a big corporation in November 1994 with few employees (only four). Today and after separation from the Mother Corporation, it has grown to be a separate business unit with 141 employees (permanent and contracted staff). After the separation was completed, everyone was expecting better position but most of them did not get what they expected. For example: the contracted staffs who were wishing to become permanent remained contracted.

The main responsibility of the ABC is to provide a full solution to operators' of the GSM for roaming facilities to be offered to their clients. The ABC acts as a bridge between telecommunication operators to exchange roaming data around the world. There are only four more clearing houses like ABC which makes the rate of competition very high. However, out of

the 545 operators, about 59 operators are ABC customers which equals to 4 % of markets' shares in the roaming business.

Today ABC Data Clearing House means better utilisation of available resources, simplified roaming and improved operator productivity. With the extensive range of services provided, ABC provides to GSMA's Operators worldwide with one stop shop for all their roaming solutions. ABC's services include:

- Clearing Data: Checking, validating conversion of all Transferred Account Procedure (TAP) files.
- Settlement and Financial Clearing: Sending/receiving invoices and debits/credits settlements.
- Reporting Management: daily/monthly reports.
- Fraud Control: across files and regions.
- Roaming Facilitator: negotiations and advice.
- Electronic Data Interchange (EDI): total reliability
- Online Access: provides online reports.
- Signalling Transfer Point: it considered as a worldwide access.
- Trainer: ABC provides its' customers a comprehensive training on all aspects of roaming.

All the above services refer to one main thing; a huge number of emails, files and data that which are moving and are getting archived in ABC storage systems and cabins. This bunches of information is called Knowledge.

Kaplan and Reed (2007) found that the use of KMS is nowadays cantered upon the methods of capturing, organizing and retrieving useful data from the supply chain. That is why it can be noticed in ABC that the knowledge is having 3 main categories as below:

- The first category consists of individual's experiences of the employees which can be considered as high value asset for the organisation.
- The second category consists of customers' information, issues and agreements.
- The third category which can be described as the organisation's backbone is the international roaming data.

On the other hand, the main problem is that there is no centralized KMS or any advanced kinds of systems, for example: system of text recovery, system of document management, system of customer relationship management, system of database management, system of help desk and system of teach-ware which leads to several subsequence weaknesses in an organisation's performance. Basically ABC is using the traditional way in storing and filing its data. Beside the main problem, there are many other sub-problems which are faced by ABC Organisation:

- Documentation: There is no documenting process for the daily tasks and the knowledge that each employee has.
- Knowledge Transfer: Employees prefer to keep the knowledge and experience that they know for themselves rather than share it with their colleagues.
- Outsourcing employees: more than 50% of ABC's staffs are contracted employees. ABC rents, or borrows employees from other companies on a one year contractual basis mainly to finish the projects or pending tasks.

This paper will study the various KM mechanisms and the various elements that can be employed in ABC Data Clearing House. The intention of the paper is to examine the existing KM technologies and techniques which are being used and to help ABC Data Clearing House to establish a link to business strategy as way to guide adoption and facilitate decision making with the help of the latest KM techniques.

## 1.1 Aim and Objectives

The aim of this paper is to examine how powerful KM is for organisations and especially for ABC. In addition, to look at how this can be applied in ABC via best practice.

In order to achieve the above aim, the report has the following objectives:

- To investigate as to what extent the KM could affect organisations' performance.
- To investigate the application of the KM in ABC.
- To clarify the challenges faced when applying the KM in ABC.
- To identify suitable KM framework and work to gain competitive advantages in ABC.

# Chapter 2

## 2.0 Literature Review:

The Literature Review contains 7 sub-sections motioned as below:

1. Definitions of Knowledge Management.
2. Knowledge Management Tools.
3. Challenges of Knowledge Management Implementation.
4. Applications of Knowledge Management Systems.
5. What the change could bring out for Organisations?.
6. The Advantages of Knowledge Management in Organisations.
7. The Importance of Knowledge Management in Organisations.

This chapter will show the importance of KM and the concept of KMS subsequently it focus on the research's objectives in deep.

## 2.1 Definitions of Knowledge Management

It was difficult to find a suitable definition for Knowledge itself due to different types of knowledge that need to be managed differently. Hlupic et al (2002) observed that the “most common distinction in the literature is between *explicit knowledge*, where the information is easy to understand and physically exist, and *tacit knowledge*, which is difficult to document or categorize and does not exist physically”.

To further explain and according to Morrissey (2005) *tacit knowledge* “is subconsciously understood and applied, difficult to articulate, developed from direct experience and action, and usually shared through highly interactive conversation, storytelling and shared experience. Tacit knowledge is, by definition, hard to codify and store”. On the other hand, explicit knowledge “is more precisely and formally articulated, although removed from the original context of creation or use. Explicit knowledge is any knowledge that can be codified and documented”.

Even with the importance of the KM, the fact is that KM has lot of definitions however none of them is universal. Any attempts to define KM ends up facing a sticky situation. In contrast, KM (both informal and technical language) seems like an obvious term with no need for further explanation. Nonetheless, many conflicting definitions of KM can be found making it almost impossible to pinpoint a definition that is “well matched” with most existing concepts of KM. On the other hand, KM represents an observable fact that is very difficult to reflect in the lead. While we can speak about KM, any insight into KM can be regarded as knowledge itself. Providentially, such a definition is not necessary for our purpose. We essentially need a practical image of KM that is suited to discriminate KMS from traditional information systems.

The American Productivity and Quality Centre defined KM as “the strategies and processes of identifying, capturing and leveraging knowledge to enhance competitiveness” (McCampbell et al. 1999 citing Manasco, 1996). Conversely, senior managers defined KM as “the core of the consulting strategy and the concept was enveloping in the organisation's internal and external documents”.

McCampbell et al (1999) concluded by taking into consideration the representing of the main aim of the KM, “it is to improve organisational performance by giving the chance to capture, share and apply individual's collective knowledge to allow most positive decision at a proper time”.

However, for the purpose of this paper, the definition which is used for the KM was what Awad and Ghaziri (2003) defined in business organisations, i.e. “fluid mixture of experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information”. Also it is known to be “the most significant tool for efficient management and consequently to remain in the competitive business environment”.

## **2.2 Knowledge Management Tools**

Nowadays, organisations are utilizing tools of KM in search of to implement a KM solution. These tools can be classified broadly into 2 categories:

1. KM techniques.
2. KM technologies.

Using both techniques and technologies of KM can lead to the most successful implementation (see in Chapter 5), this classification presents a practical framework for a argument of KM tools.

### **2.2.1 Knowledge Management Technique**

Application of KM has different formats in various organisations. As a start up, organisations' managers should have a clear view and idea of the specific kind of knowledge their employees' posses. From here, organisations began to realize the importance of the knowledge held by their employees and the need to maximize the use of this knowledge both internally and externally. Most often, generating value from such assets requires codifying what employees, stakeholders and customers know, then sharing that information and experiences among employees, departments and even with other companies (except information deemed to be confidential) in order to distribute best practices among employees.

Hewlett-Packard executives in 1980s declared: "If we only knew what we know, we could conquer the world. As firms become larger, more knowledge intensive, and more globally dispersed, the need for their managers to "know what we know" is becoming acute" (Sanchez, 2005).

To apply KMS in any organisation, it is necessary to create a framework for the knowledge that a particular organisation has. The knowledge framework is important because it is an international approach to how people in an organisation view knowledge in that organisation. Their understanding of KM directly affects how they make sense of the events

around them and any new information they receive. In short, it affects every aspect of their understanding and in turn their decision and behaviour.

The most successful application of the KM can be done by utilizing KM *techniques* in an organisation's framework. Morrissey (2005) affirmed that the most common KM techniques (in increasing order of complexity) include:

- *Mentorship programs*: It is one of the easiest ways to implement KM form. Senior staffs share their skills, experiences and knowledge with junior staffs. While it is impossible to accurately estimate the number of organisations which have established mentorship programs many large corporations including AT&T, Merrill Lynch, Federal Express, General Motors, J.C. Penny, Bell Labs, DuPont, and Sun Microsystems have acknowledged the benefits of their mentorship programs "It is impossible to accurately estimate the number of firms which have established mentorship programs (let alone informal mentorship programs), many large corporations, including AT&T, Merrill Lynch, Federal Express, General Motors, J.C. Penny, Bell Labs, DuPont, and Sun Microsystems have acknowledged the benefits of their mentoring programs" (Morrissey, 2005). The advantages are that this program is an economical and easy technique to adopt, improves self-confidence, turnover and productivity for organisations. On the other hand the disadvantages are that not all mentor relationships will success in the same organisation and not all employees wish to be a part of the program. The reason is that some employees prefer to keep their experiences and skills for themselves only. They believe that keeping knowledge will assist them to stay longer in that organisation and management will depend on their experience and skill in solving problems.
- *After action reviews*: "is a discussion of a project or an activity that enables the individuals involved to learn for themselves what

happened, why it happened, what went well, what needs improvement and what lessons can be learned from the experience” (Morrissey, 2005). The strength of it is a frankness technique that can be used widely in organisations. The best example of an After action review is seen in the form of a *Project Summary*. This summary allows the entire team to contribute with their experiences, lessons learned, issues, and solutions used during the Project. All such summaries can be saved in a shared area where all concerned employees can reference and learn from. Mistakes of the past can then be avoided while at the same time allowing innovative techniques used in the past to resurface and reapplied and if necessary improved upon. Even though it means that the project Manager must remind all concerned to constantly record various bits such a disadvantage far outweighs the benefits. One way to minimize employee resistance to complete reports would be to agree from the onset of the project their exact role and expectation, in writing. Regular gathering of such micro summaries would contribute widely to the accomplishment of such.

- *Regular intra-division meetings*: The above can be assisted by having regular meetings and ensuring that minute of meeting is taken. Employees can then share their experiences while allowing a snapshot of events to be recorded. Issues that begin to emerge can be tackled early on; new techniques can be share to be utilized elsewhere in the project. One good way would be to have such meetings outside the project area allowing for less disturbances and at the same time allowing for a face-to-face meeting to occur in a neutral settings. However, unless such meetings are scheduled and set in stone in advance from the initial set of the project (i.e. the first Tuesday of every month...) it would be difficult to organize such a meeting. Also, the cost of off-site meetings must be taken into consideration when planning the budget of the project.

- *Storytelling*: There are a number of ways to get your point across, tell it like it is straight forward with charts and numbers and risk the message getting lost or tell it in the form of a story that will stick to the minds of the attendees. Arouse the emotions of the attendees and watch them fight to contribute to the story. Denning (2000), a leading advocate of storytelling, announced that “storytelling relinquishes a straightforward journey from A to B, and in the end provides a vehicle for conveying unseen tacit knowledge. Storytelling draws on deep flowing streams of meaning, and on guides of original stories of which the listeners are only just aware, and so catalyzes visions of a different and new future”. However, care must be taken to ensure that this is not the sole criteria for documentation. It has to be used alongside other recording techniques.
  
- *Community of practice*: Wenger et al (2002) defined it as a “group of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis”. Such communities have made the World Wide Web as their gathering place, meeting regularly in chat rooms, forums, and in every nook and cranny of the web. The Wikipedia is a good example of one such group. This allows all knowledgeable members of the team to contribute directly to their area of expertise and allows others to share and interact with them on a regular basis. However, a strong modulator is required to lead and maintain constant interest in this "Community" otherwise the risk of losing interest and allowing it to fade into the junkyard of outdated knowledge.

### **2.2.2 Knowledge Management Technology**

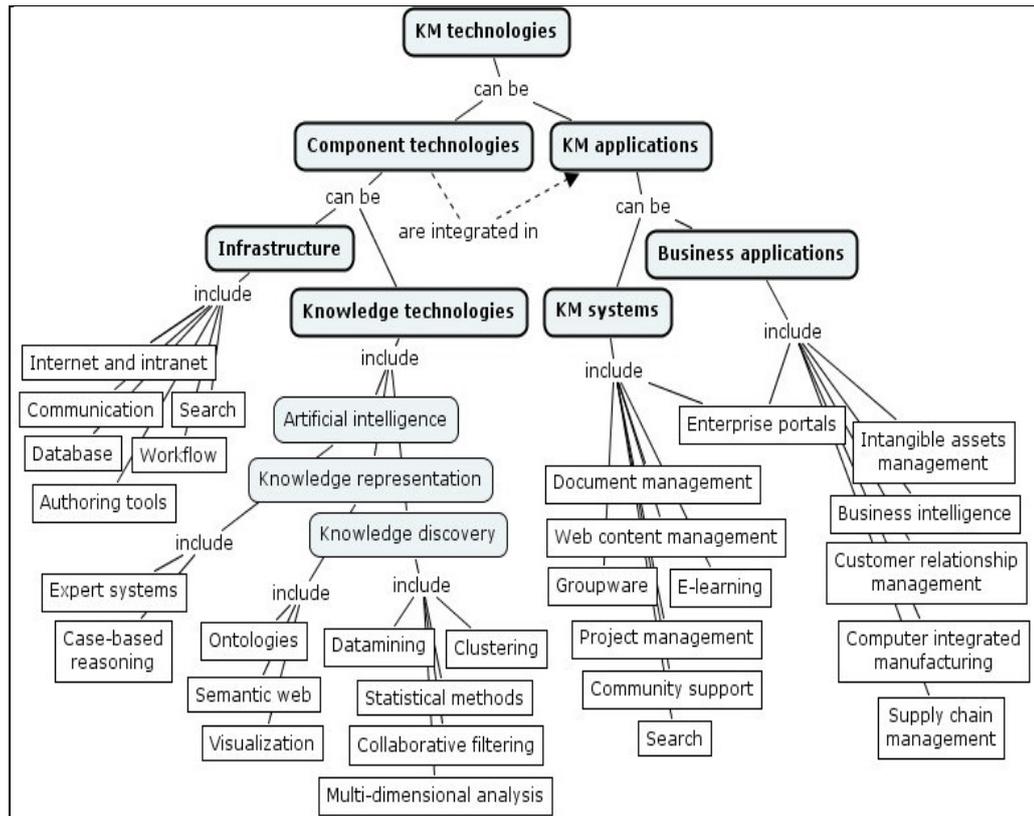
KM technologies can be broadly classified as *component technologies* and *KM applications*. The component technologies are the fundamental structure chunks of KM that are used up by the KM applications, (Broadbent, 1997). For example, internet technology and artificial

intelligence is a form of KM component technologies which are employed by the KM applications like e-learning modules, document organisation and grouping, (Nonaka, 1991).

The KM component technologies are further divided *infrastructure* and *knowledge* technologies, (Gold et al. 2001). Examples of infrastructure and knowledge technologies are Internet, Intranet, Intelligent Manufacturing System (IMS), video conferencing; record management method and information storing, word processors, graphics and other work systems. These new KM technologies have been branched out from artificial intelligence.

On the other hand, KM applications are broadly classified as KMS and KM *business applications*, (Birkinshaw, 2001). The KMSs deal with the management of information, not considering any particular business activity or targeting any particular business purpose. For example: KMSs consist of content management systems, group-ware and area maintenance systems, and education supervision systems, (Birkinshaw, 2001). Conversely, KM based business applications, target exact industry practices and intentions. These KM business applications are used for the purpose of effective decision making, planning, Enterprise Resource Planning (ERP), On-Line Analytical Processing (OLAP), EDI, Business to Business (B2B) and forecasting and logistics.

Figure 1 demonstrates a theoretical chart of KM technologies, as per the above classifications.



**Figure 1 – Knowledge Management Technologies (Birkinshaw, 2001)**

As discussed above, KMSs are planned to permit their customer to access the rich resource of information and facts that are stored in different varieties along the supply chain, and furthermore to sustain knowledge construction, knowledge transmission and nonstop learning for the workers. Even if conventional KMSs can be inclined to offer more functions, they are still mostly focused on content management (capturing, storing, searching and retrieving of data), (Birkinshaw, 2001). The new generation of KMSs, targets to serve better purposes, rather than just content management. The new KMSs seek to promote learning processes, information division and teamwork linking knowledge employees in the supply chain.

Ernst & Young spends about 6 percent of its revenue on KM (Dunford 2000 citing Davenport and Pruzak 1998). Its system consists of three main centres that interact with each other and with consultants through organisation's knowledge web:

- *Business Innovation Centre*: it generates new knowledge.
- *Business Transformation Centre*: it converts knowledge into automated tools.
- *Business Knowledge Centre*: this centre collects, checks and stores internally and externally generated knowledge.

Group of researchers have established a Knowledge On-Line (KOL) system, an intranet-based system which includes a knowledge database storing expert skills, financial reports and other human resources (HR) issues. Currently the KOL system is being used by more than 95% of organisations. Its KM practices are very useful and critical for new established organisations (Dunford 2000 citing Pasternack and Viscio, 1998). McKinsey also has a computer-based Practice Development Network which contains documents that has critical knowledge in practice fields. This system also includes Knowledge Resource Directory (KRD) that lists all organisation experts and reference documents addressed by practice area and customers agreements. Other activities for KM practices include research centres such as McKinsey Global Institute which analyses the affects of changes in international economy. (Dunford 2000 citing Bartlett 1998).

### **2.3 Challenges of Knowledge Management Implementation**

As any other system in the world, KM implementation might be surrounded by many challenges. Charles Lucier, the first chief knowledge officer of Booz-Allen & Hamilton found that 84% of all KM programs will fail to have any real impact (Storey and Barnett, 2000). One study conducted by Ernst & Young in 1997 of 431 US and the European organisations found that the biggest challenge for applying KM is changing people's behaviour and cultures. Storey and Barnett, 2000 citing Thomas Stewart (1998) found that applying KM requires a corporate culture that allows it to flow smoothly, which means destroying hierarchies and getting rid of rules that stop new ideas. A further difficulty found by Dunford (2000) that faces the applying of effective KM is ensuring that when the system is established

and is being used by others. One more challenge discussed by Syed-Ihsan and Rowland (2004) is that in most government agencies are typically hierarchical and bureaucratic organisations that make knowledge sharing difficult.

On the other hand, a research by Suwardy (2003) pointed out that there are four main challenges encountered in implementation of KM listed as follows;

1. Identifying resource procurement.
2. Lack of appropriate development tools.
3. Lack of proper planning or project management.
4. User resistance to change.

However, Morrissey (2005) described that the most common challenges that an organization could face are:

*Overcoming cultural difficulties to sharing:* You are what you know and if others know and since the company rewards such knowledge sharing this experience with others would mean sharing in the rewards. In the work place there are those who do, those who learn from those who do and those that do and learn. In our culture, knowledge is power and retaining such knowledge means retaining the power and making less likely to hire someone else to do the work. However, the Human Resources department must understand this requirement and focus on acquiring those employees that contribute to Open Knowledge Sharing culture. Their policies and procedures must be designed to reward such knowledge sharing.

*Confidential issues may limit ability to share knowledge:* In firms that maintain client confidentiality, techniques and direct lessons learned can be difficult to share without risking divulging confidential information. In such cases, care must be taken to generalize the lessons learned to hide the true identity of the client as is the case in this thesis.

*Encouraging employees to use and share knowledge:* Training the staff on the effective use of the Knowledge Management systems is the key to its success. The case of Service Desk within ABC is the perfect example. Training was conducted; however, it was used in an ineffective and unfocused manner. Although it is being used internally on a regular basis, three years after its release, there still is resistance to its use and talk now is of its replacement. This was due to not realizing its effectiveness and not encouraging the use of this Knowledge Base system. Rewarding the employee for its effective usage would encourage others to use it also in a proper manner but care must be taken not to ingrain in the employee's mind the act-for-reward concept.

*Obtaining senior management support:* The success of the Knowledge Management starts at the highest point of the corporate ladder and this often is difficult. The Return on Investment in form of a business case is the main weapon to gaining such a support in this battle. This is in addition to providing various scenarios along with detailed plans and analysis of the social network.

*Justifying an investment in the KM:* Quantifying this investment of resources to be directly attributed to the profits is very difficult especially if no other examples of such work is available thereby limiting its effectiveness.

*Project scope may be over-ambitious:* Keeping things to prospective is necessary to avoid future disappointment. Even if you realize all the requirements of the project, KM is not a "magical solution". This is a hungry baby that must be constantly fed and taught and no matter how old the baby gets, constant nurturing must take place to ensure the project stays within its humble scope.

*Potential for over-confidence on KMS:* As stated above, avoidance must be made to utilize (or over utilize) the reliance on this system. No matter what the system documents, there is a wealth of knowledge outside the

system that constantly resist all attempts to be brought within the constraints of the KM. Employees must realize that the KM is only one of the resources at their disposal. In some cases, they may be a need to "Google™" something out or rely on other non-documented ways to compliment their search for knowledge. In addition, the Organisation must also allow for the correction of faulty information entered erroneously by subjecting the data within the KM to constant quality checks.

*Aligning organisation's practices with KM strategy:* A KM that is not aligned with the organizational practices and in sync with HR strategy is bound to fail. Clear outlining of this synchronization must take place.

*Technology:* Retaining all this knowledge in an antiquated library or requiring a ceremony to gain access to this data will only serve to limit its effectiveness. At the same time, providing such data in the latest state of the art technology when the organization is still in paper and pencil stage will only serve to limit its use to the very few. Therefore, realizing the technology that best suits the organization is a key aspect in bringing everyone on board.

*Measurement:* Realizing the effectiveness and benefit of the organization's KM can only take place by constant measurement. This is due to the gradual and sometimes snail like movement of such changes. However, this constant monitoring and measuring will allow for the realization of this change on the organization and will give the senior managers the reasoning to substantiate the need to support the KM project.

## **2.4 Applications of Knowledge Management Systems**

“Certain industries have more readily adopted and invested in knowledge management in recent years. In the consulting industry, for example, it has been estimated that the major firms may spend as much as 6-12% of revenues on knowledge sharing programs” (Morrissey, 2005).

There are a number of IT applications that can benefit organisations to develop its information system so as to meet the customer requirements. Business information, production reports, warehousing data, inventory problems can be supported with the help of better managed KM solutions coupled with IT solutions, (Hansen et al. 1999). Examples of these applications:

**Enhancing product sales:** If a data cube OLAP is formed properly, it can help the organisation to identify the main products that can be sold easily over the phone by analyzing the past trends of the Tele - callers and the sales graph. The sales data can be recorded and converted in the form of an OLAP cube and then changed into textual form which can be used in the decision making by the management upon which products to reinforce in the market by studying their popularity chart, (Newell et al. 2006).

**Better distribution network:** A problem with the distribution network has been cited at many instances, causing difficulties with suppliers, production facilities, and distribution outlets. At the same time, the inefficient data distribution has been identified as a cause that leads to loss of integration of various processes and causes the inability to predict demands, forecasts, inventory and transportations needs. The use of data in the form of OLAP cubes can help to sort out the errors and analyze the losses and its causes in an effective manner, (Bollinger and Smith, 2001).

**Efficient product development life cycle:** Organisations can streamline and homogenize its product development procedure to a better level than before. For this is required that right from the initial conceptual phase, to the comprehensive blueprint stages of the product, to the last authentication and testing stages of the product, a prescribed procedure is followed. In order to obtain this, a product *Life Cycle Management System* can be used up by organisations. This will help to capture the mass of product data generated by organisations. The expertise is intended to alter product development from a series of independent procedures to single, joint information from different sources, (Newell et al. 2006).

**Higher data interchange efficiency:** A new technology known as an EDI can be successfully implemented to extract information between an organisation and its customers in a far more effective manner by converting the data into a standard format and sent via a proprietary system to another organisation's system, where it could be robotically imported. This effectively condenses the labour intensive double entry of dealings to manual single entry. EDI is used up by many companies around the globe for transaction automation.

**B2B technology:** This refers to cross organisation. It consists of a new information messaging language known as Extensible Mark up Language (XML). Just like the EDI, it can offer a lot of help to the organisation's agenda to introduce a new format for communicating information. With the help of the XML-based process integration tool, organisations can be able to easily spare a duplication of the manual single entry they could achieve via EDI, but a lower cost. XML bases enterprise integration has more re-usability than the other counterparts. Different from the EDI, XML does not needs any sort of proprietary systems; it could be used to send information directly across the Internet, (Bollinger and Smith, 2001).

**Higher cross-organisation communication:** This technology combines both the open technical values of XML and EDI and facilitates a higher level of cross-organisation integration and communication. Figure 2 compares the use of system communication to human communication:

Business exchange	e-Business exchange
Human-to-human	System-to-system
Telephone	Econ Application
Business Process	e-Business Process
Dialog	PIP
Grammar	Framework
Words	Dictionaries
Alphabet	HTML/XML
Sound	Internet

**Figure 2 – Rosetta Net (Bollinger and Smith, 2001).**

Rosetta Net enterprise technology consists of a major constituent, the set of Partner Interface Processes (PIPs), which enclose the regular trade actions used in cross-organisation communication. Each group is then busted into sections, which are themselves broken along into spattered PIPs. For example, within the order supervision group there is a section for estimation, quotation and item order entry, which contains several PIPs, including one called *Query Quotation and Item Availability*. This procedure takes in computerized computation of a replacement graph and automated transmission of this information to each supplier on a daily basis. A subsequent most important benefit of Rosetta Net and comparable standards has been the enhancement in reusability from one realization to the next task. As long as every participant follows the same standards, the bulk of the implementation cost for a given process occurs with the first implementation. The expenditure of successive tasks with the help of Rosetta Net is thus greatly reduced, (Miller, 1987).

Due to these applications, it has become vital that the current practices in organisations be revised and studied in depth to render the process to become more effective and profitable for organisations. It is predicted that organisations will gain considerable benefits from the newly installed KMSs.

## **2.5 What the change could bring out for Organisations?**

First of all we need to know why a particular company needs to change. Actually there are many reasons and conditions which could lead to the need of change. Such as:

- ***Financial perspective:*** Companies are in need to look to their owners and principal to achieve the goals. The three main elements of financial were profitability, growth and shareholders' value.
- ***Customer perspective:*** It is necessary to satisfy customers by offering better quality, services and price.

- **Learning and Growth perspective:** companies concern is on market innovation, continuous learning and intellectual assets.
- **External perspective:** International competition in roaming markets. In the middle of the world, there is very few number of Data Clearing House. So, change is required to maintain high level of inventive services.
- **Internal perspective:** Risk of expected high employee turnover due to their displeasure of current place. That's why the management processes excelled at cycle time, productivity and cost.

Initially the concepts of modern KM techniques that could bring about valuable organisational changes and benefits are unknown to many organisations. The various departments of an organisation which are responsible for different process developments like order fulfilment process, purchasing, customer service, and logistics are speckled all the way through the organisation, (Alavi, 2000). In general, organisations wish to improve their system by integrating all the various systematic and unsystematic ways into a single KMS. While they face continual fight against new products that could launch in the markets with modern features by their competitors, the introduction of KMSs in organisations could certainly help it to gain a remarkable opportunity to increase its profit margin by improving operational efficiency.

As Whittaker et al (2003) declared a number of issues that provided as the main drives for the change:

- **Foresight:** Collection of sales and product administration contribution to produce a consensus forecast, which can be transferred to organisation's ERP system. This new ERP system can improve estimation accuracy of the customer, at the same time, reaching accurate information without any errors. Getting support of senior management for the KM effort of organisation is one of the difficulties that an organisation must overcome with. The true is that senior leadership direct the KM effort.

- **Implementation speed:** Reacting to customer needs can be faster than other competitors. New KM technologies can bring down the standard lead times and improve the automation.
- **Monitoring and control:** Possessing superior visibility to the organisation's own performance and statement of this performance within the organisation is important.

On the other hand, Field and Keller (1998) discussed that applying change to a component too early will slow down progress and applying it too late will lead to confusions. Nevertheless, Hodge and Coronado (2007) insisted that to form a change, models and concepts should be considered from two areas. These are chaos theory on one hand, and theories of post modernity on the other.

Research by Maurer (2003) indicates that usually employees refuse to accept any change. That is why; raising strong reasons for applying a change is the most important part of the change process. People should understand why something is important before they got interested. One of the main difficulties to change is that employees cannot expect where they will be located and what are the daily tasks will be added to their responsibilities after implementing the change. "You can't tell where you're going to be at the end of all the changes, you just have to wait and see where you end up" (Driscoll and Morris 2002: 803). However, if changes are accomplished successful, they can lead to aggressive advantages for an organisation in the market place. It means that there are several factors influencing a change. These factors can either cause critical success at one side or critical failure on the other side (Chrusciel and Field, 2006).

## **2.6 The Advantages of Knowledge Management in Organisations**

Part of customer satisfaction, KM has lot of significant advantages for organisations. According to McCampbell et al (1999) citing Davenport (1998), KM has helped to transform one large consulting organisation.

This was very clear in improving the financial results after engaging in KM practices. KM has helped the organisations across the world to apply functionality, scalability, and dependability of modern database systems in order to create large power houses of data and extract much needed information for business advantage, (Gold et al. 2001).

KM techniques are able to help the managers to improve the Web with better and improved data mining and search options, (Nonaka, 1994). If these two technologies are combined together then they can help to analyze data and text together. For example, KM has worked to combine the usefulness of data warehousing and OLAP. Data ware housing is a technique where in all the data is analyzed and presented in a useful form so that it can be better utilized for business decision making. The sources from where all the data is collected are known as Operational Data Stores (ODS). This collected data is then extracted, transformed and sent to the data mart, where data cleaning is performed in which the data variations present are resolved. Inside the data mart the data is modelled in the form of an OLAP cube which helps to analyze the data easily. Large data ware houses currently hold tens of terabytes of data, where as smaller, problem-specific data marts are typically in the 10 to 100 gigabytes range.

Line of consultants found it very useful to refer to organisation's centralized knowledge centres and accessing useful historical data such as: old presentations to other customers, process and system design specifications and work plans and other project-oriented collateral and artefacts.

The key reimbursements that appear from effectual KM and knowledge sharing are basically the augmentation in the speed and class of the study being executed, (Awad and Ghaziri, 2003). A reduced amount of time is exhausted searching for information that has previously been recognized or formed; as a result supplementary time can be used up in analyzing and connecting dissimilar portion of information. Contemporary electronic tools make these targets achievable. Voice and video conferencing through

high speed internet connections smooth the progress of real time group effort at a fraction of the cost in time and money. Online meeting tools can significantly make possible document construction and control.

## **2.7 The Importance of Knowledge Management in Organisations**

Research by Ponzi and Koenig (2002) Critics of knowledge management have suggested that knowledge management is just another management fad, similar to quality circles and total quality management in the 1980's and 1990's. Some critics liken knowledge management to these management fads which were "considered an innovative concept or technique that is promoted as the forefront of management progress and then diffuses very rapidly among early adopters eager to gain a competitive advantage. After organizational leaders come to the realization that the concept has fallen short of its expected benefits, the concept is quickly discontinued or drops back to very modest usage". However, KM was in high demand in American business over the past few years as millions of employees with vast experience collected through decades (baby boomers) plan to retire over the coming decade. Tens of millions of baby boomers turned 60 in 2005, so those of them who aren't already retired are certainly planning to do so soon and when they leave, the knowledge and experience they have acquired from their jobs, companies and industries during their long careers gets lost.

The truth is that KM became an established business strategy that has achieved broad recognition in recent years due to the escalating consumer demands for quality and on time delivery of their product. Innovative ways and some drastic changes in the mode of communication between the supplier and customer, along with cost reduction have resulted in the emergence of an efficient management approach. Effective use of KM is principally related to the optimal course of production steps and information routing starting from the production department to the customers, (Kaplan and Reed, 2007). Each step of a product development routine and its procurement to the customer involves the need of an

accurate data system, data sharing, data allocation and data backup systems all of which ensure the optimal results. A proper KM and data distribution strategy and usage of this accurate data at all levels will not only improve the flow of materials from the end-user outlook, but it also reduces logistics costs.

The importance of KM is also influenced by the importance of keeping individuals knowledge inside organisations premises. When a person leaves organisation, huge amount of knowledge just leave from the door (Dunford 2000 citing Pasternack and Viscio 1998). The problem of staff turnover also happens in all government organisations. Employees leaving the civil service to other posts are causing risk of losing critical information, because organisational knowledge assets may be lost as people retire or leave for other positions. It is important to have an appropriate strategy to ensure that knowledge does always exists in the organisation (Syed-Ihsan and Rowland, 2004).

In general, such issue 'employees retirement' is not only affecting organisation performance, but it also affect customer satisfaction. Colin (1997) stated that customer dissatisfaction will increase when customers find themselves dealing with new inexperienced employees who are unaware of their jobs. Staff awareness is very much related to knowledge. It is obvious if KM is applied, new staff will have a reference that will prevent them from unawareness. With regard to customer support, many KM projects spent effort to improve customer satisfaction by minimizing waiting time of phone support. Such efforts lead to higher productivity and quality within organisations (McC Campbell et al. 1999 citing Davenport et al. 1998).

# Chapter 3

## 3.0 Methodologies:

For the purpose of having a proper investigation and analysis about the KM in ABC Data Clearing House, a several methodologies were carried out in this study including both quantitative and qualitative methods. These methodologies were examined and evaluated to what extent the KM was applied in ABC and how it is performing accordingly.

In order to have a complete scenario, it was necessary to make the study in two stages:

1. Stage 1: Take cares of collecting information and data about the KM, shows the important fields of KM based on other reviewers' studies and thoughts. This stage was performed in the literature review section.
2. Stage 2: Take cares of data analysis and investigation about the KM then compare it with other reviewer's studies. This stage was performed in the finding and discussion and analysis section.

The main data and information of the study came from 10 *Semi-Structured Interviews*. A Semi-Structured Interview is a method of research used in the social sciences. It is flexible, allowing new questions to be brought up during the interview as a result of what the interviewee says. The interviewer in a semi-structured interview generally has a framework of themes to be explored (Wikipedia, 2005). Actually it was one of the methods that allowed applicants (employees) to present detailed, honest and deep answers of the asked questions. In addition, this methodology allowed gathering data and information in an appropriate and professional manner. A recorder used to trace every single sentence said by applicants. Also the notes taken during the interviews were then analyzed satisfyingly. The average time was about 40 minutes per interview. The

aim of the questions was to measure the value of knowledge already within ABC organisation.

However the concentration was on the current situation of the KM in the organisation and how it affects organisation's' performance, problems faced and what are their recommendation for better enhancement (see appendix C). It can be noticed from appendix C that not all employees have been asked from the same questions. For example: Operation Manager has not been asked about the questions related to HR. Figure 3 shows the 3 types of applicants with their titles in ABC Organisation (names have been changed):

	<b>Type 1</b>	<b>Type 2</b>	<b>Type 3</b>
<b>Level</b>	<b>Head Of departments</b>	<b>Junior Staff</b>	<b>Contracted Staff</b>
<b>Title</b>	1- Operation Manager 2- Finance Manager 3- Development Manger 4- Support Manager 5- HR Manager 6- Business Excellence Manager	7- Project and System Analysis 8- System Administrator	9- Junior Programmer 10-Data Entry
<b>Name</b>	1- Mr. Rashed 2- Mr. Jasim 3- Mr. Mohamed 4- Mr. Abdulla 5- Miss. Noora 6- Mr. Ali	7- Miss. Mariam 8- Mr. Othman	9- Mr. Shams 10-Mr. Shahina

**Figure 3 - Classification of three types of applicants with their designation in ABC.**

The records of the 10 interviews were unitized into separate important units then examined and summarized them into fewer significant units. These units were used to identify specific subjects. Krippendorff (1980) showed that “units are wholes that are distinguished and treated as independent elements. Units can be defined on the basis of categorical, thematic, syntactical, physical, and propositional distinctions”.

Bennet and Bennet (2008) found another way to achieve sensitivity to the unconscious through the use of sound. For example, listening to a special song in your life can draw out deep feelings and memories buried in your unconscious. That is why, beside the above methodology, *Interpersonal listening Skills* were used through thinking, summarizing and analyzing the evidence then establishing a connection between the lines of voice and proof.

The truth is that there were some employees in ABC who were suffering from serious interpersonal conflicts and deep emotional injuries. Thus, the role of the listening skills has been used because it was necessary to know the state of their mind, open the closed gates and release their emotions' needs. Such employees are not likely to think obviously about the challenge or to be friendly to external input from another.

Even during this voice process, there was still extra pressure for some employees to believe other viewpoints. Nevertheless the idea of employing the listening skills was to capture and note down emotions, angers, stresses, frustrations and the other negative feelings of the employees then to help them to see more clearly.

A further methodology which was used is a *Work Environment Observation*. It was by observing the daily processes and functions which were happening in ABC. It considered as a valuable methodology that provides richly details of data. Emails history was referred to view historical problems with customers or internal due to missing or lack of

required knowledge. According to Matthews (1998), “the observations and ideas are drawn from practical experience”.

However, the disadvantages of using the observation method are that the existence of the observer may affect on the employees to change their normal work behaviours. It is important for the analyst to be unremarkable in their observations. Employees might change their work behaviour if they know that they are being observed. This method is not suitable for jobs that involve important amounts of time spent in psychological effort.

# Chapter 4

## 4.0 Findings and Discussion

### 4.1 Current Status in ABC:

In order to understand how knowledge is managed in ABC and what are the consequences of such management. Figure 4 shows an overall view of the knowledge flow in ABC.

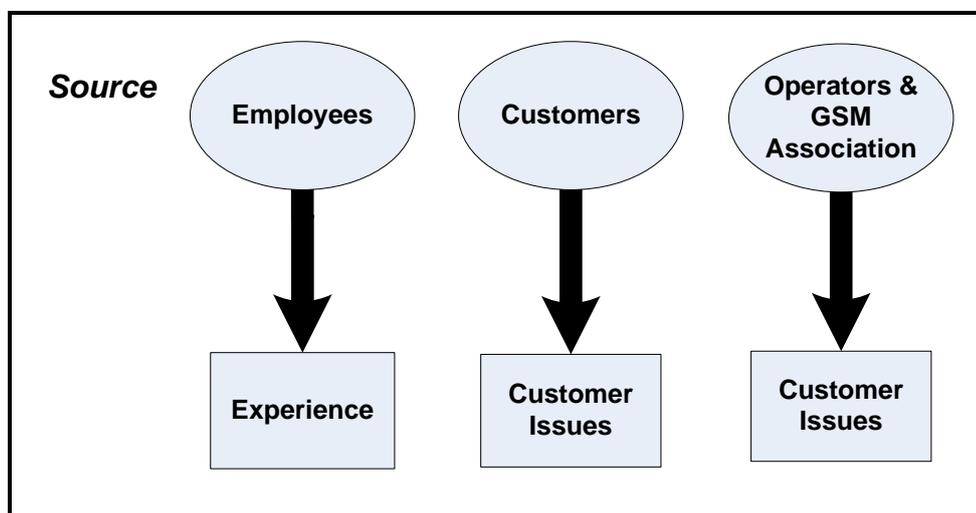


Figure 4 – Overall Knowledge Distribution in ABC

#### 4.1.1 Individual's Experiences

Individual's experiences of the employees can be considered as high value asset for the organization. ABC has an individual work environment. Most of the functions are performed by individuals not teams and those individuals are normally in the same position for several years or sometimes till they leave the organisation. So, knowledge is stored in their heads. Eight out of ten of the interviewees admit that the high value asset for the organisation is the staff themselves because they have unique experiences and skills that make them more valuable in the roaming

market. On the other hand, the rest two believe that the *Unique System* which is existed in only five Data Clearing Houses is the high value asset for the organisation. It is the engine or the spirit that ABC cannot live without it. They think that the staff can be replaced and new staff can be hired any time but the system itself is not negotiable for replacement or existed everywhere.

Mr. Rashed (Operation Manager) affirmed that when an employee is leaving the organisation or going to an annual leave or even going for training, it is very difficult to carry on with his tasks and duties. As an example, a System Administrator in *Operation* Department who worked for eight years has just left the organisation. ABC is still suffering to find out scripts location and how some critical tasks were carried out.

#### **4.1.2 Customer's Information**

Customers' issues, information and agreements are usually stored in the emails. Emails are also considered the main communication way between staff. Mr. Abdulla (Support Manager) declared that if a particular customer raises any request or complaint, it will be sent to the concerned team (Customer Support or Marketing) and then that team will just forward to the others to take action. Follow up, reminders or updates again will be by emails. Master customer's information are only stored with Marketing and any other issue (e.g. request, complaint) can be referred to by searching emails. He added that there is no central repository for customer's information and issues. One more concern is that in ABC there is no integration between departments.

Mr. Mohamed (Development Manager) concedes that each department is carrying on the tasks and projects using its own procedures and other departments are not aware about the whole cycle and tasks for the others. Departments in ABC are not working as teamwork. Every Department starts blaming others especially when problems occur. For example, even within *Development* department, there are three development teams. One

is for *Online Services*; second one for *Value Added Services* and the third is for the *Daily and Core Business*. As per business requirements, each team is using totally different platform and different database.

Furthermore, customer's information is stored in 3 different tables or entities. Mr. Mohamed admitted that such way of handling knowledge is having negative consequences in the following major areas:

- a) **Organisation Process:** Based on all above explanations, organisational process in ABC is very slow. When a new employee is joining the organisation, he will just get trained by explanation from each staff but he will not get any document and other source to refer for further information. Since knowledge about other projects are not shared and isolated, it happened that same problems are repeated in different projects.
- b) **Innovation:** The link between innovation and KM as Anantatmula and Kanungo (2008) explained is that the more the organisation is able to leverage knowledge and improve decision making, the more chance it has to innovate and improve productivity (see Appendix D). As a normal conclusion for current situation in ABC, there is no room for innovation. Instead of spending time to innovate and create, time is wasted in solving repeated errors, finding related teams and searching for historical data.
- c) **Strategic Decision Making:** The observation which has been done in ABC showx that there is no base for strategic decision making. Decisions to target specific market, start new service or even procure new software or hardware are just thrown out without having accurate support and business study. From here it can be assumed that KM is not really appreciated by the senior decision makers.
- d) **Customer Satisfaction:** When a customer contacts the marketing department for any request, incident or problem, normally it takes time from the marketing department to find out the answerable department. Since no system is storing all required knowledge, the

responsible team has to refer back to all emails from history. One more fact Mr. Mohamed included is that each customer is having an account manager, if he is not available at work and the customer is asking for any updates, nobody else can handle that particular customer's enquiries. By such way, customer satisfaction is affected negatively as it took long time and process to get a response.

#### **4.1.3 International Roaming Data and TAP files**

As Qi et al (2006) discussed, there are two main factors that affected the need to have KM. The first one is *competition*. The more tough competition exists in the industry; the highly demanded is KM. Instead of extending the evaluation period of the KMS over a period of time, the competitive factor might force the organisation for a quick act. In addition, when the system is completely implemented across the entire organisation, organisations completely realize the benefits of its KM program. The second factor is the *volume of data*. If data volume is high, managing knowledge again is in high demand. In ABC, both factors are applicable. Competition is too high; only five data clearing houses exist in the world including ABC and roaming data are also growing rapidly.

In fact, data are exists mainly in TAP files. These files contain all incoming and outgoing calls and messages records. On a daily basis, ABC receives around 20,000 files and the size of each file is 200 Kilo Bytes (KB) approximately. Mr. Jasim (Finance Manager) declared that ABC offers a comprehensive financial clearing and settlement service for handling reconciliation of TAP files records and net settlement of financial accounts between its customers and their roaming partners. In addition, financial clearing includes receiving and sending invoices, reconciliation and bank account management, follow-up of payment, settlement of accounts, book keeping, sending and receiving credit and debit notes and many other customized services.

The TAP files are stored in a huge storage system. On the other hand, all *Paperwork* and documents are classified and stored in big cabinets in proper way for only 3 years. He added that there is no dedicated system to scan these documents before sending them to Al Musaffah (the main store). This makes the mission of referring back to any old document very difficult and sometimes impossible especially when a problem occurs. He acknowledged that ABC needs a systematic way like text retrieval systems and document management systems to handle the huge number of knowledge which is stored in inaccurate way.

From the above it can be understood that the international roaming data and TAP files considered as the backbone of ABC.

## **4.2 Business Challenges**

This section highlights the various challenges facing the organisation which are the main drivers behind the need for organisational change through the ascent of KMS at ABC Data Clearing House. To be clearer, the challenges are detailed as below:

### **4.2.1 Main Challenges:**

**Competition (A):** Organisations are moving fast in the direction of international competition which let employees to be the most concerned factor in building success for any organisation that wants to keep its reputation. The fact is by taking care of employees, organisations are actually taking care about their knowledge. The other competitors are using knowledge more effectively than ABC does. As an example, this is what MACH Data Clearing House has done. They concentrated on the staff themselves. "We welcome new employees of every nationality and educational background. We believe that creativity and innovation flourish in an international and multicultural environment. We encourage our employees to take initiatives and constructively question the way we do things in the search of new and better ways. Outside working hours, we provide a variety of social and recreational opportunities and believe

strongly in a harmonious balance for each member of the company” (MACH, 2010). It is true that more than 75% of the employees in ABC are foreign and the rest are locals (see Appendix E) but the reason behind that was because they were contracted employees. It means that the management was thinking how to save money rather than employing different nationalities and experiences. As a result, the management of ABC are not realizing that the employees are the most important asset that they have and keeping this asset is the biggest challenge that they suppose to worry about.

It has been found from the observation method that ABC was concentrating on the separation itself and how to become an international organisation. Morris (1994) assumed that “the potential IT market is huge but so were the costs, and risks, of playing” (p.185). They were very fresh in this field comparing to the other competitors. They believed that the best way to save money was by creating their individual systems rather than bring consultants to make a study about the knowledge situation in the organisation. There was a big risk because few employees were dealt with these kinds of systems and they do not have the enough background about it. At the same time, none of the programmers in ABC were aware about how this system suppose to work. However, they took this challenge seriously and started searching for tools to help them in building it.

**Contracted Staff (B):** Miss. Noora, (HR Manager) declared that the idea behind using contracted staff is saving money and increase the company’s revenue. ABC is paying for *Data Entry Team* only 3800 AED per person per month and 5000 AED for each programmer. In addition, this package is without any other allowances. The reason behind this is that ABC hired these contracted staff through contracting organisation such as: First Select and CNS (see Appendix F). However, each contracted staff has the opportunity to become a permanent staff based on his line manager recommendations and available vacancies. Unfortunately, the documents show that only 10% will have this chance every 3 years.

At the same time, Mr. Othman (System Administrator) believes that contracted staffs are not loyal to ABC Organisation because they feel that they do not belong to this organisation. They are also afraid that the organisation could get rid of them any time and for any reason. In contrast, contracted staff can leave the organisation too at any time without notice period. A further disadvantage is that many of them are working in very sensitive and critical positions which could make the situation of the organisation unsecured. Some other contracted staffs are working on the *Live System* and have direct access to customers' private information.

The danger could happen when a particular contracted employee leaks these information to other customers. One last disadvantage that Mr. Othman added is that the contracted staffs do not have enough skills and experience. Most of them joined the organisation to learn and get experience rather than giving. Together, Mr. Ali (Business Excellence Manager) shared the same opinion that Mr. Othman had. He also included that outsourcing the position of secretary is very risky because she could get to know all the sensitive business information and all about what is happening in ABC especially the problems and weakness.

On the other hand, Mr. Jasim agreed with Miss. Noora that contracted staffs are costless. In addition, he believes that hiring contacted staff will give managers the chance to decide and choose best contracted staff that they want to hire in permanent position. This way is better than hiring directly based on a single interview because managers can test contracted staffs' abilities and skills. Moreover, ABC is away from employment visas' problems and overheads due to the setup that contracted staffs would deal with their main organisation about HR issues.

From contracted staff point view, Ms. Shahina (Data Entry Team) answered that she did not get enough training when she joined the organisation. She declared that her manager believes that entering data does not need skilled staff. He thinks that staff in data entry team will understand the methodology of the system by the time even if they do not

have enough idea about it. The consequences were that the contracted staff took more time to become familiar with the system. This resulted in a large number of mistakes made while entering the data.

**Documentation (C):** is a further challenge which faces ABC. It is factual that the TAP files are stored in a huge storage system and paperwork are classified and stored in big cabinets but the truth is that it is not easy to find and access to these documents easily. Even the master customer's information and critical data which are stored in the emails and unsystematic processes are not easy to reach. Miss. Mariam (Project and System Analyst) stated that there is no central location to collect, store and organise project's summaries. However, she mentioned that recently ABC started using *Video Conferencing Technology* which helps different parties to arrange virtual meeting from any place in the world. From the first date of launching this service, he dedicated a separate storage system (Storehouse) to store all recorded and converted knowledge which users can reach easily later on.

Mr. Abdulla declared that they are also using an organized process to track requests and incidents internally. This system called *Service Desk (SD)*. Employees use SD to raise their requests, incidents, problems and issues within the organisation. Each SD has a unique reference number called a *Ticket*. A particular ticket is always in open status until the problem become resolved then it will be closed.

From the above it can be noticed that ABC has some systematic methods to collect and store their data and knowledge but unfortunately these systems are not centralized and they only organize barely 5% of the whole knowledge and data which are existed in ABC. This could let employees to collect and store the wrong information. The above systems may fail to appropriately assess what knowledge needs to be retained by employees. Or try to retain all data and come across data load.

However the most awful challenge here is documenting employees' experiences and skills which are actually related to transfer or share knowledge that will be discussed in the following challenge.

**Knowledge Sharing (D):** One final challenge is sharing knowledge between employees. As mentioned previously, the nature of work environment in ABC basically is task oriented. Therefore, the management did not give lot of attention to employees who are actually the spirit of the organisation. As a result, employees' needs became at the end priority of organisation's objectives. But the fact is that the experiences and skills are stored in employees' heads. Mr. Shams (Junior Programmer) admits that he prefers to keep his experience and knowledge for himself because this is the only way to stay at ABC for longer time until he finds a better job. Mr. Shams and some of his colleagues mentioned that they will share their experience with new staff only if they get motivated. They added that the motivation can be done only by increasing salary or if they become permanent staff.

Mr. Ali acknowledged that it is not easy to push employees shiring their information, knowledge, new experiences and projects with others. As a result of unshared knowledge about projects; same problems could be replicated in other projects. There is no proper system to capture, share and apply employees' collective knowledge to share it with larger people within organisation. However, he added that the capability of sharing knowledge may be limited. For example: there is some confidential information about the customers which is supposed to be kept in the marketing department and not to be shared with anyone else.

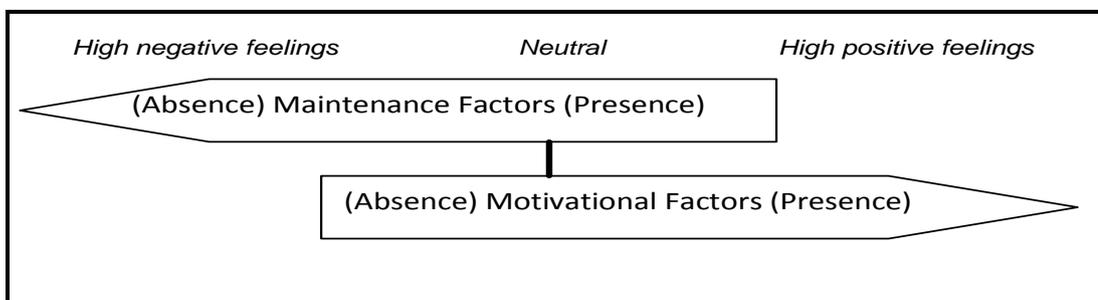
#### **4.2.2 Secondary Challenges:**

**Motivation (a):** The current structure has lot of problems which are affecting the work process. Employees who should drive the change are losing the motivation to take the initiative regarding any change aspect. In general, the organisation is prevented from any change ideas.

In fact, the major reason that makes employees to refuse sharing or transferring knowledge is *Low Motivation*. Employee's motivation is an important matter which could have affect on organisations' productivity. Consequently, low motivation could be a major risk in the work environment. Sadly, ABC does not realize yet that the low motivated employees may cost the organisation a lot of effort and money by the time. The main areas which could be affected are: *Organisation's Reputation, Employee's Productivity and Loyalty and Work Environment*.

Naively, ABC management has been de-motivating their employees in many ways and reduced their productivity. Usually employees receive insufficient appreciation and most of them receive no recognition. Sirota et al (2006) said that "many companies treat employees as disposable".

Newstrom and Davis (2002) warned about ignoring employees by say "employees should not be ignored. They are necessary for building a foundation on which maintains a reasonable level of motivation in employees". Thus, the employees in ABC started to send some signals which reflect their perception and displeasure against the management. Their attitude has been changed by displaying their anger in front of their supervisors. Many of them started coming late. At the same time, the percentage of absenteeism was excessive (see figure 5). The quantity and quality of work has been decreased because employees' interest about the work declined. Consequently, the personal e-mail usage has been increased during working time.



**Figure 5 - Effect of maintenance and motivational factors (Newstrom and Davis, 2002)**

However, the main factors which led to low motivation in ABC are:

- **Lack of management awareness:** The management did not recognize the importance of motivating employees and how it could affect on the performance of the organisation later on. The management concern was how to develop the business. They were too far from employees' needs and expectations (see Appendix G). Davidhizar (1993) declared that leaders have used characteristics related to authority, competition control and logic. Such approaches are more autocratic and task oriented.
- **Promises without execution:** Mr. Rashed declared that “the management have been using negative ways to motivate and keep their employees by promising them. They promised to promote the employees, increase their salaries and upgrade them to higher level but all these were not fulfilled”.
- **No Justice:** Mr. Abdulla declared that the term of justice especially in promoting employees is almost not existed in ABC. Usually the General Manager (GM) would promote the employees who have good relationship with them. No matter if he/she is a hard and dedicated employee or not. On the other hand, if they do not want to promote someone, they would point out his/her faults and weaknesses. “Management is much more likely to criticize them for poor performance than praise them for good work” (Sirota et al. 2006).
- **Inappropriate job title (description):** Miss. Mariam mentioned that “about 60% of the employees have inappropriate job titles. They do something and the title relates to other tasks”. Conversely, some employees have been assigned tasks which are lower than what they expect as per the job description. For example: some senior level employees are doing tasks related to junior level employees. This means that the abilities and skills of these employees are not used in proper way. At the end, this leads to disappointment.

- **Job rotation in not applied:** Miss. Mariam Added that job rotation policy is not applied in ABC. Only in rare cases they change somebody's job. For example: if employee A is terminated form the organisation then they will bring employee B to learn his tasks in one month period. These kinds of rotation are not effective because it usually comes by force and there is no enough time to transfer knowledge efficiently.
- **Employees are not getting as much as they expect:** According to Mr. Shams, most of his colleagues including him are not satisfied about what they are getting. They believe that they are performing well but the outcomes are not as they want. They think that they deserve more. Some of the employees are getting fair enough or more than what they expect, not based on their hard working but because they fight for it.
- **No trust for empowerment:** It is difficult for most of the employees to improve their skills. Even if someone gets promoted, he/she will do the same tasks. Most of the employees remained in the same level for the last 5 years.
- **Involvement in decision making is not allowed:** Gollan (2002) declared that there is wide dissatisfaction with management for their unwilling to involve employees in decision making. Mr. Noora acknowledged that the middle managers in ABC are crossing points between junior employees and managers. They believe that they should be involved in making decisions for most of the tasks related to work and employees. They feel that they are not trustable to be referred to when any decision are being made related to their tasks.
- **Most of the requested courses by employees are rejected:** Mr. Othman affirmed that due to work load, the requested courses by employees may be cancelled based on supervisor's point of view. The participation of most of the employees is poor. Some of employees did not attend any course for more than 2 years. They feel

that they are not updated by new technology and their overall knowledge is decreased.

- **Unfairness between managers and employees (male and female):** Miss. Mariam said that only senior managers are getting involved in making decision, creating strategic plans and changes. They have the priority to be promoted before the normal employees. Most of them take the overall credit from their staff. Employees only get the final result of decision as a notification. On the other hand, only 19 % of the employees are females (see Appendix E) and only one of them is involved in making decision. Actually there is no trust on female employees at work especially in technical departments such as programming. “Boys report stronger ability and interest beliefs in mathematics and science, whereas girls have more confidence and interest in language arts and writing” (Meece et al. 2006).

**Organisational Structure (b):** There are some series problems in the organisational structure of ABC. It is affecting the implementation as it defines the scope and limits of behaviour within an organisation. While lots of advantages are related with the functional organisations design, the harmful effects of current organisation have cracked all the advantages. ABC is adapting functional organisation structure where the responsibilities are grouped according to similar functions. Analysis of the current situation shows that:

- No advance in the current structure. Appendix E shows that over the last 5 years, no major difference has happened. Employees get promotion only after completing specific number of years instead of evaluating their achievements. If any employee promoted, his/her grade level will be upgraded only while his responsibilities and position in the organisation structure will stay the same. So, managers stay managers, supervisor stay supervisor and junior stay junior.

- In a team, seniors and juniors are doing the same tasks. It means that the responsibilities distributed between them equally. Only managers are doing their real tasks that they are supposed to do.
- There is no dedicated team for projects. Whenever a project idea is initiated by the GM, section managers assign it to an individual employee as a normal daily task. Projects are not prioritized and properly planned. There are no committed meetings and analyses are taking place. Thus, projects usually are delayed and delivered to customers with many gaps.
- Both *Service Development Production Systems* and *Software and Program Development System* are doing same tasks. Such repeating is affecting projects performance. Repeated teams lead to work duplication.
- There are multi functional employees in each team who usually taking care of the whole issue starting from the analysis phase ending with the implementation phase.

**Leadership styles (c):** Leadership styles' evaluation has been studied in relative to altered criterion for instance motivation, productivity in the leader's team, job satisfaction and social climate (Ekvall and Arvonen, 1994). Leading people is the most difficult and critical task in any organisation. The reason behind that is that the leader deals with humans. The human is the most complicated thing in the world. The observation of the current situation in ABC shows that:

- Most of the managers in ABC are using autocratic style. This is due to the fact that the majority of them are having technical background. Their main concern is business development ignoring the satisfaction of the employees.
- All decisions including any change if proposed are taken between GM and department heads only. Other employees are taking orders to perform any task or project without discussing estimated time or even their capabilities.

- Management thinks that promoting employees by increases in their salaries is the only factor that satisfies employees.

**Organisational culture (d):** it comes in many forms. It can be more or less helpful for the implementation. The observation of the current situation shows that:

- Employees are placed in a specific job for long period of time. It is difficult to initiate change.
- The appraisal system which makes the culture worse and worse. Most of the Managers apprise employees based on the last month of the year ignoring what they did at the beginning of the year.
- Regular meetings are rare either between GM and staff or between direct managers and their department. Meeting between departments is held only if there is a critical problem and need to be solved immediately.

#### **4.3 The most suitable Knowledge Management System for ABC**

ABC Data Clearing House is a fast growing roaming solutions provider and it is all set to launch its enterprise KM in order to maintain compatibility with its major customers. The strategy is a complex KMS that supports the business model. The organisation wishes to invest a substantial amount of money on an electronic warehouse that will drive the product information automatically without any man handling of information at any point. The organisation will need to invest a good amount, in order to specify and determine the system configuration being installed for KM support. However, the investment will be paid back in terms of higher gains for the organisation.

As mentioned before, that initially ABC is using the SD system to manage its internal departmental operations. A major part of this systems consisted of information that is valuable to maintain an efficient customer support with the customers of ABC. The management had long time before realized that this system needed an upgrading so that the training and

system response time is reduced and could help to introduce more business opportunities for ABC.

From the above, it can be realized that ABC needs to leverage the skill of its qualified supply chain staff by capturing and distributing their knowledge. Mintzberg (1979) proclaimed three main objectives which are suitable for ABC's new proposal:

1. To reduce the time taken to achieve a certain level of proficiency.
2. To increase the performance and knowledge sharing throughout the supply chain assets.
3. To promote constant communication between the various levels of seniors and juniors.

In order to achieve these objectives, ABC can make use of an integrated arrangement for knowledge architecture. This will help the organisation to guide its methods for organizing information, sharing and allocation; breaking of information into smaller parts known as Informational objects; and linking these pieces to obtain useful customer oriented information and data. As an effect, the end user of the supply chain will be able to easily locate the critical information which is most of the times lacking in order to enhance the productivity and performance more quickly and easily, (Kotter, 1996).

#### **4.3.1 Best practices of KMS**

There are some common features and activities that need to be adapted by the management to reach to the best practice of KMS in ABC:

**Critical knowledge identification:** 6 out of 10 interviewees mentioned that they are not aware about the KM itself, how it supposes to work and where exactly should it be implemented in the organisation. Mr. Ali pointed out that there is no proper structure in the organisation's *Tariff Manual* talking about KM. From this point, the management firstly should identify the most critical data or knowledge to the success of the organisation in ABC. This will help the organisation to structure the systems properly.

**Critical knowledge gathering, storage and organisation:** After identifying a relevant critical knowledge, the organisation needs to develop processes and tools so as to gather and store information. The critical knowledge has to be stored in a centralized site and format which can be with no trouble found and accessed by employees. Mr. Rashed declared that using intranet concepts, knowledge web should be developed storing all those documents.

Some companies like 'Crisplant have very successful KM strategy. Crisplant does not have a separate KM strategy, instead it is integrated in its "day to day" operation trying to create an organisation culture encouraging the development and sharing of knowledge to support the main strategic goal. Crisplant's KM activities try to target the projects related to customers frequently permanent for several years by collecting knowledge in progress reports managed by the project leaders each month. At Crisplant, such documents are important part of the KM process, which the Managing Director expressed in this way: "As we work out a concept proposal and a solution to our customers, we document the thoughts and ideas we have concerning the solution to a specific project. Thus, the knowledge stays in the organisation so to say because it has been taken down in writing" (Christensen and Bang, 2003).

A further technique that can be used by ABC is Post Project Review (PPR). It is an essential technique that will support documentation. By developing PPR, past project knowledge will be easily shared for new experiences and projects.

On last technique discussed by Qi et al (2006), only if embedded in software, knowledge will be significant. Operation Support Systems (OSS) is one of the basic software platforms to support value chain management for the telecom industry. It was proposed by Tele Management Forum (TMF), an international organisation that has been contributing to the telecommunication services industry for over 15 years.

***Sharing appropriate knowledge between employees:*** ABC needs to develop a culture for sharing KMSs and facilitate the sharing of appropriate knowledge between employees. McCampbell et al (1999) identified that *Teams, Relationships and Networks* are the three basic elements for effective knowledge transfer. KM success involves operational improvements related to a particular process or function. As per the report generated by *Sloan Management Review*, following factors cause the success of the KM: relationship with economic performance or industry value, technical and organisational infrastructure, knowledge-friendly culture, clear purpose and language, change in motivational practices, multiple ways for knowledge transfer and top management support.

It has been noticed from the above that the communication is the common missing factor for sharing knowledge between employees in ABC. “The most successful project managers maintain open lines of communication right through their organisations to keep in touch with component's needs” (Cervone 2006: 16). ABC needs to be built on such well developed networks. This could result to quicker learning and response to customer requirements, enhanced problem-solving, less duplication of work, better ideas and extra innovation. Then employees and management can take pleasure in higher sales and profits, and higher market rate.

As declared by Mr. Abdulla that job rotation should be used in order to move knowledge carrier within or between the organisations. To manage people's knowledge, managers should identify the kinds of knowledge employees hold. By rotating employees, organisation will make sure that knowledge always exists.

***Utilization of existing knowledge to generate fresh knowledge:*** The existing knowledge can be influenced through the employees by effective KMS within the organisation's knowledge system. Employees can drive innovation by building upon knowledge created by their colleagues only if cross fertilization of knowledge has been enabled from different areas of

the organisation. Miss. Noora came with new idea, “since roaming data clearing business is a unique in the area, it will be useful to establish a training centre for international roaming business. The centre should cover all aspects of international roaming business so that it continuously graduates experts”.

***Creating a Quality Assurance Team:*** Their duty is to evaluate the KMS periodically. This step is an essential step to make sure that the system would survive for a long period and to assure that data is defined in a proper way. In addition, it will help the organisation a lot in discovering mistakes and correct them in shorter time.

***Creating Individual Performance Plan (IPP):*** To align individual objectives with organisation strategy and to create a performance driven culture in ABC. It will be a part of leadership role is to drive both business and individual performance in order to create a performance driven culture. Hence, employees can set their individual objectives against the respective *Functional Key Performance Indicators* (KPI) or strategic themes, along with the Core Values/Competencies that are required to perform their job, in conjunction with their direct managers. In addition, aligning employees’ motivation towards achieving the organisation objectives is one of strategic drivers and a key ingredient to creating a performance driven culture. On-time objective setting supported with proper performance dialogues, periodic reviews, feedbacks, coaching and monitoring will enable ABC to reach its targets.

***Converting Tacit Knowledge to Explicit Knowledge:*** Companies such as Andersen Consulting, Ford, and Monsanto push employees to convert “tacit” knowledge, the know-how in their heads, into “explicit” form, such as written reports or video presentations. This converted knowledge is then stored in repositories such as databases and intranet, all of which users can search (McCampbell et al. 1999). Mr. Ali stated that, “currently we are in a process of implementing the ISO27001 which related to security issues like Disaster Recovery and Documentation. I believe that

this is the perfect time to solve all the above problems by creating suitable environment for KM and stating the documentation as a base of successful KMS for each single activity”.

***Mentorship programs:*** ABC needs this technique to develop form strength inside the organization. It is critical at the moment that down-scaling has formed smooth organisations and as baby boomers start to leave, taking their experiences and skills with them. In this stage, mentoring programs are the best method to be implemented in ABC to motivate leaders of the future, management improvement and relationships between staff and arrange employees to succeed workforce.

**Motivation:** In ABC Organisation, the solution of low motivation problem should begin by creating awareness for the management about the importance of motivation and how it could affect positively on the employees:

- The management should understand the simplest needs of employees that identified by Maslow (see Appendix H).
- They should keep employees involved and informed about necessary thing done in the organisation. In addition, help the individuals to link their personal objectives with the organisation’s objectives.
- There should be periodic gifts given by management to employees. People feel they should fairly receive rewards for a given standard of performance (Mullins, 2005). At the same time, the management is at least supposes to remember the hire date of each employee to thank him/her for their hard work and promote him/her if he/she deserves. Ison et al (1969) declared that “reward magnitude changes following differential conditioning and partial reinforcement”.
- Employees should be involved in decision making that affect their direct tasks and projects.
- “Charisma is an important characteristic for leaders who wish to motivate by interpersonal characteristics” (Davidhizar, 1993).

- The management needs a regular report of the problems and its effect on the staff. It should contain graphs and tables that show the satisfaction level of employees and their feedback.
- The management should make regular meeting with the team leaders. Team leaders should represent to the management the techniques that they used to satisfy their employees and bring back the satisfaction result to the management.
- The management and senior managers should attend trainings about motivation and proper job design to increase their awareness. Galagan and Patricia (1985) stated that “training help in being better motivators of commitment”.
- The management should coordinate with HR department to discuss with them why the employees are de-motivated. The HR department supposes to send monthly employees’ feedbacks to the management where they evaluate their managers. In case if there is any one wants to resign, he/she should fill a questionnaire to get his feedback about the reasons of resignation. This will help the organisation some how to avoid any resignations in the future.
- ABC Organisation has to arrange seminars with specialist motivation speakers. Train managers about the importance of empowerment and how they should give authority to their employees. “Transformational leadership is an emerging paradigm for modern management and can be important to the modern nurse manager” (Davidhizar, 1993).

#### **4.4 The Advantages of Applying Knowledge Management Systems in ABC**

There are a number of advantages that can be gained by implementing the KM solutions in ABC. These advantages have been broadly classified into groups that are analyzed as follows:

**Reduced cycle time:** KMSs decrease “time to market” for fresh products from the organisation. It is hoped that KMSs will tender good results for the benefit of time management for ABC Data Clearing House.

**Reduced Costs:** KMSs will significantly reduce the costs of recurring errors or re-inventing the wheel. ABC Data Clearing House also could take help from the concept of a “Virtual Teamwork” KMS, which could promote the organisation’s business in an enhanced manner. Setting up a Virtual team work system can help the organisation to organize video conferencing which offer easy data sharing, allocation and resourcing of information.

**Excellent Reputation:** ABC acts as the agent of the customer when the data is sent to them through the customers, the KMS works to avoid the forwarding of awful data between the customers (the operators) and their roaming partner. Customers also can advise ABC to remove all records with severe errors. With this system, ABC can make sure that all data forwarded by them are free of error. This is also an exact solution to assure customers’ revenue and to keep their reputation high in Data Clearing Industry.

**Reduction in Manual tasks:** The KM processes involved will help in the reduction of manual tasks which as a result will reduce the total cost of business and other trading activities. The normal average cost per transaction required for purchase order management and shipping activities could be easily reduced with the introduction of more value-added activities.

It will also help the organisation to visualize the real time needs of the customer and as a result, there will be no need to keep large amounts of inventory to buffer against unanticipated demand spikes which will be reduced with time, (Kaplan and Reed, 2007).

**Technical profits:** With the use of KM based ERP systems in ABC, better and efficient use of customary internet modus operandi for messaging of trading/business dealing information can be made easily, which can make this system the most cost effective of all than other cross business technologies.

**Operational benefits:** Previously, ABC Data Clearing House made use of its sales and product management data to estimate the customer demands. Often these data were not accurate. Efficient use of KM systems coupled with IT techniques, will involve the customer as well improve the estimation process by a great extent. This will reduce the interruptions that generally occurred in the production schedule and order fulfilment, (Kaplan and Reed, 2007). This will further added to real time visibility of the demands and more components which now can easily be contracted, thereby reducing costs. Reduction in interruptions leads to less usage of machine and labour resources thereby reducing costs for ABC Data Clearing House.

“Knowledge management ensures that the right information is provided to the right people at the right time, and this ensures achieving sensible rather than reactive governance of information. But still regular information governance adds various considerations to knowledge Management strategy” (Caldwell, 2008; Qi et al. 2006).

# Chapter 5

## 5.1 Conclusion:

To conclude, although ABC Data Clearing Company has a number of various information systems such as Service Desk and other storage devices, they cannot be considered as KMSs. In addition, there are several weakness and gaps that should be resolved prior to the implementation of a KMS (low motivation and lack of communication).

Based on this, my investigation indicates that ABC is not ready to implement a Knowledge Management System in the meantime; however, it does not mean that such implementation is impossible. The main reason is that KMS is very critical component in the organisational development. It permeates deep inside every elements of ABC. Customer satisfaction, organisational process, decision making and innovation are all important issues that are in a very close relation with KM. If knowledge is not managed properly, as is the case in ABC, the entire organization will be affected negatively leading to the slowness of the whole work process and procedures.

As shown in the dissertation, lot of companies spend great effort to acquire a strong KMS. Those companies are now gaining the advantage of having successful KM. While in ABC, knowledge is scattered here, there, and everywhere and affecting the entire work flow. Customer satisfaction is also affected. The outcome presents the fact that the utilization of KM techniques for ABC Data Clearing House through the implementation of model techniques can certainly improve the vitality of the business and employees by inspiring self-motivated potential and forming a high payback loop, thereby offering better organisational abilities and sustainable competitive benefits. The change can give significant reference to other companies of the same sector. Definitely the credit goes

to the KM solutions which have enabled the managers to take a complete 360 degrees view at the entire business activity, other than just looking at the end results activities with efficient KM. The integration of KM technology helps the managers to estimate industrialized needs to product sharing and to evaluate the key record methods. Finally, managers acquire the metrics they need to calculate and weigh against different product costs. Moreover, the customer benefits from enhanced methodical suppleness and improved performance for generating, transportation and presentation of analytics and related reports. Therefore, it is projected that with the number of advantages of KMSs, the organisation will surely be able to sustain a good growth and profit.

On the other hand, the management in ABC should realize that their style in managing is the main aspect that leads to motivate or de-motivate employees. As well, they should understand that it is very worthwhile to see employees succeed under their guidance. In fact, the management should be aware that the motivation level always affects on the work efficiency and productivity. Also, the management should be aware that the time factor is critical. Replacing new employee with a resigned one will affect the timescale of running projects (Holder and Roberts 1985).

At the end, employees are the main valued asset for any organisation to success. Their experiences and skills are the real knowledge that organisations are supposed to be aware about. Taking care and motivating them will avoid companies to pay the price of losing these assets. Young (1997) stated that “motivation must precede cognition. Alternatively, certain kinds of cognition may influence motivation much the way having the right tools for the home improvement project may make the job more approachable and efficient.”

## 5.2 Recommendations:

There are many recommendations in which the experiments could be customized in order to learn more about KM; the top four of which are presented below:

- Implementation of changes cannot be done at one shot. It should be studied and designed based on many aspects such as: nature, drivers and resources. Then, serial of phases should be proposed. Ross et al (2005) recognized that change drivers must be described by gathering, analyzing and interpreting information about individual, culture and organisational functions.
- Employees have to be knowledgeable and educated about KM concept and its purposes and importance.
- The management should learn from achievements; however they could learn from failure better. The reason behind that is that learning from other mistakes and faults is costless and better than learning from our failure.
- The management in ABC need to restructure their way in organising data and knowledge

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## Appendix:

### Appendix A:

S/N	Agency	2004	2009
1	Office of the Secretary of Defence	\$182M	\$253M
2	Army	\$91M	\$124M
3	Transportation	\$56M	\$71M
4	Navy	\$51M	\$65M
5	Justice	\$47M	\$66M
6	Homeland Security	\$46M	\$67M
7	Air Force	\$43M	\$63M
8	State	\$36M	\$55M
9	Health and Human Services	\$32M	\$44M
10	NASA	\$31M	\$35M

**The top 10 agencies in U.S. federal government in terms of KM expenditures (IDC, 2005)**

## Appendix B:

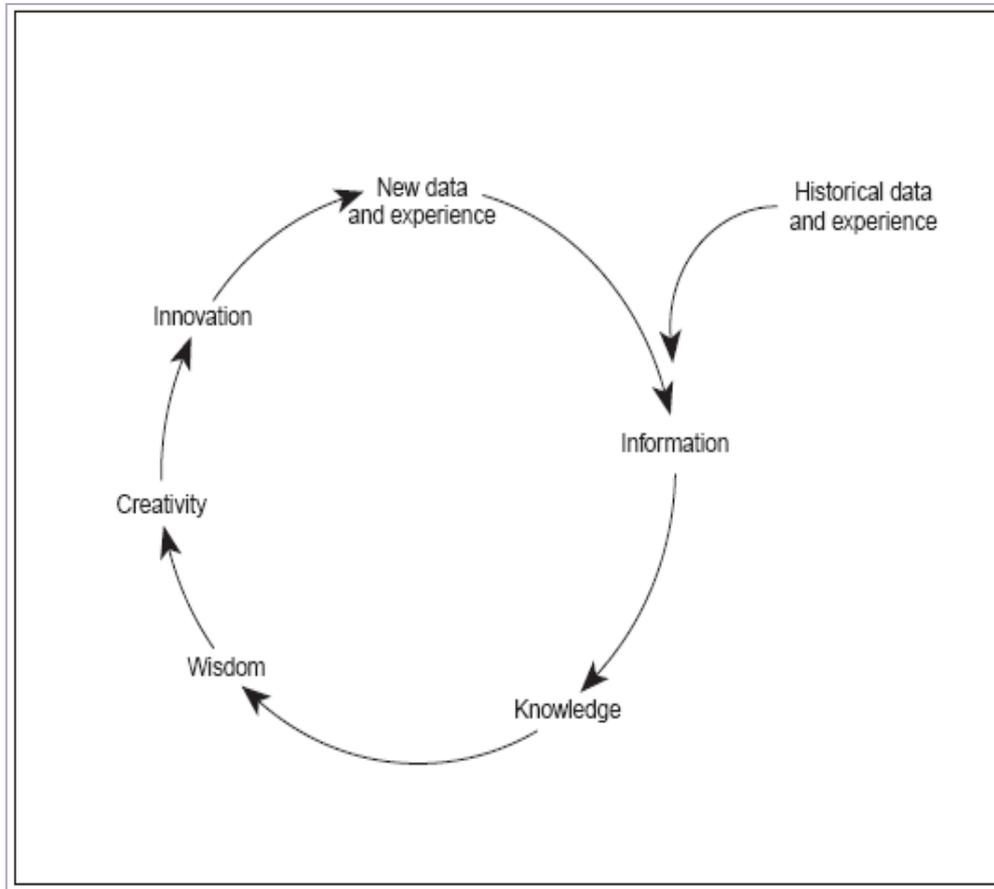
<b>Industry</b>	<b>Average spending by industry</b>
Utilities/energy/chemicals	\$2,200,100.00
Financial Services	\$1,439,336.00
Process manufacturing	\$941,818.00
Discrete Manufacturing	\$803,571.00
Government	\$523,529.00
Business Services	\$492,493.00
Technology	\$483,407.00
Other industries	\$476,784.00
Communications	\$413,681.00
Education	\$386,444.00
Healthcare /pharmaceuticals	\$273,889.00
Transportation	\$140,200.00
Insurance	\$127,781.00
Retail/Wholesale	\$10,455.00

**Average of spending by private industry (IDC, 2005)**

## Appendix C:

1. What do you know about KM?
2. Do we have a knowledge management system in ABC?
  - a) If yes, in which format KM is implemented?
  - b) If no, is it important to implement KM in ABC? Why?
3. What are the different resources of KM?
4. What are the KM techniques and methodologies used in ABC?
5. How are new staff oriented (gain knowledge) when joining?
6. How is handover going on when a particular staff leave?
7. Mention the problems that ABC faces when a particular employee retire (How the handover goes on).
8. Is the work get affected when staff on annual leave?
9. Explain the work flow between departments.
10. Is it smooth/easy to get back any case history? What are the steps to do that?
11. What are the positive and negative consequences of hiring contracted staff in critical positions?
12. What are the best methods in transferring data or knowledge among employees?
13. Is there any punishment program for the employees who leak the information out the organisation? Mention it.
14. What are the serious challenges that the organisation face?
15. What are the viable solutions that the organisation need to take in consideration?
16. What are the high value assets for the organisation?

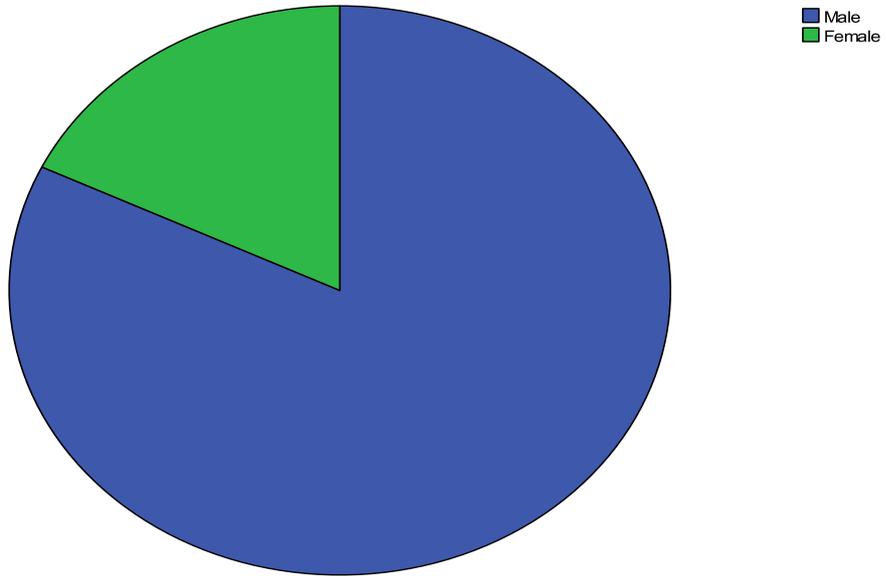
**Appendix D:**



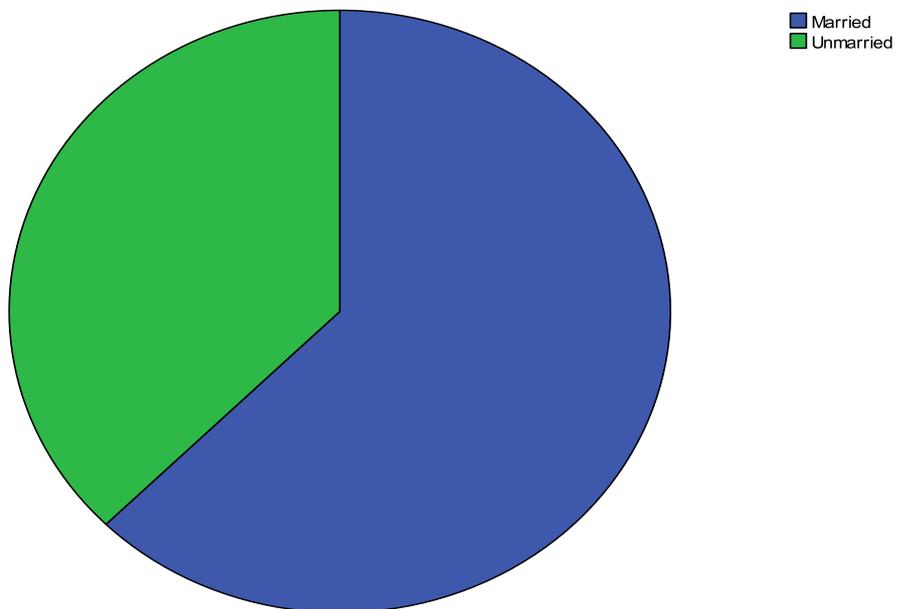
**Innovation cycle and its integration with KM (Matthews, 1998).**

## Appendix E:

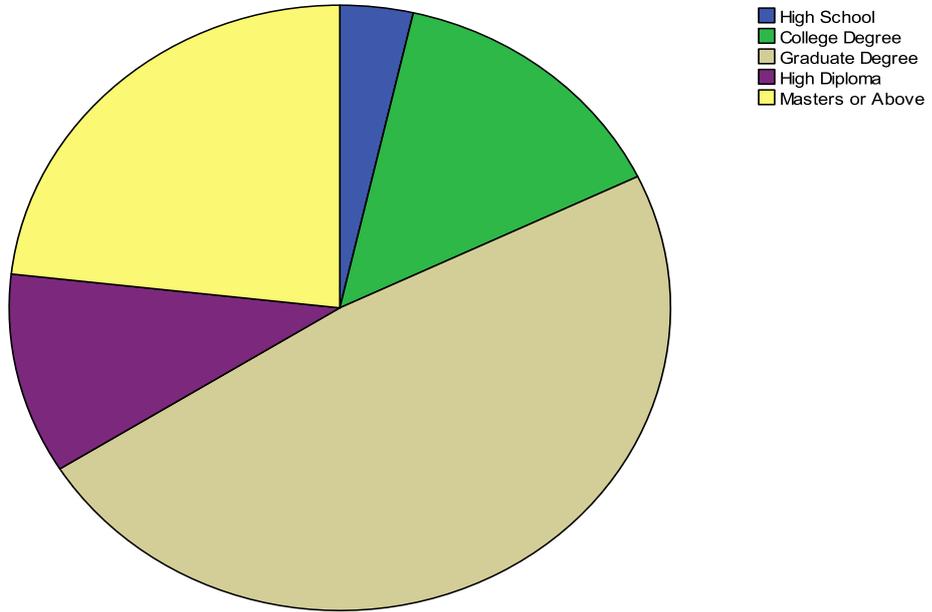
**Gender of the Respondent**



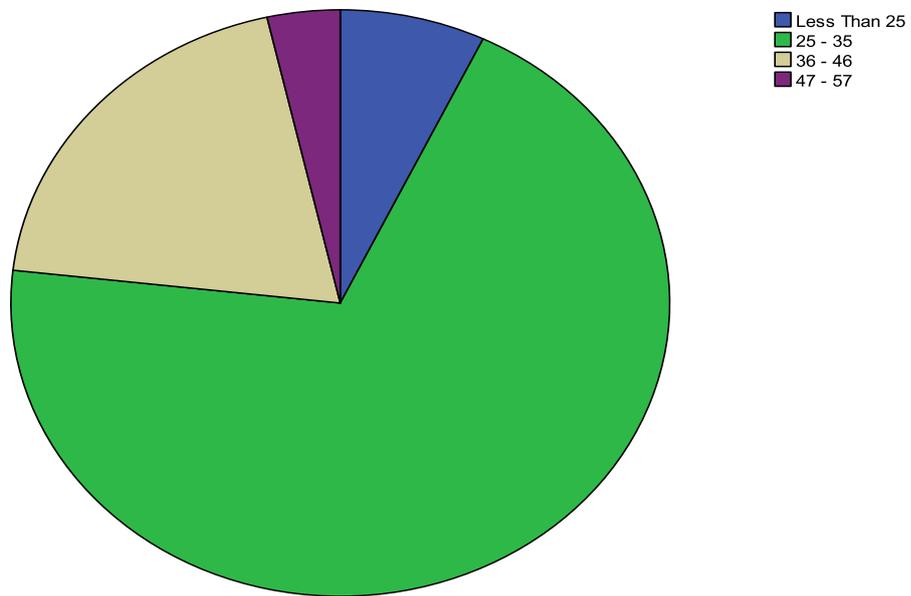
**Marital Status**



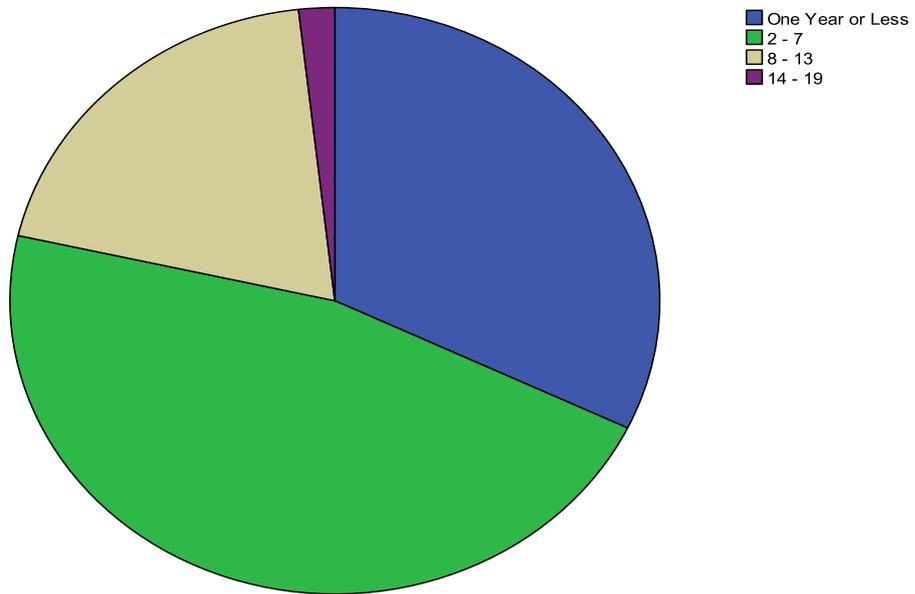
**Educational of the Respondent**



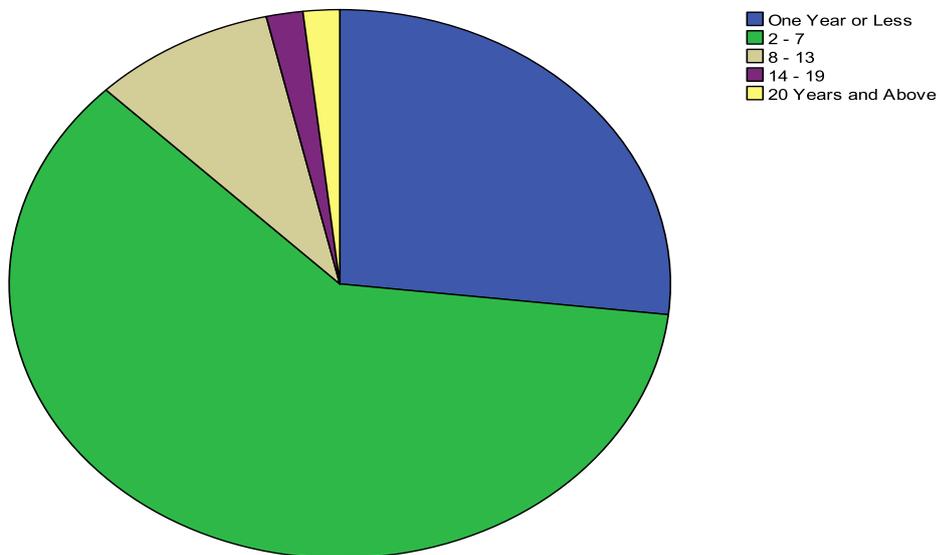
**Age of the Respondent**



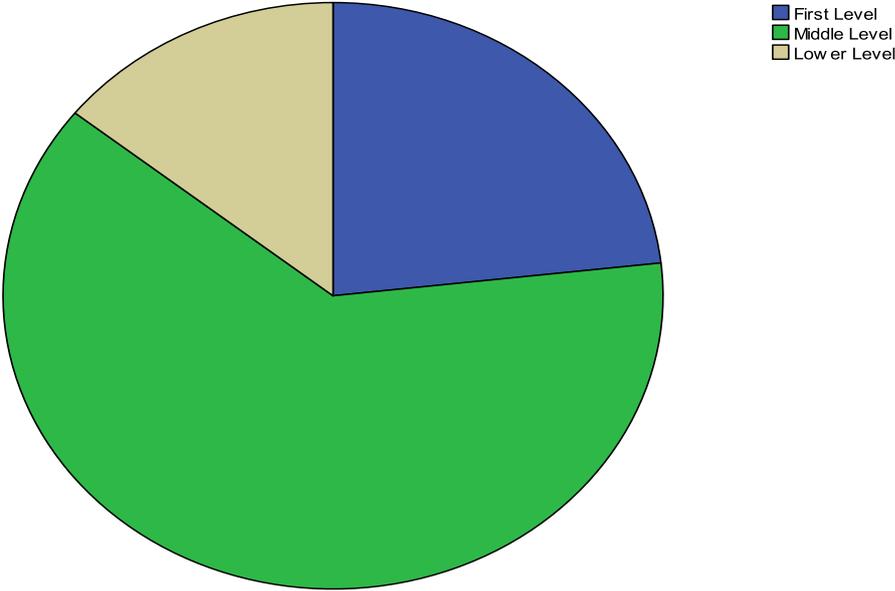
### Years worked in Current Organization



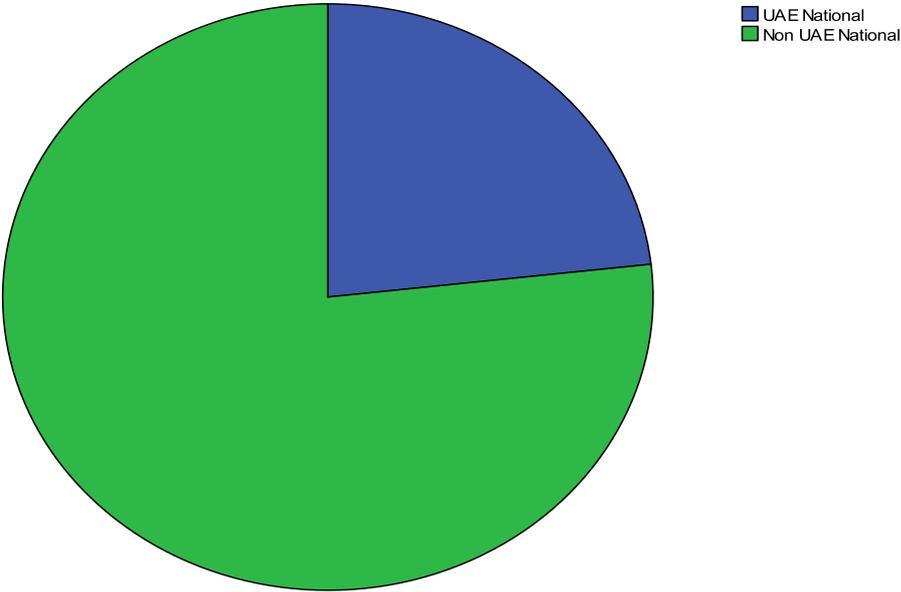
### Years in the Same Position



**Job Status of the Respondent**



**Nationality of the Respondent**

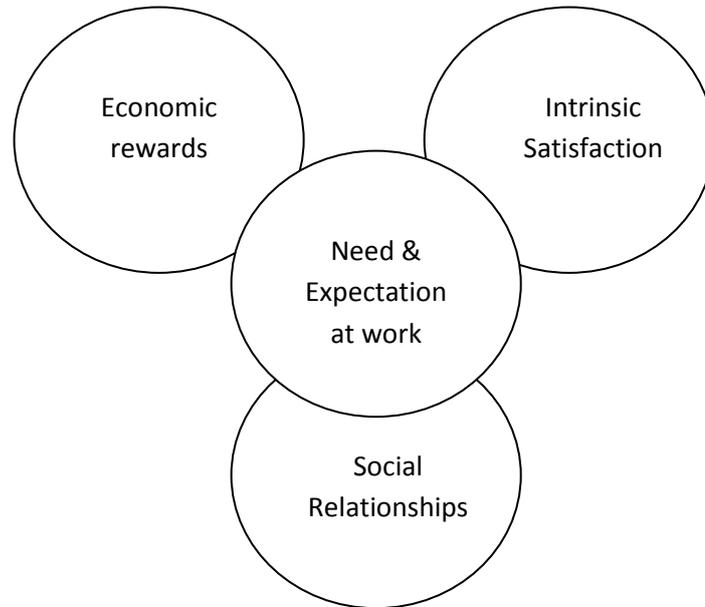


## Appendix F:

<b>Serial Number</b>	<b>Description</b>	<b>SPARK EST-I</b>	<b>SPARK EST-II</b>	<b>CNS</b>	<b>First Select UAE</b>
1	Tea boy	AED 2,760	AED 3,150	AED 3,550	AED 3,500
2	Cleaner	AED 4,210	AED 5,400	AED 6,640	AED 5,000
3	Receptionist	AED 5,450	AED 5,850	AED 10,650	AED 6,000
4	Messenger	AED 2,760	AED 3,150	AED 3,680	AED 5,000
5	Programmer	AED 5,760	AED 5,150	AED 5,680	AED 6,000
6	Data Entry	AED 3,760	AED 3,150	AED 3,680	AED 3,800
7	Dispatcher	AED 3,760	AED 3,150	AED 3,550	AED 3,500

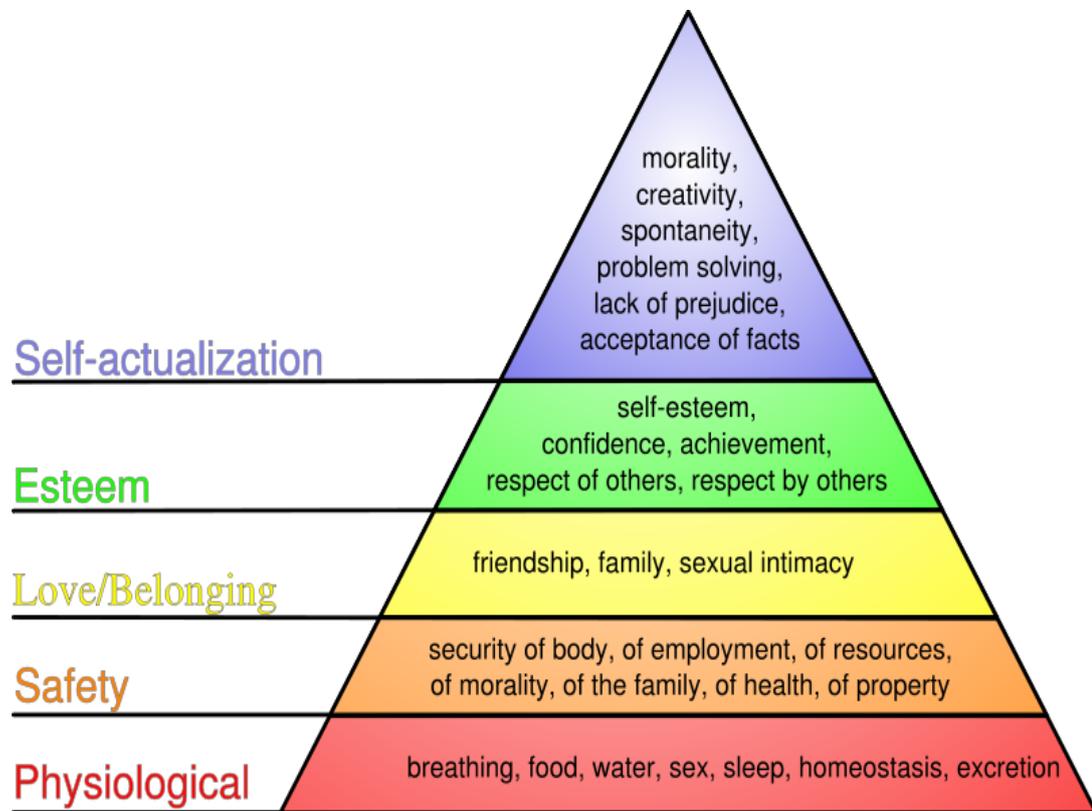
**List of vendors for delivering outsourced staff**

## Appendix G:



**Need & Expectation of people at work (Mullins, 2005)**

## Appendix H:



**Maslow's hierarchy of needs model (Wikipedia, 2010)**