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Knowledge management process development: An enabler for incident management.

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Management of knowledge in an organization is enabled by various factors. This research provides insight into the elements of an organization and its culture that enable successful knowledge management to affect its incident management. Two case companies were initially proposed for this study, but the study was conducted using one of the companies due to unforeseen circumstances. However, due to company policy, it was agreed that the study would be carried out based on anonymity. The case company in question is a multicultural data mining company specializing in data analysis and biometrics.

Surveys were conducted in the department responsible for maintaining the different databases and resolving queries. The aim of this was to investigate ITIL's knowledge and incident management processes and access to what extent the culture of the organization affects the KM and IM processes. This is an empirical study as such makes use of quantitative and qualitative research methodologies as its main research approach. Theoretical frameworks and review of available knowledge on best practices in IT service management (ITIL), incident management and organizational culture are discussed.

ISO 9001:2015 and ISO 30401:2018 set new requirements for the development of organizational knowledge and knowledge management systems. This helps prevent the loss of knowledge and the acquisition of new knowledge. In this study different data sets acquired through interviews and surveys were used to evaluate the knowledge management activities and organizational culture of the case company.

Research findings show that cultural factors are omitted in the knowledge management activities of the case company. This contradicts the theories of knowledge management. Also, the company's IT tools is not fully utilized to support knowledge management leaving gaps in the company's knowledge management processes. A review of the above indicates that if improved, it would be beneficial with reference to the incident management process of the case company.

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Based on the communication and knowledge management processes of the case company, a proposal for a knowledge management model was drawn up to build a sustainable organizational culture that enables knowledge sharing best practices. The basis for the above was reviewing of existing KM models.

Key words
Knowledge Management, Incident Management, Knowledge, Knowledge Management Cycle, ITIL, COBIT, Organizational Culture.

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List of Acronyms

COBIT	Control Objective for Information and Related Technology
CVF	Competing Values Framework
eTOM	Enhanced Telecom Operations Map
IC	Incident Commander
ICS	Incident Command System
IRT	Incident Reaction Team
ITGI	IT Governance Institute
ITIL®	Information Technology Infrastructure Library
ITSM	IT Service Management
ITSSM	IT Service Support Management
IM	Incident Management
IMS	Incident Management Systems
IMT	Incident Management Team
ISACA	Information Systems Audit and Control Association
ISO	International Organization for Standardization
KM	Knowledge Management
KMC	Knowledge Management Cycle
KMS	Knowledge Management System
OB	Organizational Behavior
OC	Organizational Culture
ROI	Return On Investment
SLA	Service Level Agreement

1 Introduction

Knowledge management (KM) is an important part of the growth of an organization. This study focuses on three concepts which although to many may not have a direct link to each other. However, they do have an influence on the processes of organizations – Knowledge Management, Incident Management (IM) and Organization Culture (OC). Understanding their relationship rely strongly on reviewing the elements of the culture of an organization that supports knowledge management and collaboration as well as its impact on incident management.

At the end of the study, an attempt is made to propose a model for building a culture that supports and enables best practices of knowledge sharing. The above is impacted by existing frameworks and models. In view of the importance of the subject matter, the study could also help raise awareness of the importance of organizational culture as it relates to knowledge and incident management. This elevation in the awareness level of KM is important on so many levels because the sharing of knowledge or information in an organization supports employee development and empowerment. The case company, a multicultural data mining company specializing in data analysis and biometrics, has more than 200 employees and offices across Nigeria, with operations in business to customer and business to business sectors.

The International Organization for Standardization (ISO) is accountable for the preparation of global norms. It encompasses distinct affiliate organizations all over the world which come together to set these standards. According to the ISO website, ISO 9001:2015 includes specifications and requirements for quality management systems in organisations. While the ISO 30401:2018 lays out criteria and rules for the establishment, implementation, maintenance, review and improvement of an efficient knowledge management system in organisations. This obligation is stated to be all encompassing. All requirements for both standards apply to any organization, irrespective of its type or size, or to the products and services it provides.

Overall, the ISO 9001:2015 and ISO 30401:2018 set new requirements for the development of organizational knowledge and knowledge management systems. These standards are intended to guide the quality management of services and products. That is, ensuring that customer requirements are met by the services and products. This is made possible by providing guidance and tools for companies of different types and sizes.

1.1 Background and Research Question

Research questions are often used as a guide to gather information and help find answers and clarify a research problem. With the case company's size, managing its huge amounts of data produced through day to day activities in different databases on different locations across the country pose some challenges. Their focus is on maintaining different databases through the storage of hard data. This entails challenges with the organization's information flow. The research questions used as a guide for this empirical study are:

What is the relationship between Knowledge Management, Incident Management and organizational culture?
What kind of impact do they have on one another?
Is organizational culture an enabler for proper knowledge management?

In order to properly undertake this research, a proper understanding of the above concepts: KM, IM and OC is required. This thesis research will also focus on improving a case company's knowledge management awareness and in turn its processes. This said improvement would be channelled towards enabling an efficient incident management process through elements in the case company's organizational culture. All the above are directed towards providing useful information for the organization to better meet the ISO 9001:2015 and ISO 30401:2018 standards and requirements.

1.2 Aim of Study

The study is approached from the point of view of the case company. Since knowledge management requires both people and technology, the goal is to cover both within this research. The result would be to propose a model that would support and sustain knowledge management through organizational culture, considering the case company's existing challenges.

As stated earlier, the company already has IT tools which are not fully utilized to support knowledge management. One of its challenges would be to get employees to use existing tools and rollout new tools that give more support to knowledge management and get employees to use these new tools through different means available to the organization.

This would improve the organization's information flow and collaboration. The findings from this study would be useful as it is based on ISO 9001:2015 and ISO 30401:2018 standards and requirements and existing knowledge of best practices in IT service management (ITIL), knowledge management, incident management, organizational culture, etc.

1.3 Scope and Structure of Study

There are eleven sections in this thesis including the recommendations. Section 1, Introduction explains the background of the case company, the research question, what the study aims to achieve, its scope and structure. Section 2 focuses on the methods and materials of the research. Section 3 talks about theoretical knowledge management. Section 4 and 5 addresses incident management and organizational culture respective. Section 6 explains the framework for IT service management and best practices. In section 7, the research goes into knowledge management against organizational culture. Section 8 analyses the existing situation of the case company's KM. After all this has been done, the next section (section 9) will give the study results, while section 10 and 11 will give the study's proposed model and recommendations respectively.

Research data is collected from different sources: interviews and surveys from employees of the case company. This is compared with reports on proper knowledge management implementations in other organizations. This data will help identify areas for improvement, organization expectation levels and needs with reference to knowledge management and incident management. The survey also outlines the case company's existing organizational culture.

2 Research Methodology

Research is an art of scientific investigation. It refers to the search for knowledge or information on a specific topic. (Kothari and Gaurav. 2019. Pg. 14.) There must be a defined approach in conducting good research. This section focuses on this topic. It is an overview of the research approach, data collection and analytical methods used in the thesis. Because this is an empirical study that focuses on analysing pre-existing processes with the aim of making improvements, evidences have been gathered using both quantitative and qualitative research approach in the thesis.

2.1 Research Context and Approach

As stated earlier, this thesis employs both quantitative and qualitative research approach. This approach has been shown to be effective in studying phenomena that can be expressed in terms of quantity and quality. According to Kothari and Gaurav, quantitative research is focused on the metric of quantity or amount. It applies to events which can be articulated in words of quantity. Qualitative research, on the other side, concerns qualitative factors, i.e. events pertaining to or affecting value. (Kothari and Gaurav. 2019. Pg. 16.)

Quantitative research is a method used to ask questions to the target audience in a structured way using surveys or questionnaires. This could also be done using polls. Received answers can be evaluated in order to create well-considered choices to improve products and services, which in fact will assist to raise the level of fulfilment of the respondent. Qualitative research is an open-ended (conversational) study technique that depends strongly on such techniques like in-depth surveys, interviews and other creative research methods as well as focus groups. It is focused on a tiny but extremely validated sample size, generally comprised of 6 to 10 participants. (Adi Bhat. 2019) An important point here is the use of open-ended questions by the interviewer. This helps in getting a deep understanding of the topic being investigated.

Research issues generally determine the study strategy. The study could be viewed from two vibrant perspectives: The Action Research Approach and the Empirical Research Approach. The latter relates the empiric process as established by A.D. De Groot. This strategy is based on social components: standards, norms, behaviours, etc., while the former focuses on research about an action as proscribed by Coghlan and Brannick.

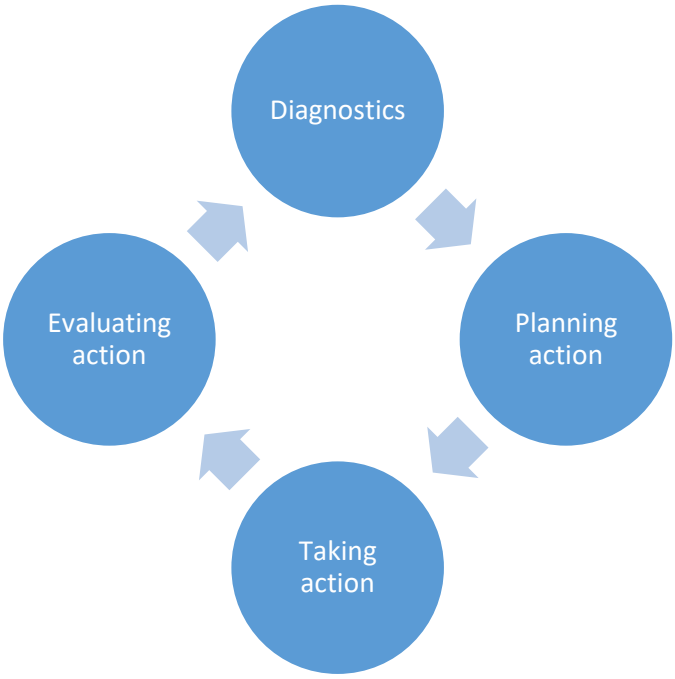

Figure 1. Action Research Cycle Adopted from Coghlan and Brannick (2005)

Both approaches consist of a cyclic analysis in four different phases. Action research consisting of diagnostics, planning action, taking action and evaluating action phases. This is illustrated in Figure 1 (Coghlan and Brannick. 2005. Pg. 22) while Empirical research consist of observation, induction, deduction and evaluation. In theory, the thesis is solidified by the literature and analysis of best knowledge and incident management practices. Methodologies for managing IT services such as ITIL were not left out. The overall outcome of the cyclic analysis would be to propose a model that supports and sustains knowledge management through organizational culture, considering the existing challenges of the case company.

2.2 Data Collection and Analysis Methods

There are different techniques for conducting qualitative research. Surveys and interviews are used as the main methods of qualitative research in this study. This was adopted as interviews continuously remained popular and proved effective in conducting qualitative research. (Adi Bhat. 2019) Simply collecting data about a subject being investigated is not enough. These data must be properly interpreted. The researcher must properly understand the information passed by the interviewees.

3 Knowledge Management

This theoretical framework aims to define what knowledge management is. It focuses on providing insights into various knowledge management concepts: knowledge management cycle, its benefits, systems, etc.

3.1 What is Knowledge Management

In understanding what knowledge management is, it is important to have a first grasp of what knowledge is. Knowledge could be said to be the end result of one of the critical human processes: knowing. Over the years, a lot of scholars have made attempts to develop theory to answer the question: what is knowledge?

The knowledge possessed by each individual is a product of his experience and encompasses the norms by which he evaluates new inputs from his surroundings (Davenport & Prusak 2000). There are various definitions of knowledge. Below is one of the most frequently quoted broad definitions of knowledge:

"Knowledge is a fluid mix of framed experience, values, contextual information, expert insight, and grounded intuition that provides an environment and framework for evaluating and incorporating new experiences and information. It originates and is applied in the mind of the knowers. In organizations it often becomes embedded not only in documents or repositories, but also in organizational routines, practices and norms." (Davenport et al. 2000. Pg. 5)

Knowledge management has always been an intricate part of business. Although in recent times it has started to gain more traction. In Peter Drucker's words it is "the coordination and exploitation of organizational knowledge resources, in order to create benefit and competitive advantage" (Drucker. 1999. Pg. 157). Knowledge itself is an asset-an intellectual asset, and science sees it as multidisciplinary. A large part of the competitive advantage of an organization lies in the formation, storage and usage of knowledge gained over time. Knowledge Management (KM) is a newly emerging, interdisciplinary business model that has knowledge within the framework of an organization as its focus. (Awad & Ghaziri. 2007. Pg. 26).

That said, there are many factors on which knowledge management depends:

- Understanding and management of organizational learning,
- Leadership
- Technology
- Corporate Politics
- Organizational memory
- Knowledge sharing
- Knowledge creation
- Organizational culture.

Knowledge management is a deliberate and systematic coordination of an organization's people, technology, processes and organizational structure in order to add value through reuse and innovation. This is achieved through promotion of creation, sharing and applying knowledge as well as through feeding valuable lessons learned and best practices into corporate memory in order to foster continued organizational learning. (Dalkir. 2005. Pg. 3,4).

KM draws upon a vast number of diverse fields such as organizational science, cognitive science, linguistics and computational linguistics, information technologies such as knowledge-based systems, document and information management, electronic performance support systems, database technologies, LIS, technical writing and journalism, anthropology and sociology, education and training, storytelling and communication studies, collaborative technologies, etc. (Dalkir. 2005. Pg. 6).

3.2 Types of Knowledge

Knowledge is not information. Understanding the difference between the two and how each develops from one to the other is an important part of successfully managing them. Understanding the distinct ways in which knowledge can occur, and thus being prepared to differentiate between distinct kinds of knowledge, is an essential step in KM. Knowledge can be stored, transferred and utilized. These characteristics do not diminish its potency.

There are different frame works that try to differentiate between the types of knowledge. Knowledge can be either tacit or explicit. This distinction was first made by Micheal Polyani. **Explicit:** This type of knowledge is formalized and codified and is sometimes referred to as know-what or **Tacit:** This type of knowledge refers to intuitive, hard-to-define knowledge

that is largely based on experience. It's sometimes referred to as know-how. Based on the above, explicit knowledge is easily captured and transferred while transferring tacit knowledge is more difficult. Dalkir states, however, that tacit knowledge is quite a comparative concept. What is readily expressed by one individual may be very hard for another. (Dalkir. 2005. Pg. 8)

According to De Long and Fahey, other types of knowledge include; Human Knowledge that is what people know or have the know-how to do: expertise, for example, driving a car (combining tacit and explicit knowledge). Another type of knowledge is social knowledge: knowledge that exists in people-to-people relations. The third type of knowledge is embedded in an organization's systems, processes and routines. It's called structured knowledge. (De Long and Fahey. 2000. Pg. 114)

As valuable as knowledge is, a lot of an organization's knowledge is sometimes untapped. This is because knowledge management as a science requires tools for information technology, communication, organizational science, training, etc. The emphasis of knowledge management is on how to leverage the overall value of the organization's knowledge. (Girard and Girard 2015)

3.3 Knowledge Management Cycle

An integrated knowledge management cycle model describing key KM processes that transform information into knowledge was presented by Dalkir. These steps are knowledge acquisition and/or creation, knowledge sharing and dissemination, and knowledge acquisition and application.

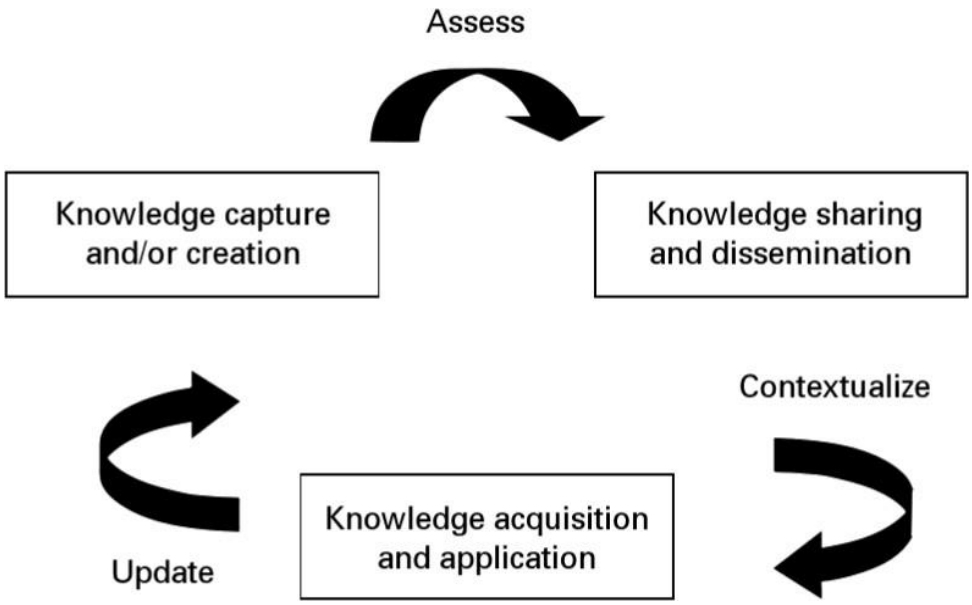

Figure 2. Integrated knowledge management cycle Dalkir (2011, 53)

This cycle continues when users encounter useful knowledge. The different stages are as shown in the above figure. It is of great importance to know what is valid, cross-referencing these with the organization's goals in order to make an impact in the organization.

3.4 Benefits of a systematic theory-backed knowledge management

More and more organizations are becoming globalized. This results in the presence of multiple locations and multicultural elements, resulting in an increase in workload and working pace. How does knowledge management impact this?

It is widely acknowledged that proper knowledge management improves quality and competitiveness, organizational creativity, and innovation. This does not streamline the benefits of knowledge management to the organization alone. Individual users are better at solving problems through proper knowledge management. It saves their time and helps them to keep up to date. Other benefits include:

- Developing professional skills
- Learning from past mistakes and successes
- Promoting peer-to-peer mentoring
- Long-term focus on developing the right skills
- Competencies and removing obsolete knowledge
- Facilitating networking and collaboration

- Helping to develop a common language

(Dalkir 2011, Pg. 25, Emil Hajric. 2017)

Managing knowledge at the organizational level helps drive strategy, improves problem solving, cross-learning and cross-fertilization of ideas. Through KM, competitiveness and the development of organizational memory is also improved. To mention a few. Unfortunately, knowledge management is an area where organizations are reluctant to invest in as it can be expensive to implement properly. It's also quite difficult to calculate your Return on Investment (ROI).

3.5 Knowledge Management Systems

Knowledge is being transferred in recent times without physical contact or face-to-face interactions. This is as a result of the emergence of new technologies to implement knowledge management. These technologies are used, among other things, for the storage, analysis, transfer and sharing of knowledge. These technologies have made communication and collaboration more effective. For example, tacit knowledge has become more tangible with new technologies such as videos, VR, etc.

Since the case company has offices in different locations, its collaborative channels are an intricate part of the knowledge gained. Knowledge management tools include content creation, communication, collaboration, networking, personal tools, etc. One would say that this is a long list. However, as stated earlier, knowledge management is multidisciplinary. As such, there are no technologies or applications that could do justice to it entirely.

With the rapid changes in the various technologies, it is more difficult for older generations to adapt as the majority still prefer face-to-face interactions. This creates a gap in users ' expectations and competence. Communication is a huge challenge here. Dalkir notes that many users prefer systems they are familiar with when searching for explicit data. Many still prefer face-to-face contact when it comes to finding tacit knowledge. Conventionally, face-to-face interactions are considered in the perspective of both parties being physically present. However, applications that enable online video calls are now available and are used for face-to-face interactions even over long distances in both working and private life. (Dalkir. 2011, Pg. 269)

4 Incident Management

An incident is an occurrence that could result in the failure or disturbance of an organization's activities, facilities or services. ITIL 2011 describes an event as an unplanned disruption of an IT service or a decrease in the performance of an IT system or a breakdown of a configuration item that has not yet affected an IT system. Incident management is therefore a phrase that describes the operations of an organisation to define, evaluate and correct risks in order to avoid potential recurrence. Without efficient incident management, an event may interrupt company activities, information security, IT services, staff, clients or other essential company features. In an organized organisation, incidents are usually handled by an incident management team (IMT), an incident reaction team (IRT) or an incident command system (ICS).

According to Eshna Verma (2019) in her article: *Incident Management and its Importance*, there are two main aims of the incident management process:

- To restore services back to normal operation as fast as possible
- To mitigate the adverse effect of critical incidences on business operations.

(Eshna Verma. 2019)

Incidents present risks to the business in many respects, none of which is great: faded credibility, erosion of client trust, diminished brand, negative economic effects and lack of investor confidence. The first stage towards an effective and well-organized incident response starts with an accurate assessment of the status quo, including the Incident Lifecycle. Usually, incident responders are stocked on a pattern of responding which they have developed over time. These patterns and habits are usually comfortable for responders to maintain making breaking out of them very difficult. (Schnepp. R. et al. 2017)

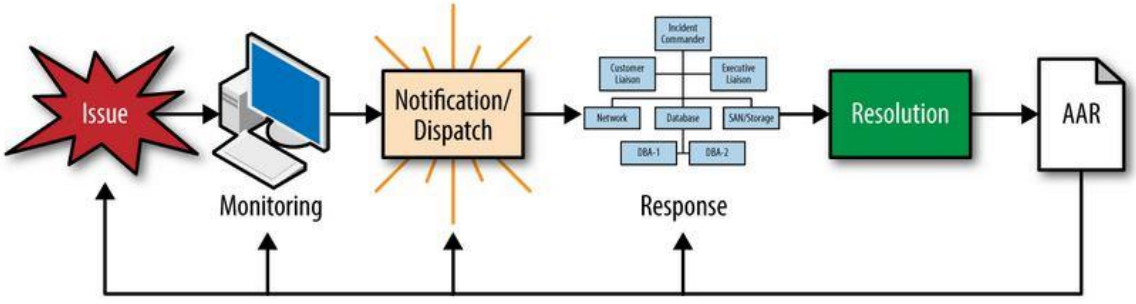

Figure 3. The Incident Lifecycle (Schnepp. R. et al. 2017)

4.1 Incident Management in ITIL

Incident Management (IM) is one of the fundamental processes of ITIL. ITIL defines an incident as an unplanned interruption or reduction in the quality of an IT service. This disruption could affect anything from a single user or the whole business. Incidents are different from both problems and requests. An incident interrupts normal service; a problem is a condition identified by a series of multiple incidents with the same symptoms. Problem management resolves the root cause of the problem while incident management restores IT services to normal working levels. Some organizations have their own system for responders to use. However, it is common to find most companies employing the use of ITIL processes of DevOps principles. (Schnepp. R. et al. 2017)

Incident management is simply the process of managing IT service disruptions and re-storing services within agreed service level agreements (SLAs). It is aimed at managing the lifecycle of all incidents. The primary objective of this ITIL process is to return the IT service to users as quickly as possible, minimizing the business impact of the incident. Impact, priority level and urgency are the major concepts associated with dealing with incidents. Incidents (query, failure, etc) can be reported in organizations by users, technical staff, and sometimes also by monitoring tools.

4.2 Incident Management System (IMS)

The Incident Management System (IMS) is an evolution of the Incident Command System. It extends across geographical and social limits, and although the key ideas of IMS seem straightforward and intuitive, it is generally difficult to adopt because change is not easy, regardless of business, career, sector or industry. The Incident Management System (IMS) is an all-hazard, all-risk framework designed specifically for emergency operations. (Schnepp. R. et al. 2017)

The *Rave Mobile Safety* website defines IMS as: "a combination of equipment, personnel, procedures and communications that work together in an emergency to react, understand and respond. Each of the four factors is necessary in order for an incident management system to be effective". In order to improve the efficiency of the incident management system, it is crucial for those responsible for responding to access as much appropriate event information as possible in the shortest moment possible.

The IMS process is about how the organisation finds the problem, how it dispatches the respondent, how the Incident Commander (IC) directs the respondent, how the respondent engages in the prevention attempt, how the escalation occurs when more professionals or outside vendors are required, and how to regulate the communication lines and conversations when there are a number of respondents. (Schnepp. R. et al. 2017)

IMS functions because it is not like a collection of strict steps in the cookbook. Rather, it is a versatile, scalable strategy baked into the culture of the company and the responders in an attempt to provide the management with a predictable and effective response to all-risk occurrences. In order for an incident response to be effective, any business embracing IMS should perform IMS training across its workers. This guarantees continuity in the reaction to incidents and starts to bring IMS into the culture of the business. Incident management is a specific practice of activities and the organization should acknowledge the significant role it plays in the achievement of the success of the company. (Schnepp. R. et al. 2017)

5 Organizational Culture

Frank Olivas quotes that "Culture is a way of thinking, a set of values, a belief system that influences our behaviour. It's really a combination of things. It can come from our ethnic background, our religion and society as a whole". The above quotation implies that culture is an embodiment of distinct components.

A review of different literatures has indicated that the term has evolved from anthropology. Famous British anthropologist Sir Edward Burnet Tylor in the 80s talks about the concept of culture in his work: *Primitive culture: researches into the development of mythology, philosophy, religion, language, art, and custom*. He states that culture is "that complex whole which includes knowledge, belief, art, morals, law, custom and any other capabilities and habits acquired by man as a member of society."

James Paul (2015) defined culture as a social domain that emphasizes practices, discourses and material expressions that, over time, express the continuity and discontinuity of the social meaning of a shared life. (James, et al. 2015. Pg. 53). In this regard, it entails how and why activities are accomplished. Emphasizing the manner activities are accomplished, the causes and the implications.

Culture is often related to behaviour. This is no exception to the organizational culture (OC). Organizational behaviour (OB) and organizational culture are most often cited. Organizational behaviour is associated with the research of people's behaviour within an organizational environment. It includes comprehension, predicting and controlling human behaviour. (Mullins. 2016. Pg. 26) However, Organizational culture according to *BusinessDictionary* includes principles and habits that add to a distinctive cultural and psychological company setting. It is focused on mutual attitudes, views, customs, written and unwritten laws that have been established over time and are deemed to be valid.

Over the years, several scholars have tried to define and explain the concept of OC. For this study, a few of these will be discussed in a bid to provide a thorough knowledge of what OC entails. Firstly, Schein explains it as a pattern of collective behaviours and assumptions that new organisational employees are trained to perceive and even think and feel. The initiative aims to see through "cultural lenses" the development of the right kind of culture and quality culture within the organization. A learning process in the organization that is partially influenced by its leaders. (Schein. 2004. Pg. 24–33)

Ravasi and Schultz (2006) define organisational culture as a collection of mutual beliefs and assumptions that direct behaviour. Stating that it guides interpretation, understanding and intervention in organisations by identifying suitable conduct for different circumstances. Hofstede in his work: *Dimensionalizing Cultures: The Hofstede Model in Context*, states that organizational culture is “the collective programming of the mind that distinguishes the members of one organisation from others”. (Hofstede. 2011. Pg. 3) In relation to sharing the mind, it focuses on the uniqueness of culture in that it keeps one organisation distinct from the other.

There are other numerous definitions and representations of OC. However, Groysberg summerizes by saying that OC ought to have three major characteristics: **Common**: implies it must be shared by all the employees of the organisation. **Far-reaching**: it penetrates various stages or levels of the organization and implemented in a coherent way on all levels. **Understood**: though considered unwritten regulations or rules, it has the capacity to suggest suitable attitudes and behaviours. (Groysberg, et al., 2018)

5.1 Integrated Culture: The Framework

According to Groysberg, eight features arise when culture is linked to two aspects: how individuals interact (independence to interdependence) and how they respond to change (flexibility to stability). To fully understand a company's culture, it is essential to determine where it falls along these two dimensions. The model has been created through the analysis of different organisations (executives and employees) over the years. It defines the main characteristics of individual leadership and group culture. This range of styles has been thoroughly researched and developed by the Spencer Stuart researchers. (Groysberg, et al. 2018. Pg. 47)

All the characteristics have both advantages as well as disadvantages, however, no style is fundamentally superior than another. According to Grousberg the corporate strategy points the direction to be taken by the organization. The comparative prominence of these eight types varies across organisations, although almost all of them are strongly characterized by ***Result*** and ***Caring***. Spatial relations are very crucial. Proximate types, such as ***Safety*** and ***Order***, or ***Learning*** and ***Enjoyment***, will coexist more readily than those far apart on the graph, such as ***Authority*** and ***Purpose***, or ***Safety*** and ***Learning***. To this end, to achieve a culture of authority often means gaining its advantages but missing out on the advantages of a culture of purpose. (Groysberg, et al. 2018. Pg. 47)

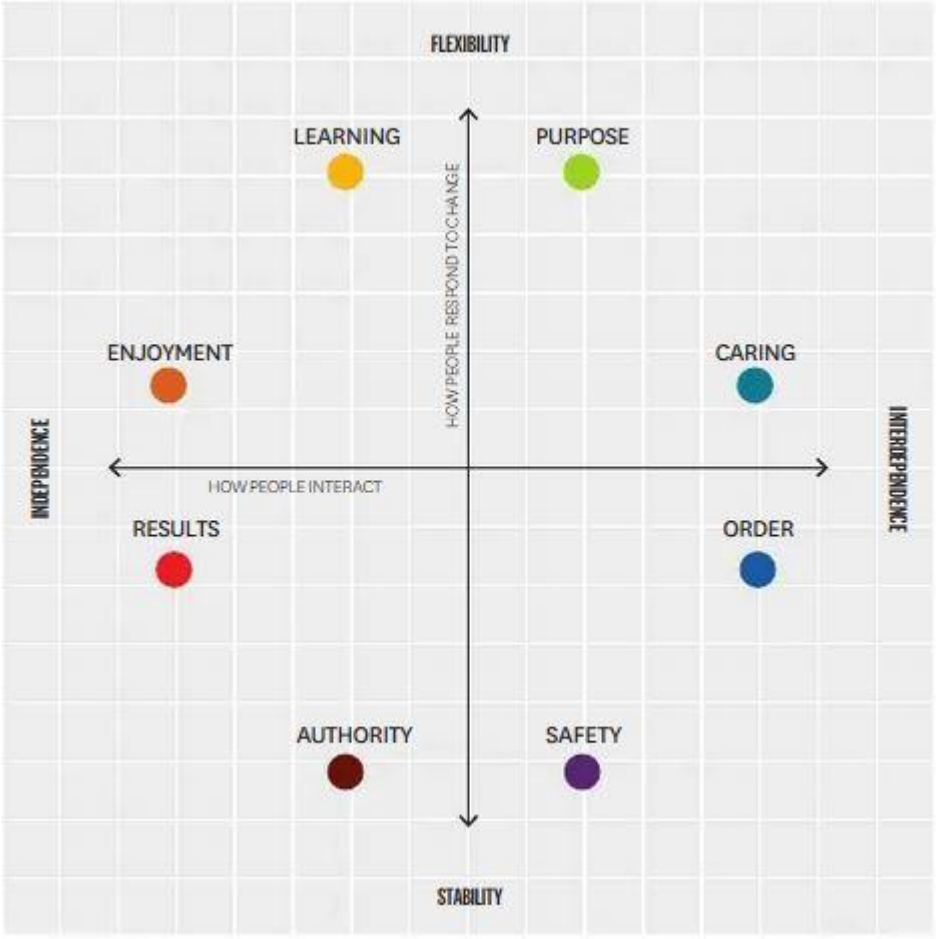

Figure 4. Integrated Culture: The Framework Source: Spencer Staurt (Groysberg, et al. 2018. Pg. 47)

Figure 4 above shows the location of each style on the chart. As stated earlier, proximity is a crucial factor for the coexistence of the styles in an organization. *Caring* relies on relationship and shared confidence. Work settings are warm, cooperative and welcoming areas where individuals assist and support each other. Employees are unified in allegiance and loyalty; honesty, teamwork, and beneficial interaction are emphasized by leaders in this kind of organization. On the other hand, *Purpose* is exemplified by selflessness and idealism, employees share ideas and feel that they contribute to a greater cause in their work. Employees are united by driving sustainability and global communities. (Groysberg, et al. 2018. Pg 47)

Learning and *Enjoyment* are on the same quadrant of the chart. The former is characterized by exploration, expansiveness, and creativity while the latter is expressed through fun and excitement. Decisiveness, strength and boldness, trust and dominance are emphasized in *Authority*-focusing organization. Employees are looking to get ahead because they are rewarded for good performances and productivity. Huawei is an example of organization practicing authority culture. (Groysberg, et al. 2018. Pg 48)

Safety is driven by the need to feel protected and the ability to anticipate organizational changes while *Results* is characterized by achievement and winning. The employees in the former are generally risk conscious, conscientious, prepared, have realistic views and plan ahead. While those of the latter are united by a drive for capability and success in an outcome-oriented environment. Lastly, *Order* is focused on respect, structure, and shared norms. In this environment, shared procedures, time-honored customs are emphasized. This organizational culture is good for people who are most comfortable in unambiguous, structured environments, an example is SEC. (Groysberg, et al. 2018. Pg. 48)

5.2 Importance of Organization Culture

Culture is a strong differentiator for a variety of businesses. Strong culture promotes favorable organisational results when aligned with strategy and leadership. For example, delivering excellent customer service needs a culture and a way of thinking that emphasizes accomplishment, flawless service and problem-solving through inventiveness. Other advantages of OC include strong loyalty, talent retention, absence of conflict, higher rates of commitment and engagement, etc. (Groysberg, et al. 2018. Pg. 49-50)

Outlined in an article on MSG (Management Study Guide) website written by Prachi Juneja are some other benefits of OC. These include;

- Motivation of employees - a healthy culture encourages employees to stay motivated.
- Promotion of healthy competition amongst employees.
- OC represents predefined policies of the organization which serves as a guide (sense of direction) for the employees.
- The culture of an organization literally creates an image (brand) for the company.
- OC brings out the best in the employees by fostering a good and healthy relationship amongst them.

6 IT Service Management

IT Service Management (ITSM) refers to the sum of the processes and practices required to manage and support IT services. It is a set of well-defined services that focus on IT infrastructure management, components, business applications, and associated processes. Service management process framework and standards such as ITIL, CO-BIT, eTOM, DevOps, etc. have been instrumental in defining standard operating procedures and supporting services within organizations while delivering quality and efficiency gains. (Keel, A., et al. 2016. Pg. 4)

ITSM is often compared with the Information Technology Infrastructure Library (ITIL) even though there are a variety of standards and frameworks that contribute to the overall ITSM discipline. This part of the thesis briefly highlights two of the frameworks for ITSM on best practices in IT service management. However, focusing on ITIL, as it is declared to be a best practice framework for IT services that support the delivery and execution of ITSM. (Keel, A., et al. 2016. Pg. 5)

6.1 COBIT Framework

There are very many advantages when IT is used to support the performance of an organisation. One of which is competitive advantage. COBIT (Control Objective for Information and Related Technology) is one of the IT governance frameworks by which organizations can evaluate their IT governance system(s). COBIT was established in 1992 by the Information Systems Audit and Control Association (ISACA) and the IT Governance Institute (ITGI). COBIT 1 was rolled out in 1996. The basic framework of COBIT is to provide clear IT governance policies and good practices. The latest version (COBIT 5) provides a thorough structure that helps companies in attaining their corporate IT governance and management objectives and helps generate optimal value from IT by keeping an equilibrium between delivering benefits and optimizing risk and resource use. (ISACA 2012)

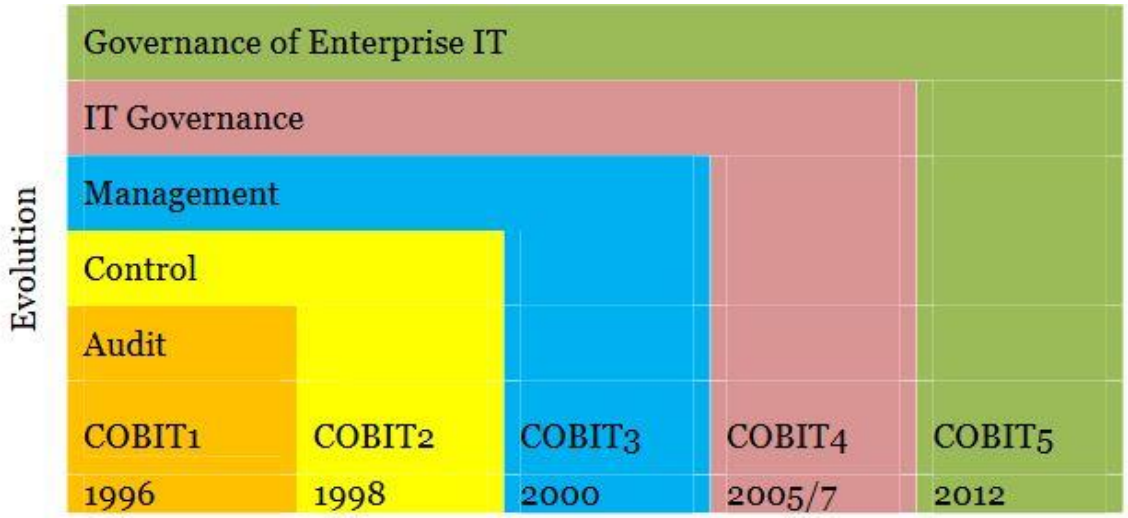

Figure 5. COBIT – The Evolution. Adapted from (ISACA 2012)

Figure 5 shows that the first version of the Control Objectives for Information and related Technology framework was released in 1996. According to Kadam, this version covered the area of audit (Kadam, A. 2012). The second edition was released in 1998. The third edition (COBIT 3) was released two years later, and according to Kadam, this brought about a huge shift as this version came with a different orientation in its objective. At this time, COBIT was termed as an IT management framework. ISACA launched a fresh, fourth edition of COBIT in 2005 with a strong concentration on IT governance. In 2007, COBIT 4.1 was released. This edition had the adaptation to accept other frameworks such as ITIL, ISO27000 series on information security-related standards, ISO 9001:2000 Quality Management Systems Requirements, etc. (ITGI. 2007. Pg. 9) The present edition of the framework, COBIT 5, was published in 2012. It is based on the past edition and two supplementary frameworks of ISACA (Val IT and Risk IT) and is integrated with present best practices such as ITIL and TOGAF. (ISACA. 2012. Pg. 29)

6.2 ITIL Framework

Information Technology Infrastructure Library (ITIL) is a set of efficient, interrelated processes for delivering and supporting IT services documented by a set of books, supporting materials, and training certifications. It is a framework, not a standard. It provides a common language for discussion of IT services across all IT departments and with customers, providing a holistic, integrated view of IT processes. Defined best practice processes with a good IT service management tool set offer advantages in terms of quality, cost, efficiency and customer satisfaction. (Mary L. A. 2015. Pg. 5)

Axelos on their website refers to ITIL as a framework of best practice that provides guidance on how ITSM can be delivered. ITIL has developed from delivering services to delivering end-to-end value. The focus is now on co-creating value through customer interactions. They went further to explain that although there are several frameworks and standards that describe IT service management, ITIL is by far the most widely adopted and recognized globally.

ITIL was initially started by the United Kingdom government to establish guidelines for the efficient delivery of IT services and has become a standard adopted by companies world-wide. ITIL consists of a series of 5 core books that are focused on the areas of Service Strategy, Service Design, Service Transition, Service Operation and Continual Service Improvement. ITIL has evolved into a cohesive, integrated set of IT process best practices that outlines the steps needed to:

- Set policies and deliver efficient services from a business perspective around the performance of various IT processes
- Monitor IT activity for efficiency
- Establish service life cycles to increase efficiency and cost effectiveness.

(Mary L. A. 2015. Pg. 7)

The ITIL Management Service Lifecycle is organized into five stage modules, consisting of several ITIL processes under each stage. A proper ITIL service management lifecycle diagram has been provided below;

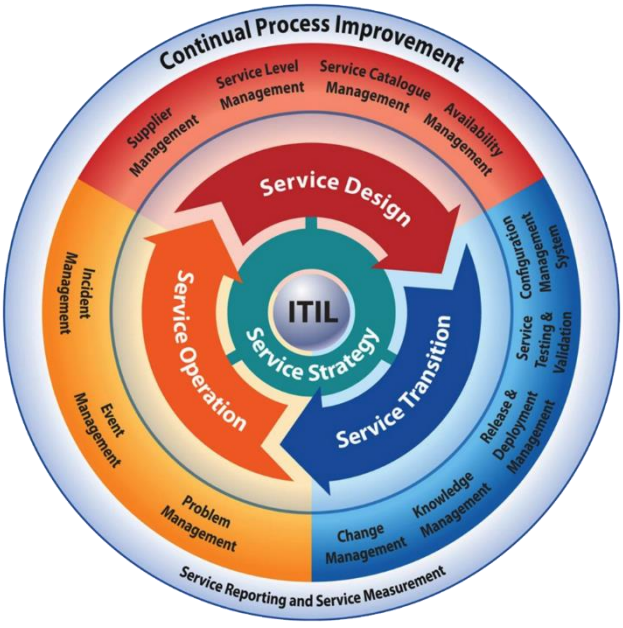

Figure 6. Overview of ITIL v3 Adopted from ITIL official website

ITIL supports ITSM through its 5 stage modules: Service strategy, Service design, Service transition, Service operation and Service improvement. Figure 6 shows that Knowledge Management is part of the ITIL framework's Service Transition Process and Incident Management is part of Service Operations. Service transition processes look at key IT Service Support Management (ITSSM) procedures concentrating on workflow and efficient ways of switching services to operations. Automating configuration, change, and flows to efficiently implement services to production. In the Service Operation stage, services are efficiently managed on a day-to-day basis. Ensuring the accessibility and efficiency of business services and infrastructure. Surveillance and automation are used to enhance the reliability of services and guarantee that there is an adequate ability and resilience incorporated into the services to sustain business operations. (Keel, A., et al. 2016. Pg. 5)

7 Organizational Culture Vs Knowledge Management.

7.1 Organizational Culture in Knowledge Management Context

Numerous myths exist in the field of KM. These include the “technology will replace face-to-face,” “build it and they will come,” “the first thing to do is change the organizational culture to one of learning.” Although many believe these statements to be true, it is quite often the case that people hardly give time to learning new tools. This is usually because they cannot get what they want or desire from the new technology. Also, peer-to-peer learning is important and should not be ignored because the sharing of tacit knowledge holds an important role for informal networking. (Dalkir. 2005. Pg. 193)

In today's business environment, things are progressing quickly. This in turn implies that large amounts of data and information are produced. Organizational knowledge has become a great opportunity for organisations that can handle it and render it easily accessible for use. There are countless alternatives for efficient business management. KM is one of them that guarantees effectiveness and profitability. (Seyedzade, 2010). Culture is very subjective, reflecting the definitions and understandings that we usually assign to circumstances and answers to popular issues. Organization on the other hand is just one component of culture where people come into taking their culture with them. However, it is still feasible for organisations to have their own cultures. (Dalkir. 2005. Pg. 178)

In order to fully comprehend the idea of KM, it is essential to bring into consideration all its elements (Knowledge, Processes, People and Technology). (Desouza 2011) Where there are individuals, there are supposed to be behaviours, beliefs, values, norms, attitudes, etc. There is therefore a social impact. It is therefore essential for the organisation to explore the current cultural components before proceeding with its KM projects and implementation. (Dalkir. 2011. Pg. 224)

Dalkir's integrated KM cycle shows that KM requires position within the environment of the organisation and its culture. The change in culture must involve changing the corporate ethos and the images and values that inform the action. It is necessary to introduce this new manner of understanding organisational life into the management process. This underlines the significance of understanding the culture and that the environment performs a vital part in all the operations of the organisation. (Dalkir. 2005. Pg. 178)

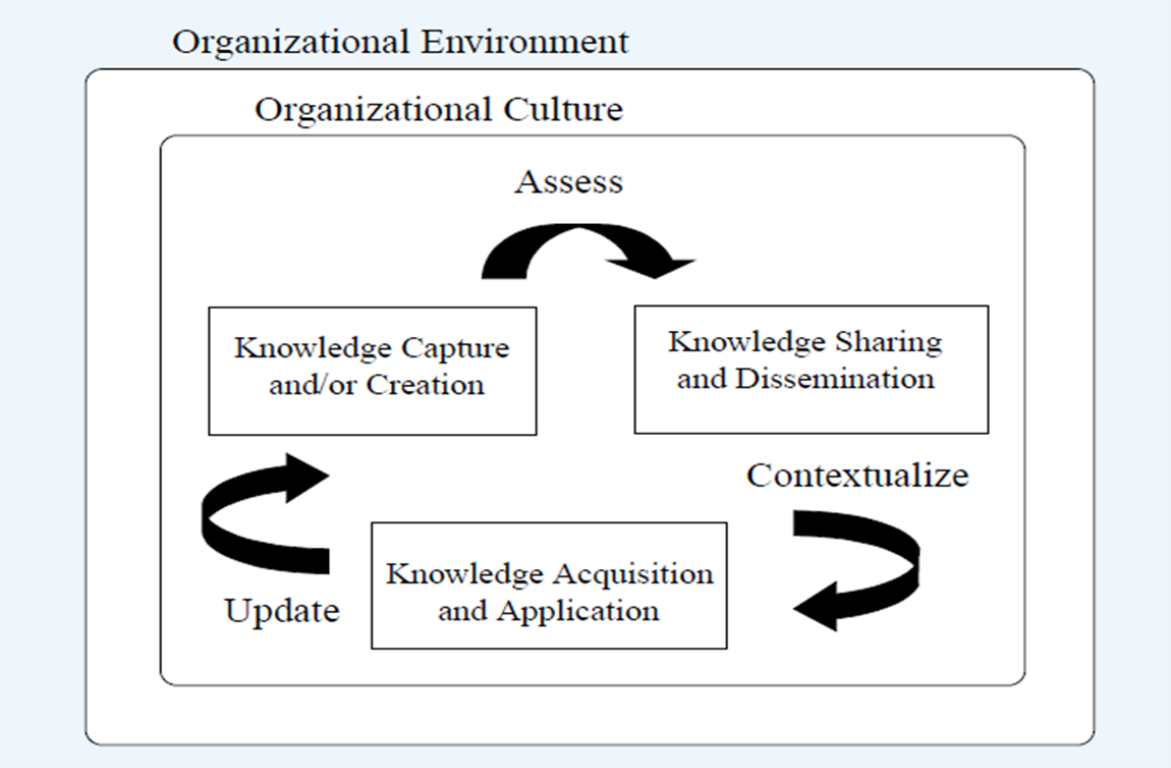

Figure 7. The cultural component included in an integrated KM cycle (Dalkir. 2005. Pg. 179)

7.2 Role of Culture in Knowledge Management Implementation

It is crucial to recognize the cultural differences and similarities of employees in the organization in terms of efficiency and effectiveness in achieving organizational objectives. It could also be true to say that an appreciation of culture and its effects may have an inherent value. Some of the advantages include increased self-awareness, sensitivity to difference, questioning our own assumptions and knowledge, reducing ignorance, prejudice and hatred. (Mullins. 2016. Pg. 44)

According to De Long and Fahey (2000), there is a connection between knowledge management and organizational culture. In order to properly evaluate and implement knowledge, a cultural background is essential. Wei and Miraglia (2017) also indicated that organizational culture affects behaviours which are essential to the management of knowledge. By the above, culture forms expectations about what knowledge is and, therefore, what knowledge is worth handling. Mediating the connection between organisational and personal knowledge.

The KM infrastructure includes technical, structural and cultural elements. These infrastructures are significant elements of organisational capacity. According to studies conducted by Van Crowe, one of the main barriers to the implementation of knowledge management in organisations is organizational culture. Thus, organizations should develop a suitable culture for the implementation of knowledge management. (Najaf Beygi et al. 2011)

From the point of view of knowledge management, organizational culture controls two significant fields: willingness for collaboration and trust between employees. De long and Fahey (2000) believe that KM require trust between organizations and organisational subcultures. That a lack of this could become a severe barrier to KM implementation in such organisational divisions. They suggested that there are four efficient variables for knowledge creation in the organizational culture. The first suggestion is that culture and subcultures form expectations about each sort of knowledge and places different value on people and sources of information. Secondly, culture describes who is supposed to share and not share knowledge. Thirdly, it defines opportunities for the sharing of knowledge. lastly, culture determines the techniques by which individuals embrace or dismiss new knowledge.

Over the years, different KM implementation models have been provided with a focus on the Competing Values Framework (CVF). The framework is a concept created from research on indicators of efficient organisations. In 2017, Suppiah and Sandhu provided several results on the impact of organizational culture on tacit knowledge exchange. Cameron and Quinn's (2006) CVF was used to evaluate which sort of culture enhances the organization's knowledge procedures. The findings of the research showed that the most adverse effect was the hierarchical culture, which fostered the use of standard operating procedures and best practices while only the clan culture, which is defined by a teamwork strategy and a strong employee dedication to the organisation and vice versa, had a beneficial effect on the sharing of tacit knowledge. (Suppiah and Sandhu. 2017)

8 Knowledge Management in Case Company

The case company is a multicultural data mining company specializing in data analysis and biometrics. It has more than 200 employees and offices across Nigeria, with operations in business to customer and business to business sectors. With offices in three different cities, KM is an essential part of the company's day-to-day activities. A main element of globalization is to discover efficient ways and tools for organisations to acquire and share knowledge over cultural and structural obstacles. (Omotayo. 2015. Pg. 11) That being said, it is important to ensure both old and new employees are acquainted with the concept of KM, it's components and tools.

8.1 Technical Architecture of Knowledge Management

There is no clear way to develop a knowledge management system. This is because it is a complicated idea that needs careful planning. Knowledge process support tool choice is distinct for different organizations. There are different KMS architectures, each supporting different KM processes of the organizations. The architecture should meet the requirements of the organizational culture and the company's business needs - supporting collaboration between employees and different departments of the company.

Although there is not one KMS that fits every organisation, it is feasible to have a general KMS architecture. Tiwana (2002) made an effort to propose a general KMS architecture. He suggests in his proposition that KMS should have four significant parts.

- Repository
- Collaborative platform
- Network
- Culture

The repository functions as the heart of the KMS. It stores and collects knowledge both formal and informal for future use. Collaborative platform aids work distribution and includes pointers, databases of skill-sets, specialist locators, and channels of informal communication. Network implies both physical and social networks. Bottom line is that the networks supports communication between employees. While culture enables the sharing and use of KMS.

These four components are regarded to be the basic elements of each knowledge management system. However, other tools could be incorporated to improve the performance of the system's facilities. Tiwana also suggested a seven-layer KMS architecture which mirrors the OSI Model (Open Systems Interconnection basic reference model) used in data communication. He proposed that the model would integrate the four elements and their supporting information technologies.

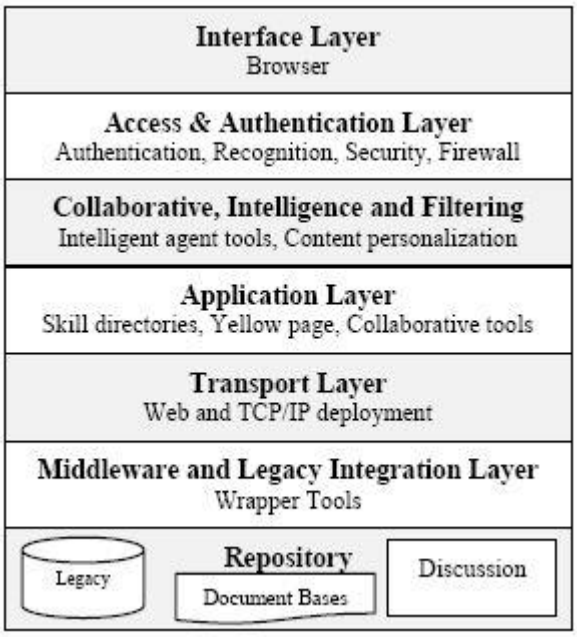

Figure 8. Seven layers KMS architecture adopted from Tiwana 2002

8.2 Knowledge Management Cycle Stages

The Knowledge Management Cycle (KMC) could be referred to as the mechanism by which an organisation converts information into knowledge. The model in Figure 9 illustrates how knowledge processes are designed in a KM setting to transform knowledge for practice and to attain the required outcomes of the organization's enhanced value or tasks. Unlike the KMC proscribed by Dalkir, this cycle has six phases, each with specific orientation in separate departments within the organisation: people, management and application. (McIntyre, S. G. et al. 2003. Pg. 37)

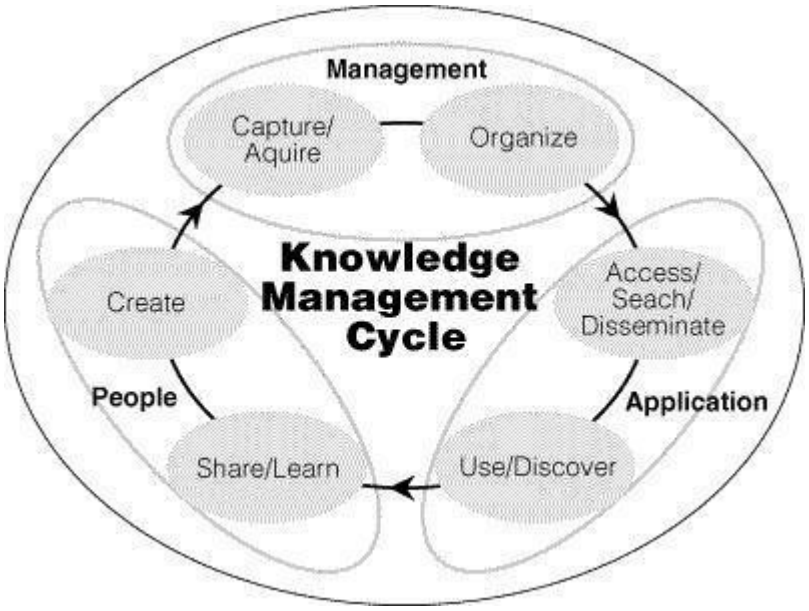

Figure 9. Knowledge Management Cycle, Source: McIntyre, Gauvin and Waruszynski, 2003

Application focuses on the efficient acquisition of appropriate material through searches and mining for knowledge-based job and assignments, and on the use of outcomes for discovery. Management focuses on the capture, organization and facilitation of knowledge. Lastly, people focus on learning, sharing and cooperation. It is therefore the educational element of the cycle. The first stage in the KMC is the sharing and learning stage. In this stage, the focus is on the sharing of knowledge in other to facilitating learning. This stage belongs in the people domain of the cycle. Although people could bde viewed as producers and consumers of knowledge. Their contribution is optimal within the confines of the people component of the KMC. (McIntyre, S. G. et al. 2003. Pg. 37)

The second stage involves the creation of knowledge which also falls under the people domain. The better the sharing of knowledge, the more valuable the repository created. The creation of knowledge is facilitated by an environment with the proper structure, relationship and tools required by knowledge creators. (McIntyre, S. G. et al. 2003. Pg. 37)

Knowledge capturing and acquisition takes place in the third stage. This falls within the management domain. In this stage, the knowledge created is collected and is stored. Knowledge is generated in volumes and stored in a repository. The push to collect explicit and tacit knowledge has led in the development of technology tools for generating data repositories and managing documents and content. After storing the acquired knowledge, for better accessibility, it is important to organize them. This could be done using models or frameworks. This organization process belongs in the fourth stage. The organization model or framework chosen by the business or company mostly reflects its culture. The fifth stage (Access, Search and Disseminate) falls under the application domain. In this stage, the

employees in the organization can access, search and disseminate the knowledge in other to use it for problem solving which is in turn the last stage (Use and Discover). The capacity to obtain or share data in repositories is one of KM's opportunities. (McIntyre, S. G. et al. 2003. Pg. 37)

As seen above, the key to knowledge management lies in sharing of knowledge. Sharing the knowledge increases the innovation and improves the overall quality of work. Thus, proper knowledge management helps organizations in developing the skill set of employees and improving their overall efficiency at work.

8.3 Current Knowledge Management Structure

The concept of knowledge management was first introduced in the case company in 2015. From analysing the case company in reference to its KM structure, a knowledge management cyclone can be used to explain the organization's KM processes using the six stages in the McIntyre's KMC as a base.

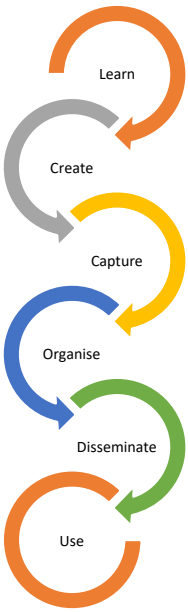

Figure 10. KM structure of the case company

The case company is involved in defining the roles of distinct staff. This includes descriptions and the identification and documentation of personal skill sets, knowledge and competence. Capturing procedures for distinct initiatives within the business through program management applications and systematic reporting to improve experience securing and decreasing knowledge loss through staff drain. When an employee leaves the organization, his or her ideas, information, experience, contact, relationship and insight leave with

him or her if no attempt is made to identify, capture and share this knowledge within the organization. (Omotayo. 2015. Pg. 8) Employee development is a main factor in the KM process of the case company. This is achieved through adequate management of employee ideas, training, knowledge transfer, etc. Knowledge gained if not shared doesn't do much for the organisation. Consequently, the case company utilizes collaborative apps (Sharepoint) to guarantee that information is available throughout the organisation for real-time decision making. Intranet is another tool used by the case company. The goal is to make knowledge sharing efficient to improve quality, efficiency and minimise lost time.

8.4 Knowledge Management Challenges

KM challenges are quite numerous. Different organizations have different challenges based on the different situations and processes they have. Some of the major KM challenges in the case company include;

- Getting people motivated to learn, share and collaborate
- Getting people motivated to use KM applications
- Integrating knowledge management into current company processes and systems
- Security
- Technology

It is essential to strike a balance between its three parts - People, Process and Technology when implementing KM. In most cases, it becomes a challenge to accommodate the right level of security in the KMS as vital as this is. Roles need to be properly described and what access is provided to distinct system users. Results from the research suggests staffs sometimes find it difficult to break away from old habits. This makes it hard for them to adjust to new ways of doing things. For instance, adopting new technologies. In this situation, motivating staff is essential for efficiency and effectiveness.

9 Results

This study concentrated on knowledge management, incident management, knowledge management systems and organizational culture. The relationship between them and how one impacts the other. The interview and survey questions which have been included in the appendix of this research were drafted using different techniques including points from Dalkir's gap analysis and KM strategy road map (Dalkir. 2005. Pg. 257). They include open ended and yes/no questions to give adequate insight on intricate concepts of the subject matter under review. From the surveys and interviews, the underlining variables show that the KM problems in the case company are more in the organization's setting and ITSM than in its culture. The result from this study has been analysed in two categories: KM activities based on KM tools and the culture of the organization in relation to knowledge sharing.

Not all responses have been regarded for the purposes of this study. The concept was to restrict the range to those that address the research issues. The information gathered are private and are intended for use only by the company concerned. The responses (126) from the survey indicated that employees did not obviously comprehend or recognize the importance of using the current KM tool. Most staff find it hard to break away from their old traditional methods. Data from the survey also show that not many participants are convinced of their ability to use the available KM tool. This is evident from reviewing the responses to Question 12 of the survey. Perhaps the functionality of the tool is not clearly understood, and employee need more encouragement from the leadership to use KM tools (Question 13)

The interviewees included departmental heads, senior supervisors, team leads, etc. Over a quarter of the participants have worked in the company for several years. Although all participants were IT literate with varying degrees of knowledge and expertise, interviews and surveys suggested that senior staff had a stronger knowledge of the company's cooperation techniques and procedures. Some low-level staff had little or no understanding of KM and ITSM procedures, even though their job description shows that they are engaged in these procedures. For the purpose of further studies, interviewees should be briefed about the subject matter before the interviews.

A clear understanding of the importance of KM and proper training on the use of the KM tool should be an integral part of an employee's introduction into the organization. To address the issue of finding information, most users are used to search engines like Google. The recommendation was to implement other KM tools that have similar interface as Google

or other applications that the users are familiar with. This will aid easy learning of its usage and save training time.

Data from the survey (Question 11 and 7) also shows that several employees do not consider the KM tool to be important in carrying out their day-to-day activities. Subsequently, it is not their preferred channel for knowledge sharing. This is illustrated in figures 11 and 12 below.

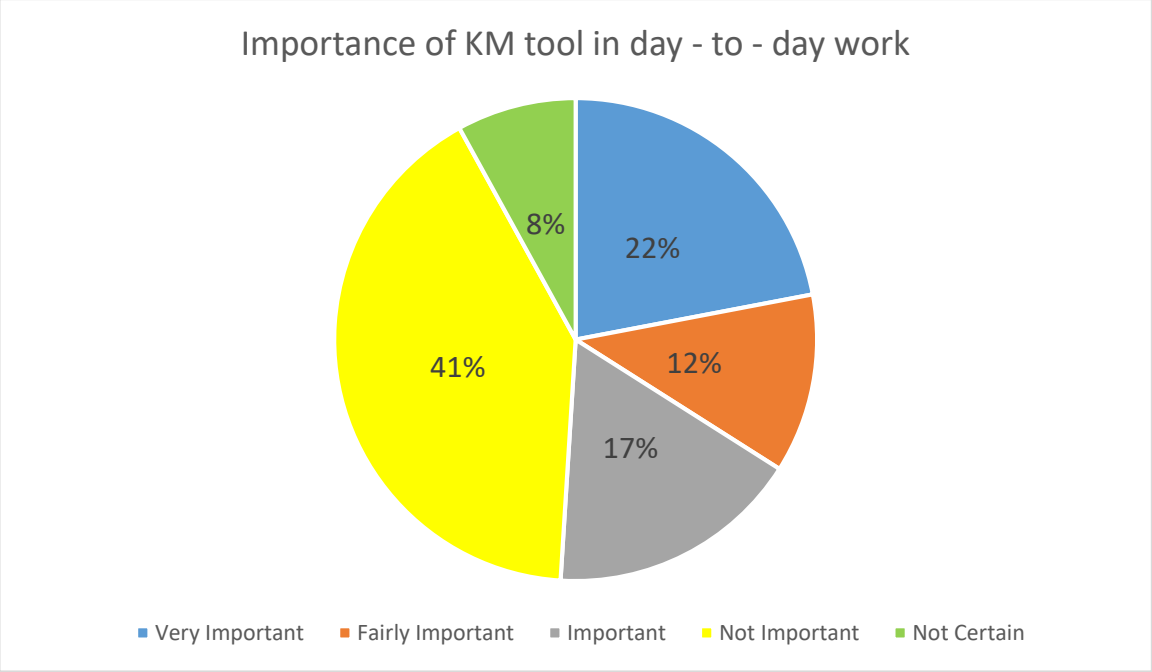

Figure 11. Importance of KM tool in day – to – day work

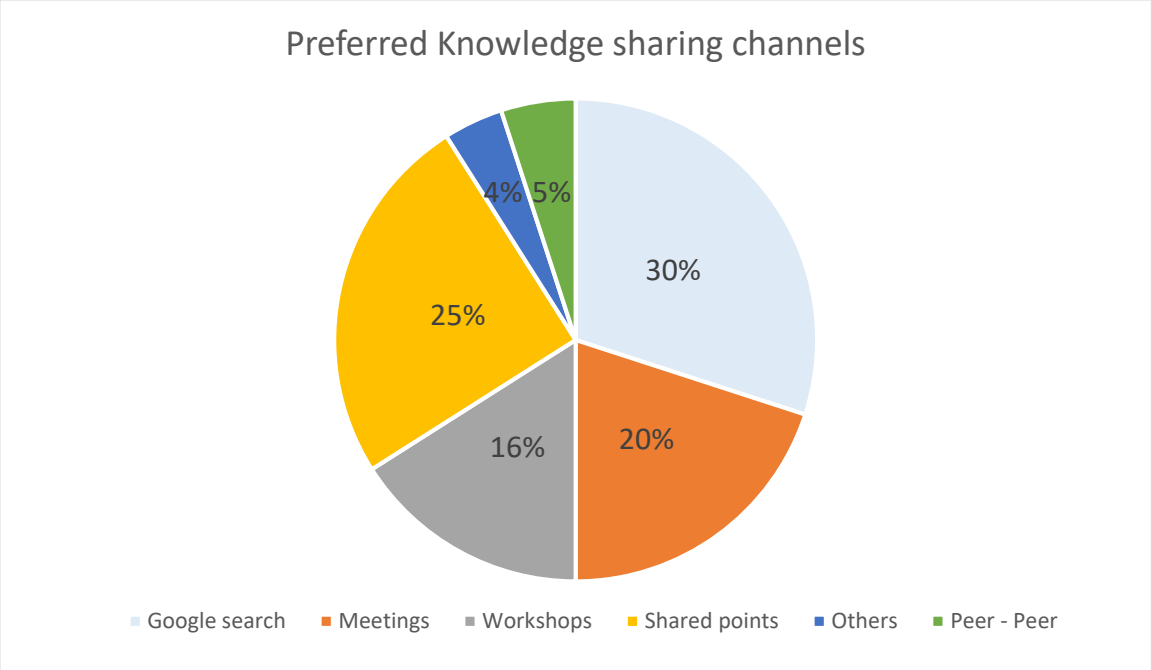

Figure 12. Preferred knowledge sharing channels

9.1 Limitations in the Study

Every study emerges with its difficulties and this study was not an allowance. One of the major limitations of this study was getting employees to participate in it. Once the CEO endorsed the study and the head of the different departments came on board, the next participants were the senior supervisors, team leads and other employees. Getting them to answer questionnaires was a daunting task that placed some limits on the study timeline. Another challenge was time management and communication with case company and advisor. Although this was an enormous issue at the beginning of the research, as the research continued, communication became simpler.

The research was to develop a tailored model for the case company to enhance its KM processes. However, the stipulated model's efficiency could not be asserted owing to restricted time. This could be a recommendation for further research in this sector as this study does not distinctively reflect the performance and efficiency of the model stipulated based on the case company's KM process and culture.

10 Proposed Model for the Study

Traditionally, a model could be described as an example to follow or imitate. In other words, it could be a prototype. However, a KM model portrays the process or method by which an organization's management develops and enhances its knowledge assets. They are a combination of data or information in a reusable format for the purpose of preserving, improving, sharing, aggregating and processing knowledge to stimulate intelligence. These models are essential components of organisations that wish to create KM systems. (Mohajan. 2017. Pg. 3)

There is no doubt that KM's success depends on its capture, storage and sharing. However, the latter appears to be embedded in the organization's culture. KM's performance depends heavily on the performance of the information resource and how well it can be harnessed by the organisation. Proper knowledge management helps the organizations to collect, store and analyse knowledge to have an advantage over their competitors. (Mohajan. 2017. Pg. 3) Since knowledge is embedded in the policies, people (employees), technology and culture of the organization, consideration of the above-mentioned elements would be an essential part of developing an appropriate KM model.

Several KM frameworks and models have been developed by different researchers each based on different dynamics and approach. To mention a few, Karl M. Wiig's design shows how knowledge is constructed and used as individuals or as organisations. Ikujiro Nonaka and Hirotaka Takeuchi (1995) created a model of knowledge creation that is centred around the link between tacit and explicit knowledge in an organisation. Max H. Boisot offers a three-dimensional KM model with three components: uncoded to codified, concrete to abstract and undiffused to diffuse (Boisot 1998). Etienne Wenger indicated that the Community of Practice (CoP) framework is built on three elements: domain, community and practice The CoP unites three elements: knowledge, individuals and experience (Wenger 1999). Arun Hariharan (2005) addressed the 360-degree model with six themes. His model shows that KM's 360-degree strategy is to unlock the mixed strength of knowledge and expertise from within and outside the organisation across six interrelated aspects for each of the highest key business measures. (Mohajan. 2017. Pg. 3)

Every organisation has its building blocks that form the foundation and the entire framework. If the various stages of the KM cycle as mentioned in chapter eight represents the main framework of the company's system, each stage representing it's building blocks from knowledge identification to its usage. Jokinen (2018) in his master's thesis proposed a KM model that supports organization culture. He proposed a KM house developed based on theories and frameworks from Dalkir and Probst. A system put together where the elements of the organization can be infused between the blocks in order to develop a more compact and efficient system.

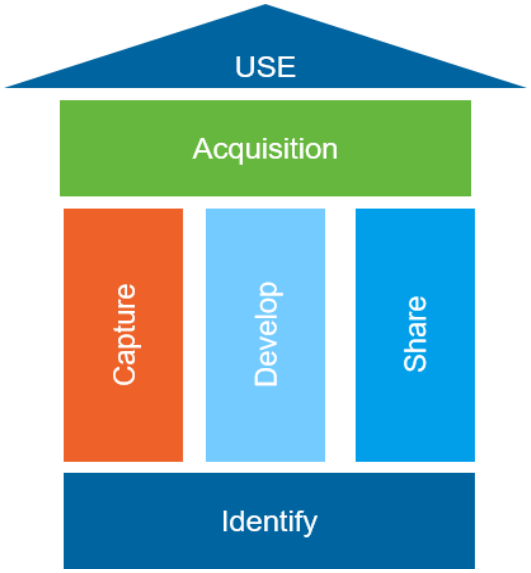

Figure 13. KM Building Blocks of KM House (Jokinen. V. 2018)

Figure 13 gives a visualization of the case company developed around the stages of the KM cycle. It is noted that there are gaps between the blocks. These could represent the company's distinct KM obstacles as stated previously in this study. In order to solve the problems posed by these KM barriers, cultural catalyst and enhanced KM tools could be introduced into the model. Similar to Dalkir's integrated cycle with KM metrics and strategy. (Dalkir. 2005. Pg. 248).

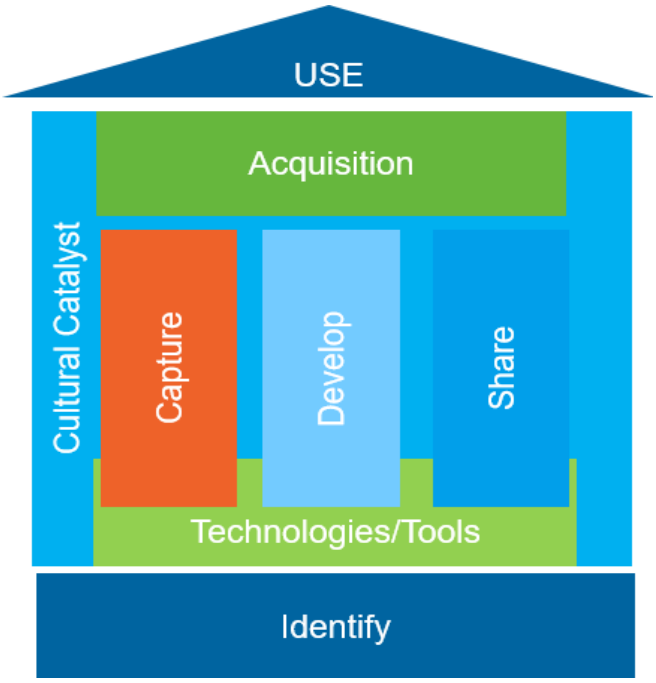

Figure 14. Integrated Knowledge Management House (Jokinen. V. 2018)

The use of science expertise and knowledge for practical purposes is not far-fetched. The introduction of the technology/tools block in the model is to connect the other frames (capture, develop and share) together. Using technological tools makes these processes in the KM cycle easier. This enhances collaboration between different departments and teams within departments of the company.

The research shows that not many staff are in touch with the company's available KM tool. If there is also a healthy user support scheme and coaching, this will assist improve employee's understanding of the use of the KM tool and thus lead to a rise in the effectiveness of their job. This could also enhance their level of competence and expertise over time.

Different components precipitate changes in KM. The social catalyst block embraces the various aspects of organizational culture regarding KM. The visualization of the social catalyst spanning the entire background of the model is to emphasize its importance in the scenario company's KM procedures. The research survey shows that the case company lacks an open communication environment. To harness the company's KM potential, the emphasis should be on connecting knowledge sharing with open environment activities (discussions). The introduction of the catalyst block would address this. Thus, improving the sharing of knowledge. Also, social media has become a useful tool for data exchange and information sharing.

11 Conclusion and Recommendations.

An organization with numerous departments could have varying cultures in the different departments. This makes it considerable difficult to analyse the culture of the entire organization based on the methodology of this study. The findings of the survey and interviews provides only an outline of the case company's organizational culture. In order to have a more thorough assessment of the different variables influencing information exchange and collaboration, a more in-depth studies would be required. Scoping on a lower level could yield better research results. For example, focusing on request fulfilment process in a single department of the company.

As stated earlier, one of the objectives of the study was to increase KM's awareness of how the organizational culture could have an impact on IM. Culture is deeply embedded in unconscious sources but is depicted in peripheral procedures and rules of conduct and reflected in cultural artefacts. One of the original measures towards establishing a knowledge-sharing culture is for knowledge journalists to start interviewing important individuals to record initiatives, best practices, lessons learned and good stories. (Dalkir. 2005. Pg. 195) Although the information acquired from the research was shallow and, for this reason, the necessary outcome could not be achieved, the amount of awareness of the case company was considerably enhanced through this research.

According to the *Businessdictionary*, attitude is a predisposition or inclination to react favourably or badly to a particular concept, item, individual or condition. Attitude affects the decision of practice of the individual and the response to difficulties, incentives and benefits. Attitudes are often presumed to be robust and, as indicated above, represent psychological trends that could possibly affect behaviour. ITSM systems are complex and sometimes users see them as complicated. Users need instructions and training to properly use these technologies. This research demonstrates that some staff find it hard to use the current system in the case company. This variable impact efficiency, cooperation and reaction to disruptions in services. In line with the above, employee training on the ITS tool(s) could be improved. This would, in turn, lead to a shift of approach and attitude towards the tool.

In most organisations, tasks are performed formally with little room for informal exchanges, cooperation and collaboration. The case company is no exception. Research has shown that an informal forum or platform could enhance cooperation between employees and help identify knowledge holders within the organisation. This is not to say that a corporate culture is bad but encouraging a more casual or informal culture that would involve discussions and reward for good work would be beneficial to the case company. Successful creation and

maintenance of a cooperative setting in an organisation needs more than just operational IT tools. In the future, the case company may want to adopt a more intuitive IT tool for its operations.

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Appendix 1: Survey Questions

Q1. In which region are you working?

Q2. In which Department are you working?

Q3. How long have you been working in the company?

Q3. What is your job role/description?

Q4. What do you know about Knowledge management and Organizational Culture?

Q5. How do you share your knowledge?

Q6. How often do you share your knowledge?

Q7. What tools do you prefer for knowledge sharing? Google/Meetings/Workshops/Share-Point/Peer-peer/Other.

Q8. If you answered the question above with "Other" please describe here in details which tools.

Q9. Do you know about the company's KM tool? Yes/No

Q10. Do you use existing KM tools for day-to-day activities? Yes/No

Q11. How important would you consider the tool?

Q12. How competent do you think you are using the KM tool?

Q13. Is your HOD/Supervisor/Team lead encouraging the use of Knowledge Management tools. Yes/No

Q14. What is your experience with existing Knowledge Management Tool? Good/Fair/Bad

Q15. What is the reason your experience with existing Knowledge Management Tool is? Good/Fair/Bad?

Q16. Do you think the use of KM tools brings benefits to employees? Yes/No

Q17. Please specify here in details the reason for your answer to the above question

Q18. Do you think the use of KM tools brings benefits to the organization? Yes/No

Q19. Please specify here in details the reason for your answer to the above question

Q20. How important do you think KM tools are to both company and employees? Very important/Fairly important/Important/Not important/Not certain

Q21. Please specify here in details the reason for your answer to the above question.

Appendix 2: Interview Questions

Main questions for the interview included:

- Organization's perspective of Knowledge flow (creation, capture and sharing)
- Understanding of Knowledge management (what works and does not work) and Organizational culture.
- Factors influencing Knowledge management.
- Designation of Knowledge management responsibilities.
- Employees access and restriction to information.
- How has Organization Culture impacted incident management in the company?
- Enablers for incident management from company point of view.
- KM future in the company (improvement on existing structure and projection for the future).