THE RELATIONSHIP BETWEEN ORGANISATIONAL CULTURE AND KNOWLEDGE MANAGEMENT AMONG EMPLOYEES AT SHARED SERVICE CENTRES IN MALAYSIA

SAW ED MOND

A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF

MASTER OF BUSINESS ADMINISTRATION

UNIVERSITI TUNKU ABDUL RAHMAN

FACULTY OF ACCOUNTANCY AND MANAGEMENT

DECEMBER 2016

THE RELATIONSHIP BETWEEN ORGANISATIONAL CULTURE AND KNOWLEDGE MANAGEMENT AMONG EMPLOYEES AT SHARED SERVICE CENTRES IN MALAYSIA

BY

SAW ED MOND

THIS RESEARCH PROJECT IS SUPERVISED BY:

GOH POH JIN
LECTURER
DEPARTMENT OF INTERNATIONAL BUSINESS
FACULTY OF ACCOUNTANCY AND MANAGEMENT

DECLARATION

I hereby declare that:

(1) This Research Project is the end result of my own work and that due acknowledgement has been given in the references to all sources of information be they printed, electronic, or personal.

(2) No portion of this research project has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning.

(3) The word count of this research report is 18180.

Name of Student: Saw Ed Mond

Student ID: 14UKM01030

Signature: _____

Date: _____

ACKNOWLEDGEMENTS

I am grateful to Ms Goh Poh Jin for agree to be my supervisor and her dedication and guidance throughout the journey of my final year project. Also, I will like to thank Dr Pok Wei Fong for her guidance on the subject of business research method and assistance for the administrative matter relating to this final year project. Lastly, I would like to thank the staff of Faculty General Office especially Ms Yap Pui Ling for handling the administrative matter relating to this MBA final year project.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

The Relationship between Organisational Culture and Knowledge Management among Employees at Shared Service Centres in Malaysia

By

Saw Ed Mond

The challenge of losing key employees in an organisation has been one of the factors contributing to knowledge lost which could impact on the operation and even cause financial losses to the organisation. Shared service centres are not spared from this scenario. Hence, knowledge management in creating, capturing, organising, storing, disseminating and applying of knowledge has become a necessity in shared service centres to ensure continuation of service and support to the group operation. Although knowledge management could be managed through the support of technology by without the human appreciation of the knowledge, what stored in through technology is none other than simple data which does not bring meaning. Therefore, the purpose of this study is to examine the correlation on organisation culture and knowledge management and retention in shared service in Malaysia. The study examines on the following research questions 1) "Does organisational culture has correlation with knowledge management in shared service centres in Malaysia?" 2) "Which dominant organisational culture type has correlation to knowledge management in shared services centres in Malaysia?". Due to shared service centre nature of operations, there is high possibility of knowledge management being in place which examining whether any dominant culture type could influence the success of knowledge management. In addition, the findings could help organizations assess the likelihood that implementation of knowledge management initiatives will be successful or will increase the organization's competitive advantage in relationship to the current organizational culture (Lawson, 2003).

CHAPTER 1

INTRODUCTION

Malaysia is one of the Asia region outsource business hub and maintained a healthy growth over the 9% between the year 2003 to 2008 (Economic Transformation Programme, 2012). The Malaysia government has put in effort in attracting more companies to outsource their services or operation or start up their shared service through action plan from the Economic Transformation Programme ("ETP"). Shared service centres are relatively staff intensive and knowledge dependence especially dealing with the finance, information technology and human resource services.

On the other hand, staff turnover in Malaysia has been increase within past 5 years as couple of survey done within the year of 2011 to 2014 has shown that attrition rate in Malaysia company has been consistently remain at above 70 percent ("70 % of employees plan to leave their jobs , says survey," 2014; Siew, 2015; Wong, 2012). The turnover rate not only burden on the company on the staffing cost incurred but also the high possibility of knowledge being lost. This true especially when key employee left the organisation with the knowledge are likely to leave the organisation (Teece, 2000). In addition, organisation would be force to incurred higher cost in regaining the lost knowledge and imparting it to another employee within the organisation. Due to the importance of these knowledge which lies within the key employees, past studies has mainly study on the retention of the employees. Besides, studies on retention of knowledge in the past have mainly focuses on changing tacit knowledge to explicit knowledge through the support of technology.

However, it is inevitable that employees will leave the organisation at some point of time due to certain reason and majority of the time company is unable to

identify a successor in a short period of time for the knowledge to be transferred and retained. This phenomenon does not spare the shared service and outsource industry; where staff turnover of this industry in Malaysia is relatively high and talented staff is being sought after.

1.1 Background of studies

As Brown and Duguid (1998) claimed, it is easier for knowledge to transfer between organisation compare to within organisation. The claim made by Brown and Duguid clearly depict the movement of employee from one organisation to another while bringing the knowledge with them but this knowledge are unable to retain and transfer within the original organisation. Thus, it prompt the top management in recognising the importance of knowledge management and transfer issue (Nonaka, 1991; Teece, 2000). As such, organisation developed standard operating procedure (SOP) to capture key knowledge. However, SOP would be the information of the organisation process and working procedure but information is hardly make up knowledge (Teece, 2000).

Hence, as quoted by Jones (2009) knowledge according to Davenport and Prusak (1998),

> *"…is fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knower. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms."*

In the studies done by Lawson (2003) which has cited Beckman's (1999) studies identified knowledge from several researchers and practitioners which could be conclude that generally the ability in deciphering information to apply in problem solving and decision making is what made knowledge. Therefore, the understanding and application of information which embed in an individual is

what conform as knowledge. The definition of knowledge by Beckman and Daven et al. does support that knowledge is entirely trapped within the mind of a person through experience and information. It is valuable due to the time lapse for discovery, creation and execution of the knowledge; the difficulty increase with locating the key person with the knowledge as the cost incurred is relatively costly either on actual cost or opportunity cost (Teece, 2000).

The past research on knowledge management promote the use of Information Technology (IT) in managing knowledge (Baptista Nunes, Annansingh, Eaglestone, & Wakefield, 2006; Srikantaiah, Srikantaiah, & Koenig, 2000). Knowledge is assume to be effectively codified and disseminate to others through usage of information technology (Baptista Nunes et al., 2006). Similarly to SOP, codified knowledge does not equal to the knowledge but information. Therefore Teece (2000) noted that "IT tools are never the entire solution for knowledge management". On top of that, other researchers in past has mentioned that cultures as one of the key factors of knowledge management.

The limitation from relying on IT tools on knowledge management has prompt researchers in examining the organisation culture. Numerous researchers had identified that through develop and uphold of positive culture as the key driver of knowledge management (Baddi & Sharif, 2003; Chen, Zhu, & Xie, 2004; Chin-Loy & Mujtaba, 2011; Herkema, 2003; Janz & Prasarnphanich, 2003; D. G. Jones, 2006; Jones, 2009; King, 2007; Lawson, 2003; Mayfield, 2008; Moore, 1998).

1.2 Problem statement

The failure of knowledge management could be traced back to the organisation culture which poses a significant barrier in knowledge management (De Long & Fahey, 2000). As such, it is importance to identify culture which accommodate and upheld knowledge management in managing these valuable intangible assets of an organisation. Past studies of knowledge management has look into the relationship of organisation culture and knowledge management which mainly

focuses on western countries (Jones, 2009; Lawson, 2003; Mayfield, 2008). There are limited studies on organisation culture and knowledge management in shared service centres industry in Malaysia. Hence, prompted for further studies to be conducted to identify the culture for successful knowledge management implementation for shared service and outsource company in Malaysia.

1.3 Research Objectives

The objective of this study is to examine and establish the correlation between organisation culture and knowledge management through the utilisation of Competing Value Framework. The study looks into the type of culture any any factors within a shared service centre which impact and lead to the success of knowledge management implementation.

1.4 Research Question

The researcher in this study adopted the research question from Lawson (2003) research and examine in the shared service and outsource company environment in Klang Valley with the following research questions:

1) "Does organisational culture has correlation with knowledge management in shared service centres in Malaysia"?
2) "Which dominant organisational culture type has correlation to knowledge management in shared services centres in Malaysia"?

1.5 Research Hypothesis

Based on the research questions, the researcher establishes the following hypothesis:

Hypothesis 1

H_0: "There is no correlation between organisation cultures on the implementation of knowledge management in shared services centres in Malaysia".

H_1: "There is correlation between organisation cultures on the implementation of knowledge management in shared services centres in Malaysia".

Hypothesis 2:

$H2_0$: "Shared Services Centre with dominant clan culture type will not have significant positive correlation to knowledge management in Malaysia".

$H2_1$: "Shared Services Centre with dominant clan culture type will have significant positive correlation to knowledge management in Malaysia".

Hypothesis 3:

$H3_0$: "Shared Services Centre with dominant hierarchy culture type will not have significant negative correlation to knowledge management in Malaysia".

$H3_1$: "Shared Services Centre with dominant hierarchy type will have significant negative correlation to knowledge management in Malaysia".

Hypothesis 4:

$H4_0$: "Shared Services Centre with dominant adhocracy culture type will not have significant positive correlation to knowledge management in Malaysia".

$H4_1$: "Shared Services Centre with dominant adhocracy culture type will have significant positive correlation to knowledge management Malaysia".

Hypothesis 5:

$H5_0$: "Shared Services Centre with dominant market culture type will not have significant negative correlation to knowledge management in Malaysia".

$H5_1$: "Shared Services Centre with dominant market culture type will have significant negative correlation to knowledge management in Malaysia".

1.6 Significance of the Study

With high turnover rate of employment in Malaysia which impacted on shared services company, retaining knowledge will be a crucial factor to ensure the smooth process and development of the company. As key employees leaving an organisation would result in knowledge erase when there is no proper hand over or being captured, organisation is bearing the loss of actual and opportunity cost (Teece, 2000). Although, the usage of SOP and IT tools may have been utilised in these companies, the "knowledge" capture is more likely to be information and unable to compare to actual knowledge (Baptista Nunes et al., 2006; Srikantaiah et al., 2000). As though, past researchers identified the key driver in successful knowledge management would incorporate to the organisation culture as discussed in the background. Hence, this study aims to identify type of culture which will support the success of implementation of knowledge management. The findings of this research could assist shared services centres in managing knowledge transfer more efficiently and effectively by understanding the culture variables. In addition, the finding of the study would helps not only in implementation of knowledge management but also the sustainable of the programme.

1.7 Chapter Summary

This chapter discuss the background of the research on hared service centres which are a labour intensive industry and the challenge of high employee's turnover rate. Employee leaving the company is a cost for the company not only on cost incurred for rehiring but also for the cost of knowledge lost and cost incurred to recreate the knowledge. Thus past researches have been made on method to retain and transfer knowledge with the use of information technology. However, the knowledge retained is nothing more than information or guide. Thus, researchers started to shift their focus and identify organisational culture are one of the key factors in successful knowledge management. This chapter also identify the limited study of organisational culture and knowledge management in

shared service centres. The significant of this study could assist shared service centres managing their knowledge transferred more efficiently and effectively by understanding the culture variables.

CHAPTER 2

LITERATURE REVIEW

The chapter covers on the definition, terms and theory of knowledge, knowledge management and culture. It will discuss on past research of knowledge management and culture and analysis of the Competing Value Framework adopted.

Before proceed further on reviewing on knowledge management, it is important to understand on the core of knowledge management which is knowledge itself. Understanding on the theoretical and characteristic of knowledge comes as fundamental for knowledge management.

2.1 Knowledge

There has not been a single definition which was used in past research which cut across different set of study (Beckman, 1999; Lawson, 2003; Von Krogh, Ichijo, & Nonaka, 2000). However, most of the researcher had in some point comes to similar conclusion where knowledge relate to the use of information acquired and applying in decision making, judgment and problem solving (Beckman, 1999; Wigg, 1993). One of the most notable discussion made by Allee (1997) who commented that knowledge as a process depend greatly on the communication between individual. Merriam and Caffarella (1991), discussion had mentioned a similar concept as Allee. In their book, Merriam and Caffarella discussed that knowledge is formed through a group of individuals comes together in discussion and involving in activity to resolve a problem or task.

A distinctively classified in two types of knowledge and further improved by Nonaka; namely the explicit and tacit knowledge could traced back to Michael Polanyi's classification (Lawson, 2003; Nonaka, 1994; Nonaka & Konno, 1998). The definition of the two classified knowledge as following:

> Tacit knowledge refers to the informal knowledge stored between the ears of an individual which difficult in communicate and transfer the knowledge to another individual. The tacit knowledge is rooted to the individual action hence consist of the skill, know-how and cognitive dimension. Due to the intangibility tacit knowledge which is difficult to express; these knowledge is complex to be transferred (Lawson, 2003; Mayfield, 2008; Nonaka, 1991, 1994; Nonaka & Konno, 1998)

> Explicit knowledge refers to codified knowledge where knowledge could easily be identify, store and communicate. The knowledge is structured and systematic which could be captured in written format and shared among individuals in a group. The explicit knowledge usually portrait in the form of work procedure or standard operating procedure, scientific and mathematic formulas, product specification and computer programmes and coding (De Long & Fahey, 2000; Nonaka, 1994; Nonaka & Konno, 1998).

According to Nonaka (1994), identified knowledge classification provide the fundamental of four basic knowledge creation pattern. The knowledge creation cycle explained the interaction knowledge between tacit and explicit knowledge and the transfer and conversion from tacit knowledge to explicit knowledge (Nonaka & Konno, 1998). The knowledge creation cycle and its correlation with the knowledge classification could be explained through the following four quadrants:

Figure 1: Four Quadrant of Explicit and Tacit Knowledge

From – To	Tacit Knowledge	Explicit Knowledge
Tacit Knowledge	Socialisation	Externalisation
Explicit Knowledge	Internalisation	Combination

Figure 1 Explicit and Tacit Knowledge (Nonaka, Takeuchi, & Umemoto, 1996)

From Tacit to Tacit Knowledge (Socialisation) – refers to the individual transfer of knowledge and sharing of experience with others (Lawson, 2003; Nonaka & Konno, 1998; Nonaka et al., 1996). The transfer knowledge could be made informal or formal and limited through speech, explanation or performing while the recipient of this knowledge listen or observe.

From Tacit to Explicit Knowledge (Externalisation) – refers to process of putting the tacit knowledge into codified knowledge through writing or creating as guide. The complexity of the conversion lies on the ability on the knowledge conveyed and the ability of the recipient to understand the knowledge and its core. The whole process could be said as the heart of knowledge creation and the success could bring the competitive advantage to the organisation (Lawson, 2003; Nonaka & Konno, 1998; Nonaka et al., 1996).

From Explicit to Explicit Knowledge (Combination) – refers to systematise the captured knowledge to the organisation knowledge base. Restructuring or simplifying the captured knowledge to improve the understandability of knowledge. In this process, it also combines the separate pieces of knowledge within the organisation and coming with a structured set of articulated knowledge (Lawson, 2003; Nonaka & Konno, 1998; Nonaka et al., 1996).

From Explicit to Tacit Knowledge (Internalisation) – refers to the sharing of newly structured knowledge throughout the organisation (Lawson, 2003; Nonaka & Konno, 1998; Nonaka et al., 1996). The process of sharing of the explicit knowledge not only conveyed the knowledge to the employees but also when the employees begin to adopt the knowledge and incorporate in their performance of task and continue to developed the shared knowledge into their own tacit knowledge as skill, know-how or experience.

The understanding of knowledge and its creation cycle is the core which leads to management of its creation and maintenance. It is to ensure that such knowledge to be retained within the organisation.

2.2 Knowledge management

According to Ichijo and Nonaka (2007), it is probable that Peter Drucker to be the initial scholar to stress on the significant of knowledge management in 1959 through his book "Landmarks of Tomorrow". The importance of knowledge management started blossom during the transition of industrialisation economy to service industry economy (Stewart et al., 2000). During this era, organisation started to shift from merely focuses on manufacturing to servicing customer, knowledge has become an important tools creating competitive advantage for the organisation.

Similarly to the definition of knowledge, there isn't any agreed single definition available in knowledge management literature (Jones, 2009; Lawson, 2003). As discussed earlier, where knowledge is the core of knowledge management, most of the definition resolves on the process of knowledge creation and dissemination for organisation in making decision, resolving issues and planning and strategizing for the organisation goals, directions and growth. According to Jennex

and Olfman (2005), associate with organisation approach to extract the valuable knowledge through the procedures, cultures and technology.

However, one of the notable definition which most accurately define knowledge management for this research refers to "*knowledge management as a process that helps organizations find, select, organize, disseminate, and transfer important information and expertise necessary for activities such as problem solving, dynamic learning, strategic planning, and decision making*" (Gupta, Iyer, & Aronson, 2000). This definition is selected as it explained on process of creation of knowledge and direction knowledge is managed to support the organisation direction.

Knowledge created would be in vain when organisation does not manage the knowledge and became lost or forgotten. Hence, knowledge management is crucial factor not only for saving cost which incurred through knowledge creation and time when it lost but also to ensure the competitive advantage and continuous creation and improvement of knowledge. In this research, knowledge management could be manage through the knowledge management cycle formulated by Lawson (2003); which adopted and combined the knowledge management process phases of Wigg (1993), Horwitch and Armacost (2002), and Parikh (2001) which portrayed a six stage process on knowledge management to be adopted. The knowledge management cycle illustrate a process of creating, capturing, organising, storing, disseminating and applying the knowledge within an organisation. The process illustrate similarly to the knowledge creation cycle assembled by Nonaka and portrait good practice in managing knowledge.

Figure 2: Knowledge Management Cycle

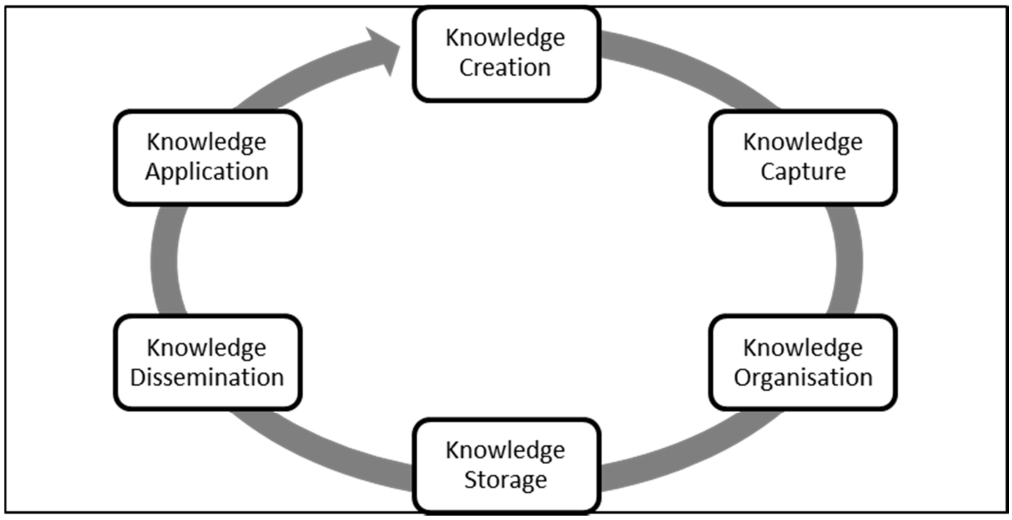

Figure 2 Knowledge Management Cycle (Lawson, 2003)

Knowledge Creation – attribute to the organisation consciously seek knowledge from within and outside of organisation and siphoning relevant knowledge. In this stage relate to organisation developing and providing training to its employees and encouraging best practice sharing among employees. Through this practice, creation of knowledge achieved through employee discovering new method to perform their task and bring in back to the work place or organisation (Davenport & Prusak, 1998; Lawson, 2003).

Knowledge Capture – identified new knowledge through knowledge creation which deem valuable for the organisation is being reasonably illustrated for future access, extract and disseminate on such knowledge (Lawson, 2003). Capturing of knowledge could be considered most difficult part the knowledge management cycle similarly to transforming tacit knowledge to explicit knowledge. The knowledge captured requires to be represented well and receiver of the captured knowledge able to understand.

Knowledge Organisation – refers to the process of codifying the knowledge where captured knowledge are being identified, refined, combined and collaborated to made it meaningful for organisation process

(Lawson, 2003; Mayfield, 2008). The process include on continuous updating the captured knowledge to represent the latest process and ensuring the relevancy of the knowledge.

Knowledge Storage – the management of knowledge would require the organised knowledge to the stored within the organisation and in a format which is accessible and utilisable for its user (Lawson, 2003). In usual case, the knowledge are found stored within organisation databases with the help of information technology (Mayfield, 2008).

Knowledge Dissemination – the management of knowledge require the knowledge to be distributed to its users or even personalise to suit specific group of users (Lawson, 2003). The usage of common language and medium in transferring the knowledge among the user in order for knowledge reach its optimum understandability by the receiver. As in knowledge organisation, in this stage the process ensure the accessibility of the knowledge by its user (Jones, 2009).

Knowledge Application – the whole knowledge management was to ensure valuable knowledge are being retained within an organisation; hence if these knowledge not being applied in the work process it would defeat the whole purpose of the knowledge management cycle. The knowledge application also refer to the exploration of new knowledge with the knowledge learnt and implemented through adaptation of the knowledge in new situation (Lawson, 2003). In this stage, it contributes and drives learning process within the organisation in developing and improving the knowledge.

The effective knowledge management within an organisation would mean the six processes of knowledge management cycle are being actively observed and practice (Lawson, 2003; Parikh, 2001; Wigg, 1993). In the past, more organisations began to incorporate with knowledge management in their strategy where initially most of these organisations pursue the implementation of knowledge management through information technology and solely dependent on

it (Davenport & Prusak, 1998; Srikantaiah et al., 2000). However, it was found that the dependant on information technology does not draw out the full potential of knowledge management as found to be missing on the softer part of the management such as culture (Baddi & Sharif, 2003; Chen et al., 2004; Herkema, 2003; D. G. Jones, 2006).

2.3 Organisation Culture

The study on organisation culture could be found as early as in the 1980s with different scholars' studies on this topic provides different view point and argument on the organisation culture. The different in view point proved that organisation culture comprises of factors which interrelate, complex and extremely broad (Lawson, 2003; Quinn & Cameron, 2011). Throughout the researches done by past scholar there is an agreement where culture is formed through group sharing a common belief, behaviour and experience (Lawson, 2003; Mayfield, 2008; Quinn & Cameron, 2011; Schein, 1999). Organisation culture involves all members of the organisation and is formed through consciousness of the group representing the culture as symbolic organisation identity (Balmer, van Riel, Jo Hatch, & Schultz, 1997).

With differentiation approach adopted by past researchers, there has no definite definition for organisation culture. However, for this research, the definition used is adopted from Schein's (1984) studies and also adopted by Lawson (2003):

> "Organizational culture is the pattern of basic assumptions that a given group has invented, discovered, or developed in learning to cope with its problems of external adaptation and internal integration, and that have worked well enough to be considered valid, and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems".

Culture plays a key role in an organisation operation which contributes the direction, goals setting and approach adoption of the operations through the subconscious sharing of collective behaviours, value, though and perceive (Schein, 1999). According to Schein (1999), organisation failing to weight in the importance of culture in the decision making is likely to anticipate undesirable consequences. When the organisation shares a set of beliefs, there are likely to have high retaliation on implementation which challenges those beliefs. However, when organisation capitalise the culture and its element into their directions and operations it is much likely to achieve the success, effectiveness and efficiency with lesser retaliation.

2.4 Culture Framework and Theory

Organisation culture as acknowledge in earlier as an extremely broad field; hence numerous models and frameworks had been developed in pursue to study organisation culture. The approach adopted on each of the models and frameworks examine the culture differently and focus the different level of culture.

2.4.1 Schein's Levels of Culture

According to Schein (1999), organisation culture exist in three levels ranging from visible such as artefact to tacit such as beliefs and values. In each level, it influences the group sharing same culture in their progress and work. The level of culture includes:

Artifacts – is the first level of Schein's culture level where presence of the culture is visible and easily observe. As the word artifacts, it refer to the environment and object representing the culture exist in the organisation and it could be see, hear and feel by the members in the organisation. The presence includes, architecture, technology, office layout, dress code, intonation and speech pattern observed (Lawson, 2003).

Espoused Value – the second level of Schein's culture level where the presence of the culture portrait through the behavioural pattern which could be observe and notice within a period of time. In this level, it explained on the adopted value in the organisation which bridge through the understanding and deciphering of level one artifacts and the behaviour pattern shared among the members.

Shared Tacit Assumption – in the third level of Schein's culture level, represent the underlying value over period of time in the organisation which fully merge to the organisation which unconsciously upheld by the fellow members. The value which the organisation had accepted on the way progress, work and direction has been perceived. In this level, the value which had been fully merged in the organisation is the hardest to change or relearn.

The developed culture within an organisation as discussed, represent the organisation as part of their image and influence the approach and work style of an organisation. Management capitalising the culture are likely to enjoy the support of the culture in progress and achieving success. However, identifying the type of culture in implementation may not be as easy as it seems. In this research, the Competing Values Framework is adopted in assisting in identifying the type of culture that could improve the knowledge management in an organisation.

2.4.2 Behavioural Approach

The behavioural approach describes the relationship management of the organisation and the task performance where behaviours are observable and the pattern of the behaviour affect the performance (Cummings & Worley, 1997). This approach provides a platform in assessing and diagnosing the risk within an existing culture against management plans (Lawson, 2003). The diagnostic enable management to identify the existing risks and improvise mitigation plan on the risks while preparing the implementation plan. The understanding and knowledge of the cultural risk would be the indicator for decision maker to identify the compatibility of plans with the organisation behavioural pattern.

Although the behavioural model emphasize on the surface of organisation level; the result gives an important indicator to strategy planner and decision maker on deciding, forming and amending implementation plan which capitalise the culture behaviour. In some instance, when the culture proves to be detrimental to the organisation performance; management would be alarmed in looking for direction in changing the culture (Cummings & Worley, 1997; Lawson, 2003).

2.4.3 Competing Values Framework

In this study, the Competing Values Framework ("CVF") is adopted as these framework initially developed on studying the organisation effectiveness (Jones, 2009; Mayfield, 2008; Quinn & Cameron, 2011). Through over period of time studies on research and scholarly literature the four quadrants framework was formed (Mayfield, 2008; Quinn & Cameron, 2011). The CVF was used in studying organisation effectiveness through assessing each quadrants reaction and approach in embracing and resolving issues or productivity. Relating to this study, culture as a key factor to the success of knowledge management; hence the adoption of CVF provides the platform in identifying the type of culture which contributes to the success of knowledge management within an organisation.

The Competing Value Framework underlay the approaches of organisation approach in resolving value dilemma and could be explained through four important "value pairs" where contradicting values within each pairs at opposite ends of a continuum (Lawson, 2003). As the name of the framework, the interaction of each value pair portrait organisation dominant valued which either internal or external, stability or flexibility, task or people orientation and organic or mechanic processes (Lawson, 2003). At the end, organisation culture with the dominant value would show and direct the organisation.

Figure 3: Competing Value Framework

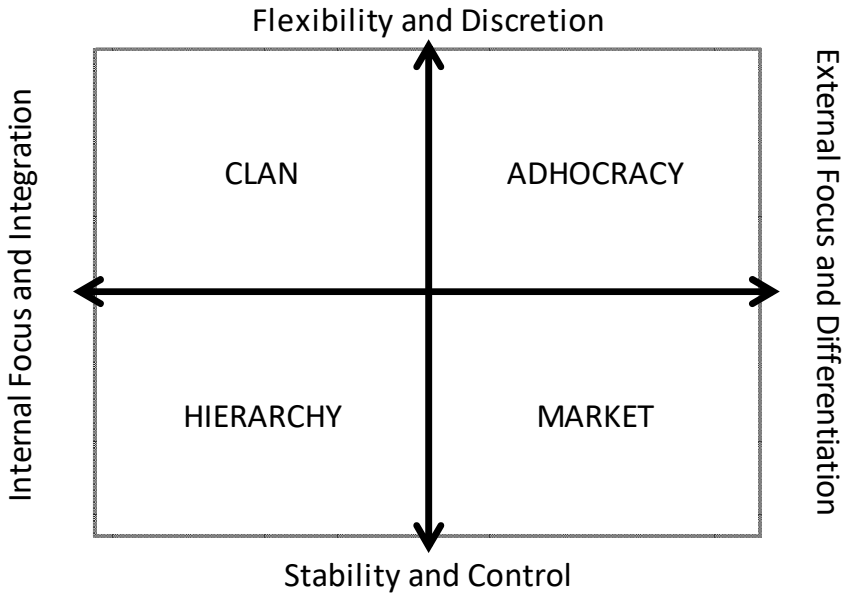

Figure 3 The Competing Values Framework (Quinn & Cameron, 2011)

The Clan Culture Type – located at the top left quadrant which the culture exhibit focus on internal environment and seek flexibility among its member (Quinn & Cameron, 2011). As suggest by the term "Clan" the culture upheld a friendly internal environment where the leader acted as a parent figure or clan leader, which lead and foster togetherness and morale of his subordinate. In clan culture, teamwork, individual involvement and sharing of concern are being valued greatly (Quinn & Cameron, 2011). With the value being upheld, the employees act together and probably developed a group thinking and trust among colleagues.

The Hierarchy Culture Type – similarly to the clan culture type which focuses on internal environment but exhibit control and stability (Quinn & Cameron, 2011). Hierarchy which also bring the meaning of pyramid or structured control which reflect on the formal and structured environment with managers coordinate the operation. The operations are oversees by the managers and employees are required to abide to the procedure and policies set in order for the organisation to achieve efficiency on its operation and reduces time and cost (Jones, 2009; Quinn & Cameron,

2011). In the hierarchy environment, managers are the champion for change which employees follows as part of directive given.

The Market Culture Type – located at the bottom right of the competing value framework quadrant; the market culture type is another culture type which seek for stability and control and focus on external environment (Quinn & Cameron, 2011). The market culture seek control on its external environment hence it value competitiveness and productiveness. In order to achieve the control, the members of the organisation places high focuses on competition, result and demand oriented. The competitive environment also sees organisation placing stretch key performance index on its employees to meet with the demand of the company achieving market control (Kerr & Landauer, 2004). Not only will the members of the organisation being competitive against external, but also the employees are prone to bring in the competitiveness among themselves to achieve their desire or personal goals in the organisation.

The Adhocracy Culture Type – the last quadrant on the competing value framework, although the adhocracy culture focuses on the external factor, it seek flexibility on its culture which promote creativity, innovation and risk-taking among its members (Quinn & Cameron, 2011). Organisation which usually embraces the adhocracy culture are usually on the fast pace environment especially in a dynamic and turbulent industries which often requires the members of the organisation to come up with ideas, solutions and strategy in challenging its task or issue arises.

Each of the culture type has its own strengths and weaknesses and it depends on the environment which the organisation operates and the utilisation of the culture to capitalise the competitive advantage. It is common to have certain degree of overlapping culture exist within an organisation and with particularly a dominance culture which upheld among the employees. However, it is most desirable for organisation to achieve a balance culture type which demonstrate all four types of culture which promote a balance management on the organisation knowledge (Lawson, 2003; Obenchain, 2002; Quinn & Cameron, 2011).

2.5 Culture and Knowledge Management

Knowledge which inter-relate with intellectual and understanding of an individual are able to be captured and stored especially with the advancement of technology. However when it comes to dissemination and sharing among the individual within a group it require more than technology, as knowledge require understanding in order utilise its full potential; social relations with the people around and the existence from histories plays an important part (Brown & Duguid, 1991). The interaction of culture which carries the complex value, symbol, language and assumption become the key factor in knowledge management as the medium of communication and boost the understanding of knowledge. Thus, culture plays an important role on the success of knowledge management in an organisation (Ribiere, 2001).

The different culture impact differently on knowledge management thus through identifying the culture possess within an organisation enables management capitalise the strength of the culture in managing knowledge. Numerous studies made in the past which studied on the culture and its value creation towards knowledge was found and supported how culture affect knowledge management (Jones, 2009; Lawson, 2003; Mayfield, 2008).

Hence, our hypothesis 1 which seeks to identify whether there is correlation between organisation cultures on the implementation of knowledge management in shared services centres in Malaysia.

Numerous study on culture and knowledge management indicated the value of trust, teamwork, individual contribution to the organisation and thought sharing path a solid foundation of network relationship on each individual (Berman-Brown & Woodland, 1999; Lesser & Storck, 2001). In the studies by Lesser and Storck (2001) which refer to the communal culture where members of the organisation connect with each other as part of a community. The behavioural and

practices of the individual leads a greater results in the knowledge sharing in which resulted positively to the business performance (Lawson, 2003). It was found that the communal culture which flourishes the network relationship had enable the employees within the organisation feel more connected to each other; in which reduces the time investment of each individual in gathering information (Lesser & Storck, 2001). While employees feels the connection with each other, the culture had breed additional value which empower the knowledge management such as a sense of obligation to share the knowledge, feeling as a norm in sharing and managing the knowledge, the trust in other individual and the sense of togetherness.

These factors had brought a positive outcome in Lesser and Storck (2001) study on the performance. The outcomes showed:

- New employees are able to learn the task faster through the sharing and communal culture embraced.
- As knowledge and information are being shared more openly between the employees, customers need and enquiry are able to be response within shorter time
- The culture where employees shared their knowledge enable the organisation to avoid reinventing of process which reduces the time of rework
- It is notable that the willingness to share and manage on the knowledge had enabled more ideas being generated among the employees.

In this research, the clan culture which was embraced had significantly influence the performance of the organisation (Lesser & Storck, 2001). In addition, it could also be seen that the level of trust and openness shared among the employees embracing the communal culture influence their willingness to share knowledge and maintain the knowledge in improving the performance and process operation of the organisation.

Hence, our hypothesis 2 which seeks to identify whether shared services centre with dominant clan culture type will have significant positive correlation to knowledge management in Malaysia.

Besides, other research which study on the culture within structured control environment sees knowledge management could be controlled. The enforcement of procedure which through levels of management in training of the employees and ensuring compliances of the process (Mayfield, 2008). As decision making are made by individual with authority which value on the success by the level of compliances to the policies and procedure and ensuring the accountability based on the compliances (Quinn & Cameron, 2011). The management which usually a specific individual which was empowered, define the single protocol for others to follow hence eliminate the needs of the employees in making judgment. Thus, knowledge management are being centralised to certain individual and knowledge are transferred as protocol in this culture which knowledge management are required to be made by the particular individual. The lack of feedback from the employees' level had seen minimal improvement on the knowledge and with the mechanical operation most of the employees are unprepared to face new challenges without directive from the management.

The centralise knowledge management was also found to focus on improving on efficiency through driving specialisation to the employees through the continuous repetitive on the protocol but it shut the door for the organisation to seize new opportunity (Quinn & Cameron, 2011). Moreover, when organisation faced challenge undefined in protocol; the organisation takes longer time in responding in hierarchy culture which was due to decision making and knowledge are held by the management and lower rank employees usually wait for the directive to act upon.

Hence, our hypothesis 3 which seeks to identify whether shared services centre with dominant hierarchy type will have significant negative correlation to knowledge management in Malaysia

The adhocracy culture type which focus on creating leading edge through development of new knowledge product and service (Ba, 2004). Hence, research found that the members emphasis on knowledge management through acquisition of new knowledge, information and resources in order to continuously adapt to the complex and turbulent environment (Quinn & Cameron, 2011). The members of adhocracy culture type often generate or obtain knowledge through series of scanning and testing on the environment; these acquired knowledge are then selected to be implemented to the organisation (Schwandt & Marquardt, 2000). Moreover, other researchers found that the knowledge in the adhocracy culture type passes from one individual to another or from task team to task team depending on each scenarios or issues which arise at that time (Cameron & Quinn, 2005). In the research of Romãn-Velãzquez (2004) found that dominant adhocracy culture had higher mean knowledge management success factor scores compare to hierarchy culture type.

Hence, our hypothesis 4 which seeks identify whether shared services centre with dominant adhocracy culture type will have significant positive correlation to knowledge management in Malaysia.

The research by Berman-Brown and Woodland (1999), which examined knowledge management in an organisation culture which focuses on competition found that competitiveness among members negatively affect the knowledge management cycle. Thus, knowledge management in this competitive culture found that member within the organisation demonstrate trust, unity and openness; the organisation knowledge management are achievable which leads to new knowledge being created and maintaining the competitive advantage (Berman-Brown & Woodland, 1999; Lawson, 2003). The competitive culture provides information which benefits organisation in understanding the customer's preference and response with the shortest period of time. However, when the competitive nature brought into the internal of organisation where employee deem knowledge is used as component in gaining individual advantage within the organisation would cripple the knowledge management process (Berman-Brown & Woodland, 1999). Employee in a competitive environment within colleagues is

reluctant to share their knowledge thus leading lesser feedback to develop new knowledge.

Hence, our hypothesis 5 which seeks identify whether shared services centre with dominant market culture type will have significant negative correlation to knowledge management in Malaysia.

2.6 Chapter Summary

The study of culture and knowledge management looks into the idea of knowledge creation process which leads to knowledge management cycle in an organisation where information brought from within and outside of the organisation lead to improvement and creation of knowledge. The relationship of knowledge creation process and knowledge management cycle depict the importance of knowledge acquire by organisation to be retained and manage in order to generate additional knowledge and improvement of knowledge in order to maintain the competitiveness of the organisation. With the advancement of information technology had seen organisation adopted the latest technology in knowledge management but proves to be unfruitful mainly because the lack of soft management namely culture being overlooked which impact on the failure of knowledge management in the past.

In the study of knowledge management and culture, Competing Value Framework is being adopted to conduct the relationship and effectiveness of culture towards knowledge management. The Competing Value Framework which provides four types of culture based on the influence and interaction of environment and organisation operation style.

CHAPTER 3

METHODOLOGY

This study intends to explore on the relationship between organisational culture and knowledge management which the research seek to identify the organisation culture type correlate with knowledge management on shared services in Malaysia. The study seeks to identify the dominant culture influencer on the culture-knowledge management correlation. In this chapter, it will cover on the methodology adopted in this research and presents the research questions, hypotheses, population and sample, research design, variables and measurement adopted, validity and reliability. Data collection procedure and technique used for this research will be discussed here as well.

3.1 Population and Sample

This study focuses on the examining the correlation of organisational type and knowledge management in shared service centres in Malaysia. The distributions of shared service centres in Malaysia are mostly located in Klang Valley based on the ETP (Economic Transformation Programme, 2012).

Convenient sampling will be used in the study in approaching the shared service centre for data collection. Responses will be collected through internet based survey and it will be send through email to organisation human resources. The email could be disseminated to any employees in the organisation. However, due to strict personal data protection from these companies, it is unable to identify the number of respondents which the survey questionnaires could be disseminated.

However, based on past researchers data collection, it is expected to have approximately 300 respondents (Ba, 2004; Jones, 2009; Lawson, 2003)

3.2 Research Design

The objective of this study is to gain an understanding of the correlation between organisational culture and knowledge management in which provide organisation with information and understanding in its decision making for successful implementation of strategic business initiative relating to this field. The study is design in cross-sectional study instead of longitudinal study in establishing the correlations between organisational culture and knowledge management.

Cross-sectional study is selected in order to examine the organisational culture – knowledge management correlation at a given point of time (Saunders, Lewis, & Thornhill, 2012). The correlation is assesses through the usage of survey questionnaire. Three major part of information is aim to be collected through the questionnaire; namely the demographic information, four different types of organisational cultures and six dimensions of knowledge management (Lawson, 2003). The six dimensions of knowledge management were used to portrait the dependent variable of knowledge management (Lawson, 2003).

3.3 Conceptual Framework and Variables

The conceptual framework of this study based was developed based on the integration of knowledge management cycle and CVP. Dependent variable is represented by the knowledge management (Jones, 2009) and the variable will be calculated through the adoption of six dimension of knowledge management. On the other hand, the independent variable is represented by the different type of organisation culture derive from CVP; namely the Clan Culture, Hierarchy Culture, Adhocracy Culture and Market Culture (Quinn & Cameron, 2011). The dominant culture of an organisation will be used to establish the correlation with

knowledge management. Thus, the conceptual framework derived from the correlation of CVP and Knowledge Management will be shown as below:

Figure 4: Conceptual Framework

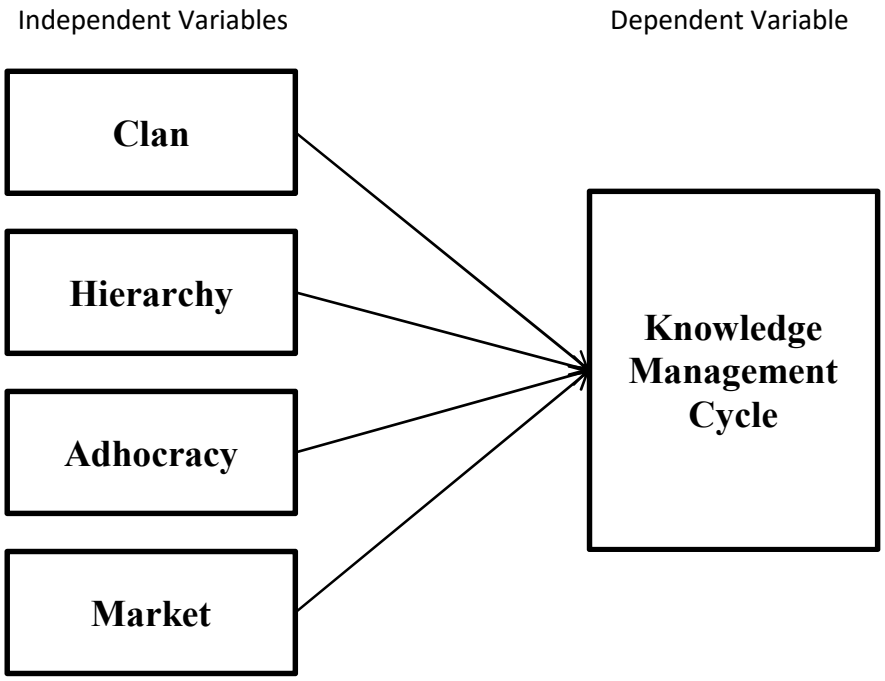

Figure 4 Conceptual Framework

3.4 Data Collection Instrument

This study utilise self-examine survey questionnaire as the instrument to collect data to examine on the organisational culture – knowledge management correlation. The utilisation of self-examine questionnaires enables huge set of data to be collected from the sample. The questionnaires consist of three major components; namely:

1. Demographic Information – data collected used to profile individual and organisation which provide information and examine difference on results from different demographic background.
2. Organisational Culture – data collected and classified different organisational culture based on the CVP culture type.

3. Knowledge management – data collected and examined on the practice of knowledge management within an organisation and the level of implementation of knowledge management in determining the success of the implementation.

3.4.1 Demographic information

The first section of the questionnaire intent to obtain information of the demographic information of the respondents in order to portrait the overall characteristic of the sample population (Lawson, 2003). The questions in this section seek to obtain information relating to the personal characteristic representing the organisation in the scope of respondent's department, number of employees within the department of the respondent, age, education level, gender, duration of service in the organisation, number of promotion received by the respondent, number of training, and the awareness of knowledge management in place in the organisation. This section is important to provide characteristic for portraying statistical comparison. Especially this research adopts the cross-sectional approach, the characteristic enable comparison to be made within the sample population on the result on the correlation of organisational culture and knowledge management.

3.4.2 Assessment Instrument for Organisational Culture

The independent variable which made up of the organisational culture which is represented through the Competing Value Framework used to determine the culture types of an organisation. In order to measure on the organisational culture, the research adopted Cameron and Quinn's (2005) OCAI. The similar measurement was used in both Jones (2009) and Lawson (2003) studies in capturing the organisational culture type which provide proper representation in identifying the culture type of an organisation.

The OCAI consist of six questions to test on each of the quadrants of organisational culture to determine the dominant organisation culture type. The

questions are ranked in five (5) Likert-scale ranging from 1 (strongly disagree) to 5 (strongly agree). The component which the question addresses includes;

1) Organisation's dominant characteristic
2) Organisational leadership
3) Management of employees
4) Organisation glue
5) Strategic emphases
6) Organisation's criteria of success

Each of the questions carries four statements which relate to each of the culture type. Statement of each culture shows the reflection of the culture type values for respondent to examine on the statement representing their organisation culture. The clan culture type will be represented by question 1.A, 2.A, 3.A, 4.A, 5.A and 6.A. The adhocracy culture type will be represented by question 1.B, 2.B, 3.B, 4.B, 5.B and 6.B. The market culture type will be represented by question 1.C, 2.C, 3.C, 4.C, 5.C and 6.C. Lastly, the hierarchy culture type will be represented by question 1.D, 2.D, 3.D, 4.D, 5.D and 6.D. Computation of average scores for each culture will be made to determine each quadrants culture score.

The adaptation of OCAI requires no permission for utilising the instrument for assessment as the instrument is a public domain document (Lawson, 2003).

3.4.3 Assessment Instrument of Knowledge Management

The last part of the questionnaire seeks to examine the dependent variable of the research which is the knowledge management through the utilisation of Knowledge Management Assessment Instrument (KMAI). As discussed in the literature review, knowledge management is a continuous process through knowledge management cycle which consists of knowledge creation, knowledge capture, knowledge organisation, knowledge storage, knowledge dissemination and knowledge application. According to Lawson (2003), knowledge management would eventually become an expanding spiral when more knowledge are created and added in the organisation and managed over time. This study utilised the

assessment instrument which was combined and refined by Lawson (2003) from different process of three researchers.

An organisation implementing knowledge management in achieving strategic advantage would be seen to actively utilise on six processes of knowledge management cycle (Lawson, 2003; Parikh, 2001; Wigg, 1993). With knowledge management as the dependent variable of this study, each of the processes would contribute as a component of the dependent variable in identifying and measuring level of knowledge management activity within an organisation.

There are six questions within KMAI which each question represent a process type of the knowledge management cycle. Within each questions, four descriptive statements is used to represent and assess the level of activity within the knowledge management cycle. The statement for each process type aims examine the practice or availability of mechanism in an organisation which align with the discussion on literature review on the implementation of knowledge management.

Creating Knowledge

i. The mechanism in the organisation to create and acquire knowledge from various sources.
ii. The encouragement or availability of process for idea and knowledge to the exchange within an organisation.
iii. Any rewards system for employees coming up and sharing new ideas or knowledge.
iv. Availability of platform for new knowledge creation from existing knowledge or best practice sharing and lesson learnt.

Capturing Knowledge

i. Organisation response and document on employee's ideas for future development.
ii. Availability of mechanism to capture knowledge from different sources into the organisation.
iii. Organisation having platform to convert ideas and knowledge into action plan.

iv. Policies in organisation which enables employees to showcase their ideas without fear or ridicule.

Organising Knowledge

i. Policy is in place for capture knowledge to be review and keep up-to-date.
ii. Mechanism in place to filter, cross list and integrate with knowledge create and capture from different sources.
iii. Feedback policy on employee's idea and knowledge.
iv. Process in place for knowledge to be applied to problems and challenges.

Storing knowledge

i. Databases, repositories and information technology application utilised in organisation for storing of knowledge and accessible by all employees.
ii. Written devises is utilised to store knowledge captured from employees.
iii. Organisation utilised various publication to display and present knowledge captured.
iv. Availability of platform or mechanism to patent or copyright new knowledge.

Disseminating Knowledge

i. Knowledge is in the form easily and readily assessable by all employees who needed it
ii. Report and update of appropriate information is timely send out and communicate to employees, customers and other stakeholders.
iii. Knowledge is available within organisation libraries, intranet, resource centre or forum.
iv. Regular symposiums, lectures, training and conference session held within organisation to share knowledge.

Applying Knowledge

i. Different method utilised by organisation for employees to further develop their knowledge and apply in new situations, problems and challenges.
ii. Knowledge is protected from inappropriate or illegal use within or outside of the organisation.
iii. Knowledge is applied for critical competitive needs and easy assessable of knowledge in problem solving situation.
iv. Knowledge is being critically evaluated and analyse for new patterns, trend or generation of new knowledge for future use.

In order to measure the process type, each of the statement will be evaluated through a five (5) Likert-scale ranging from 1 (strongly disagree) to 5 (strongly agree). Score from all statements within the process type will be compute to obtain the score representing the process type.

3.5 Validity and Reliability

Validity in this study refer to the ability to obtain the intention data and information for the measurement (Saunders et al., 2012). On the other hand, reliability refers to ability of the study to show consistent result in particularly different situation (Saunders et al., 2012). The validity and reliability applies greatly on the method assessment instrument adopted in order ensure data collected through the questionnaire provides a valid measurement for the studies and similar result could be found if the study is used in different set up. In other words, reliability of the questionnaire and study enable result to be generalised for the population.

In terms of reliability of the assessment instrument, OCAI and KMAI has been tested for reliability in both Jones (2009) and Lawson (2003) studies obtained the Cronbach Alpha more than 0.7 for each of the questions.

In addition, OCAI has evidently been used in more than 1,000 studies in identifying the organisational culture (Cameron & Quinn, 2005). In Cameron and Quinn (2005) report, the researchers quoted three of the most notable studies utilising OCAI with sample size of 700 up to 10,000 respondents (Quinn & Spreitzer, 1991; Yeung, Brockbank, & Ulrich, 1991; Zammuto & Krakower, 1991), recorded reliable Cronbach Alpha result of minimum 0.7 for each culture type. According to Cameron and Quinn (2005), these studies provide sufficient evidence on the reliability of OCAI.

For KMAI, the validity and reliability are well represented in Jones (2009) and Lawson (2003) studies where both the studies had provide strong Cronbach Alpha score with over 0.8 which exceeded the minimum Cronbach Alpha of 0.7. In addition, Lawson (2003) study established the validity and reliability through distributing the KMAI members of the faculty and students of Nova Southern University who are involved in the research in knowledge management. The pilot test also reviewed on the readability, understandable, comprehensive and appropriateness of the assessment instrument and Lawson had made revision of the assessment instrument based on critiques and recommendation received.

3.6 Research and Methodology Procedure

Based on the research design and the adaptation of assessment instrument of this study, this section discussed on the research and methodology procedure which cover the data collection approach and statistical technique adopted.

3.6.1 Data Collection Method

As discussed in the research design, the data will be collected through distribution of questionnaire to the sample population which is the shared service centres in Klang Valley. A cover letter of the research with the link to the Internet based survey will be emailed to the human resources department of the shared service centres in Klang Valley seeking permission for data collection. The email will

enable the human resources department to disseminate to the employees throughout the shared service centre. The survey will be self-administrated and made through Internet based questionnaire.

In this study, the Internet based questionnaire will be prepared through the usage of Google Forms. Google forms provide the flexibility for the questionnaire to be prepared and distribute through email. Data collected through Google forms could be directly converted into excel data sheet which ease the transition of the data to be analyse with the use of SPSS in the later stage.

Not only does Google Forms gives flexibility to the data collection, but also to the respondents which they could complete the survey questionnaire during their free-time either on the own personal computer, laptop or even smart-phone. As long as the respondent receives the link from their human resource department, the survey questionnaire could be access through anywhere as long as they are connected to the internet.

Google forms provide personal data protection, where the survey results are not viewable by the respondents other than the researcher. In addition, the questions on the survey questionnaire will be set a manner that there will not be getting respondent's personal data such as name, identification and other personal detail to ensure respondents' personal data are protected and remain anonymous.

The online data collection will be set within a period of one month (30 days) for respondents provide their survey answers to ensure similar result to be collected from the participating shared service centre. In addition, the timeline enable proper comparison to be made between the results obtained.

3.6.2 Data Analysis Technique

Data collected for this study will be analyse with the use of SPSS Statistic GradPack 22 in performing demographic data analysis and inferential statistical analysis. In the descriptive analysis to provide description of the data collected,

the screening of missing data and outliers will be performed to ensure only usable data will be analyse in this study.

The pairwise exclusion with be used to identify the missing data and the method only cases which data is required for specific analysis will be excluded in which the method is recommended by Pallant (2013) in his book SPSS Survival Manual for treatment and account for cases with missing data. In the event of data containing outliers, which according to Jones (2009), data is considered as outliers when the standardised residual is greater than three or lesser than negative three; the cases with these data will be removed.

In the descriptive analysis, computation of the mean, minimum and maximum value will be used as comparison against the expected value and graphs such as histogram, boxplot, and scatters plot will be used to determine the normality of the data, distribution of the data, linearity and homoscedasticity of the data to identify any biasness and additional outliers within the data.

In the questionnaire, the questions set for the dependent and independent variable in this study uses five (5) Likert-scales as measurement. The usage of five Likert-scales measurement in social science study could be used as continuous variables for statistical analysis. According to Jones (2009) cited on Sims (2000);

> "*While there might be a mathematical debate on whether these types of scales are simply categories and not continuous variables, social scientists do agree that they can safely be used in statistical analyses as continuous variables.*"

Thus, the data set could be analysed using parametric statistical procedure such as through Pearson Correlation, Linear Regression and *t* test (Jones, 2009).

In the measurement for correlation in this study, the researcher would use Pearson Correlation test will be used to measure and examine the strength and direction of two variables if the data gathered satisfied the criteria of normally distributed and sample size collected are big enough to represent the population. Pearson

Correlation is used to measure and identify which culture type related to knowledge management (Jones, 2009; Lawson, 2003). This measurement method has been utilised by previous researcher on the field of knowledge management in examining the existence of correlation between knowledge management and other variables (Chin-Loy & Mujtaba, 2011; Jones, 2009; Lawson, 2003). Pearson Correlation measurement which compute the data using the Correlation Coefficient method project the strength and direction of the relationship of two variables through the value ranging from +1 to -1 where +1 represent strong positive relationship and -1 represent the strong negative relationship. To identify the variable is portraying good correlation; the result will be expected to be more than ±0.5. The Correlation Coefficient formula is as follow:

$$r = \frac{\sum_{i=1}^{n}(X_i - \overline{X})(Y_i - \overline{Y})}{\sqrt{\sum_{i=1}^{n}(X_i - \overline{X})^2}\sqrt{\sum_{i=1}^{n}(Y_i - \overline{Y})^2}} = \frac{\mathrm{cov}(X, Y)}{S_X S_Y}$$

In order to test on the hypothesis, the criterion for null hypotheses to be rejected will be determined by the significance the p value < 0.5 level of probability (Lawson, 2003). At p < 0.5, represent that there is 95% confidence on the rejection of the null hypothesis.

As Pearson Correlation was used in measuring the correlation of two variables, regression analysis will be used to predict on the impact of changes of an independent variable on the dependent variable. As discussed in the literature review, an organisation mostly would portray more than one culture type; therefore, it is to examine the stronger relationship of the culture type with knowledge management. The multiple regression method would provide on the significant culture type based on the data collected towards knowledge management. The multiple regression equation is as follow:

$$y = b_0 + b_1X_1 + b_2X_2 + \ldots + b_nX_n + \mathcal{E}_i$$

However, if the data collected did not satisfied the criteria of Pearson Correlation test, the research would use Spearman's rank order test to measure the strength and direction of the correlation between organisation culture and knowledge

management. When data is not normally distributed it is recommended to use Spearman's rank order test (Jones, 2009). The Spearman's rank order test is similar to Pearson correlation test but the test is based on ranked data. The coefficient of Spearman's rank order test ranges from -1.00 to 1.00. The equation for Spearman's rank order test is as follow:

$$r_s = 1 - \frac{6\sum_{i=1}^{n} d_i^2}{n^3 - n}$$

Similarly, testing the hypothesis; the criterion to reject null hypothesis will be determined by significant level p-value < 0.05.

In addition to the testing of correlation and regression of the variables, chi-square will be used as confirmative analysis to indicate whether two variables are associated with each other (Pallant, 2013). The cell of the grid gives the frequency of occurrence of two variables to examine the association of both. While using the chi-square test, there are some assumptions in the adoption of chi-square to be taken notes that is 1) each cell in the contingency table has expected frequency of at least one, 2) At least 20% of the cell in the contingency table has expected frequency of at least five (McHugh, 2013). The equation for chi-square test is as follow:

$$\chi^2 = \sum_{all\ \text{cells}} \frac{(f_o - f_e)^2}{f_e}$$

3.7 Pilot test

The pilot test in this study intended to obtain feedback on the questionnaire on the appropriateness, readability and comprehension of the questionnaire. Moreover, the pilot test gives opportunity to test and ensure the functionality of Google Form and secure in order for result of the data would only be viewable by the researcher. The participant of the pilot test would consist of ten fellow master students of Universiti Tunku Abdul Rahman. Feedback and recommendation from the pilot test will be used to modify the cover letter and questionnaire to improve

the quality of the questionnaire. The final version on the questionnaire is shown in Appendix 1.

From the result and feedback from the questionnaire, amendment on demographic questions and certain questions has been reconstructed to gives a more lay-man term.

3.8 Chapter Summary

This chapter present population and sampling, research design and conceptual framework. Moreover, the chapter also describe on the data collection instruments, validity and reliability of the instruments, research and methodology procedure and pilot test. The next chapter will discuss on the data analysis and result of the research.

CHAPTER 4

DATA ANALYSIS

This chapter present and analyse on the data collected and discuss on the findings. Discussion and analysis in this chapter derived from primary data collected from employees from four Shared Service Centres in Klang Valley. The analysis includes the discussion of the demographic of the sample population, hypotheses testing and correlation will be presented in relation to the four organisational types and knowledge management. Presentation on reliability and validity of the result from the data collection is included in this chapter.

4.1 Demographic

The demographic analysis illustrates the sample population and frequency distribution of the variables. The variables on the questionnaire include the respondent's current department, the number of employees within the respondent's department, duration of service of the respondent in the current company, gender, age, education level, number of promotion the respondent receive in the last three years, number of job training the respondent received for the last the two years with the current company and the awareness of respondent on knowledge management in the current company.

The illustration of demographic is made through descriptive statistic. Due to privacy protection upheld by most company, researcher is not able to obtain the respondents personal email, hence research email messages with link to the research survey has been sent to respective company human resource department for disseminating of the questionnaire within the company. The researcher

received a total of 298 surveys through web-based survey. There are 42 numbers of surveys which are unusable due to incomplete responses and removed. The total of 256 surveys remains available for the analysis.

Table 1: Frequency Distribution of Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	128	50.0	50.2	50.2
	Male	127	49.6	49.8	100.0
	Total	255	99.6	100.0	
Missing	System	1	.4		
Total		256	100.0		

From table 1, the frequency of distribution of gender reveal that female respondent are slightly above higher compare to male with the response rate of 50 percent female and 49.6 percent male. While there is 0.4 percent of the respondent did not response to the questions. The distribution of gender within shared service Centres is quite balance from the data collected.

Table 2: Frequency Distribution of Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below 30	134	52.3	52.5	52.5
	31 – 40	113	44.1	44.3	96.9
	41 – 50	8	3.1	3.1	100.0
	Total	255	99.6	100.0	
Missing	System	1	0.4		
Total		256	100.0		

From table 2, the age distribution from the sample data shown that majority of the respondent are below the age of 40s with 52.3 percent of the respondents aged below 30 and 44.1 percent aged at the range of 31 to 40. Only 3.1 percent of the respondents are age in between of 41 to 50. Similarly, there is 0.4 percent of the respondent did not response to the questions. The distribution of age in shared service Centres from the sample data shown that majority of the respondents are in the category of young adults. These responses distributions reflect that Shared Service Centres are young establishment in Malaysia.

Table 3: Frequency of Distribution of Education Qualification

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High School Graduate	25	9.8	9.8	9.8
	Technical Training/Diploma	10	3.9	3.9	13.7
	Undergraduate Degree	46	18.0	18.0	31.6
	Graduate Degree/Diploma	157	61.3	61.3	93.0
	Postgraduate/Professional	18	7.0	7.0	100.0
	Total	256	100.0	100.0	

Majority of the respondents' education qualification has achieved up to graduate degree or diploma with total of 61.3 percent. The distribution of respondents do support that most of the young adults in working in Shared Service Centres in Malaysia has degree or diploma qualification. Moreover, Shared Service Centres is a white collar labour market, which means it is not surprising to have higher percentage of respondent with higher education qualification.

Table 4: Frequency of Distribution of Department

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Administration	5	2.0	2.0	2.0
	Finance	207	80.9	80.9	82.8
	Human Resources	2	.8	.8	83.6
	IT	13	5.1	5.1	88.7
	Project Management	29	11.3	11.3	100.0
	Total	256	100.0	100.0	

Table 4 shows that majority of the respondents are working in Finance department in Shared Service Centre in Malaysia with the total of 80.9 percent. While other listed department in total scored with slightly lesser than 20 percent of the respondents with Project Management recorded the second highest respondent rate with 11.3 percent followed by IT with 5.1 percent, Administration with 2.0 percent and Human Resources with 0.8 percent. The distribution of department does seem reasonable as majority of Malaysia shared service Centres are providing Financial and Accounting services compare.

Table 5: Frequency of Distribution of Number of Year Service

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 - 1 year	91	35.5	35.5	35.5
	2 – 3 years	63	24.6	24.6	60.2
	4 – 6 years	48	18.8	18.8	78.9
	7 or more years	54	21.1	21.1	100.0
	Total	256	100.0	100.0	

Table 5 depict the respondents service duration with the current shared service Centres. The distribution shown 60.2 percent of the respondents has been with the current shared service centre for 3 years or less. The breakdown of the frequency is 35.5 percent are with the current Shared Service Centres for one year or less and 24.6 percent is within 2 to 3 years. While almost 40 percent of the respondents have served more than 3 years with the current Shared Service Centres. The distribution of number of year of service with the current Shared Service Centres do seem reasonable as the turnover rate in shared service Centres is relatively high. Hence, there are less likely to have employee that is staying with the same Shared Service Centres for long period.

Table 6: Frequency of Distribution of Employees within the Department

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	10 and less	7	2.7	2.7	2.7
	11 – 40	168	65.6	65.9	68.6
	41 – 80	24	9.4	9.4	78.0
	81 – 100	21	8.2	8.2	86.3
	100 and	35	13.7	13.7	100.0
	Total	255	99.6	100.0	
Missing	System	1	0.4		
Total		256	100.0		

The table 6 shows that 2.7 percent of the respondents work in a team or department with less 10 employees or less. A majority with 65.6 percent of respondents responded that they work in a department with the size of 11 to 40 employees. Another 9.4 percent responded with 41 to 80 employees within their department. 8.2 percent say that the department consist of 81 to 100 employees and lastly 13.7 percent of the respondents have more than 100 employees within

their department. There is 0.4 percent of respondent did not respond to the question. As Shared Service Centres support multiple country, the distribution of the number of employees within a department wary depending of the task that they are supporting. Especially with department that is voluminous base which would require more man-power on the daily task.

Table 7: Frequency of Distribution of Number of Promotion in last three years

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	145	56.6	56.9	56.9
	1	82	32.0	32.2	89.0
	2	19	7.4	7.5	96.5
	3 or more	9	3.5	3.5	100.0
	Total	255	99.6	100.0	
Missing	System	1	0.4		
Total		256	100.0		

According to table 7, 56.6 percent of the respondents did not have promotion within the last three years with the current Shared Service. This figure does seem in line with the respondent percentage of respondents' duration of service that is below three years. 32 percent of the respondent responded that they had a promotion in the last three years while 7.5 percent had two. It is without a doubt that there are only 3.5 percent of the respondents had had 3 or more promotion in the last three years.

Table 8: Frequency Distribution of Amount of Training for last two years

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	42	16.4	16.4	16.4
	1	37	14.5	14.5	30.9
	2	15	5.9	5.9	36.7
	3	11	4.3	4.3	41.0
	4	12	4.7	4.7	45.7
	5 or more	139	54.3	54.3	100.0
	Total	256	100.0	100.0	

Table 8 summarize the amount of training the respondent received in the last two years with the current Shared Service Centres. A total of 54.3 percent of the

respondents responded that they received 5 or more training within the last two years. While 16.4 percent did not receive any training. As there 35.5 percent of respondents were within the service duration of one year or less, it is not surprising that 16.4 percent of respondent did not receive any training. 14.5 percent have attended one training session, 5.9 percent have two trainings, 4.3 percent have three trainings and 4.7 percent have four trainings. The distribution seems reasonable as Shared Service Centres work is to support different country task and requirement, which require training on the employees to improve their skill or understanding.

Table 9: Frequency Distribution of Knowledge Management in Place

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	11	4.3	4.3	4.3
	Unsure	58	22.7	22.7	27.0
	Yes	187	73.0	73.0	100.0
	Total	256	100.0	100.0	

Table 9 shows the summary of employee awareness of knowledge management in place in the Shared Service Centres and only 4.3 percent of the respondents had feedback that they are not aware. While 22.7 percent were unsure on whether knowledge management is in place. However, up to 73 percent of the respondents agree that there is knowledge management in place in the Shared Service Centres. The result is reasonable as shared service centres would prioritise knowledge management in order to provide support for the group companies.

Table 10: Variable Skewness and Kurtosis Values

Variable	N	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Department	256	1.099	2.118	.152	3.341	.303
No of Employees within the department	255	1.130	1.198	.153	.005	.304
Duration of Service with Current Company	256	1.152	.328	.152	-1.345	.303
Gender	255	.501	-.008	.153	-2.016	.304
Age Group	255	.560	.518	.153	-.771	.304
Education Qualification	256	1.029	-1.327	.152	1.118	.303
Number of Promotion in last 3 years	255	.779	1.353	.153	1.414	.304
Amount of Training in last 2 years	256	2.065	-.576	.152	-1.448	.303
Knowledge Management Programme in Place	256	.840	1.172	.152	-.548	.303
Clan	256	1.413	-0.223	.152	-1.282	.303
Adhocracy	256	.847	-1.037	.152	.769	.303
Market	256	.865	-2.682	.152	7.108	.303
Hierarchy	256	1.214	-1.295	.152	.740	.303
Knowledge Management	256	.6110	-.010	.152	-.660	.303
Valid N (listwise)	254					

In the case of normal distribution, both skewness and kurtosis will be equal to zero. However, according to Pallant (2013), rarely there will be perfectly normal distribution in social science research. In this study, it is consider acceptable for psychometric purposes if the values of skewness and kurtosis falls between positive two and negative two (Jones, 2009; Quinn & Spreitzer, 1991). According to table 10, all variables fall in between of positive two and negative two for the skewness and kurtosis except for department, gender and market. Due to the overall variables are acceptably normal distributed with exception of three independent variables with addition to the smaller number of responses which fit for non-parametric testing.

4.2 Reliability of instrument

The reliability of the instrument reflects on its consistency of the instrument. To assess the consistency of the result, Cronbach Alpha was used. According to Brightman (1994), the Cronbach Alpha score of 0.7 indicate an acceptable consistency. As discussed in chapter 3, the reliability for OCAI and KMAI has

been tested by both research done by Lawson (2003) and Jones (2009) with both obtaining the Cronbach Alpha value of 0.7 or more.

Table 11: Cronbach Alpha of Organisation Culture Assessment Instrument

	Cronbach Alpha	
Organisation Culture	N of Cases	254
	N of items	6
	Alpha	0.736

The researcher tested on the reliability of the OCAI question in this research and result shown in Table 11 with the Cronbach Alpha of 0.736 which is according to the finding from past researches.

Table 12: Cronbach Alpha of Knowledge Management Assessment Instrument

Dependent Variables	Cronbach Alpha	
Knowledge Creation	N of Cases	256
	N of items	4
	Alpha	0.834
Knowledge Capture	N of Cases	256
	N of items	4
	Alpha	0.872
Knowledge Organise	N of Cases	256
	N of items	4
	Alpha	0.866
Knowledge Store	N of Cases	256
	N of items	4
	Alpha	0.845
Knowledge Disseminate	N of Cases	256
	N of items	4
	Alpha	0.789
Knowledge Apply	N of Cases	256
	N of items	4
	Alpha	0.910

The researcher has test on the reliability of KMAI in this research and the result shown in table 12 indicates that all components in KMAI used in this research have a score of alpha above 0.7. This indicates that the scales are reliable and the result does support the past researches.

4.3 Hypotheses Testing

4.3.1 Hypothesis 1

$H1_0$: There is no correlation between organisation cultures on the implementation of knowledge management in shared services company in Malaysia.

$H1_1$: There is correlation between organisation cultures on the implementation of knowledge management in shared services company in Malaysia.

As discuss earlier, with the sample distribution not entirely normal distributed and the sample size small, the researcher uses Spearman's rank order correlation, chi square and multiple regression to test the null hypothesis.

Table 13: Spearman's Rank Order Correlation for Culture Type and Knowledge Management

			Clan	Adhocracy	Market	Hierarchy	KM
Spearman's rho	Clan	Correlation Coefficient	1.000				
		Sig. (2-tailed)					
		N	256				
	Adhocracy	Correlation Coefficient	-.058	1.000			
		Sig. (2-tailed)	.359				
		N	256	256			
	Market	Correlation Coefficient	-.561**	-.047	1.000		
		Sig. (2-tailed)	.000	.454			
		N	256	256	256		
	Hierarchy	Correlation Coefficient	-.656**	-.318**	.055	1.000	
		Sig. (2-tailed)	.000	.000	.379		
		N	256	256	256	256	
	Knowledge Management	Correlation Coefficient	.216**	.184**	-.305**	-.175**	1.000
		Sig. (2-tailed)	.000	.003	.000	.005	
		N	256	256	256	256	256

**. Correlation is significant at the 0.01 level (2-tailed).

From the illustration from table 13, the Spearman's rank order correlation shows that each of the correlation of organisation culture type and knowledge management. The result of the four organisation culture types of clan (r = 0.216, p = 0.000), adhocracy (r = 0.184, p = 0.003), market (r = -0.305, p = 0.000) and hierarchy (r = -0.175, p = 0.005) shows significant correlation with knowledge

management. This finding provide strong evidence null hypothesis that there is a correlation between organisation culture and knowledge management.

Table 14: Standard Regression Analysis for Variables Predicting Knowledge Management

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.980	1.085		6.434	.000**
	Clan	.243	.060	.558	4.021	.000**
	Adhocracy	.150	.064	.201	2.347	.020*
	Market	-.458	.083	-.625	-5.521	.000**
	Hierarchy	-.268	.071	-.530	-3.749	.000**
	Department	.050	.032	.088	1.562	.120
	No. of Employees in Department	.028	.038	.051	.737	.462
	Duration of Service	.208	.042	.390	4.935	.000**
	Gender	.019	.062	.016	.309	.758
	Age Group	-.129	.068	-.116	-1.885	.061
	Education Qualification	-.100	.033	-.167	-3.048	.003**
	No. of Promotion in Last 3 Years	.008	.042	.010	.184	.854
	Amount of Training in Last 2 Years	.113	.024	.380	4.717	.000**
	Knowledge Management in Place	.254	.039	.349	6.442	.000**

a. Dependent Variable: KM

Note: R2 = 0.657

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

The R-square in the regression results shows that the result able to explain 65.7 percent of the data from this research. From table 14, the result indicates eight out of thirteen variables show significant from the standard regression analysis which includes the organisation culture types of clan, adhocracy, market, hierarchy, duration of service, education qualification, the amount of training attended in last two years and the awareness of knowledge management in place.

On the organisation culture type, both clan and adhocracy culture type which each recorded the beta of 0.243 and 0.150 with the *p*-value of 0.000 and 0.02 respectively. The *p*-value for both indicates that the result is significant and implied that both of the culture type would lead to a higher knowledge management score. The result on both clan and adhocracy culture type is

reasonable and expected as it is similar to the finding from Jones (2009). For the organisation culture type of market and hierarchy, both culture type recorded beta of -0.458 and -0.268 with both *p*-value of 0.000. The market and hierarchy culture types do have a significant result and implied that the culture type would lead to lower knowledge management score. The result on market culture type is unexpected but the result for hierarchy culture type is expected and reasonable.

The awareness of knowledge management in place in a company scores a beta of 0.254 with *p*-value of 0.000. The result is significant and implied that employees aware on the knowledge management in place in a company would score higher in the knowledge management. This is a reasonable and expected result.

The independent variable of number of training attended in last two years has a score of beta of 0.113 with *p*-value of 0.000. The score of this independent variable is expected as more training employees attended the better the knowledge management cycle could take place. As new knowledge could be create and capture. Hence, the significant result do implied that no of training attended by employees will have a higher score in knowledge management.

The result for number of years of service with current shared service had a beta of 0.208 and *p*-value of 0.000. The significant result of the duration of service implied that the longer the employees stay with the shared service Centres the higher the knowledge management score. The result is expected and reasonable as employees staying with the shared service Centres would continuously undergo the knowledge management cycle to improve the processes.

The education qualification has a beta of -0.100 and p-value of 0.003. The significant result implied that the higher the education qualification levels the least knowledge management score. This is not an expected result.

The independent variable of department had a beta of 0.50 with the *p*-value of 0.120 indicate that the score for department is not significant and does not predict the knowledge management score. The result is favourable as it indicates that there is no biasness in different department towards knowledge management.

Number of employees in the department had a beta of 0.028 and *p*-value of 0.462. The result indicates that the number of employees in the department is non-significant variable and does not predict the knowledge management score. The result is favourable as it indicates that there is no biasness in different number of employees in the department towards knowledge management.

The independent variable of gender had a beta of 0.019 and p-value of 0.758. The result indicates that gender is non-significant variable and does not predict knowledge management score. The result is favourable as it indicates that there is no biasness in gender towards knowledge management.

Age group had a beta of -0.129 and *p*-value of 0.06. The result indicates that age group is non-significant variable and does not predict knowledge management score. The result is favourable as it indicates that there is no biasness in age group towards knowledge management.

The last independent variable which is number of promotion in last three years had a beta of 0.008 and *p*-value of 0.854. The result indicates that number of promotion in last three years is non-significant and does not predict knowledge management score. The result is favourable as it indicates that there is no different between numbers of promotion employees receive in last three years towards knowledge management.

Table15: Chi Square of Organisation Culture Type and Knowledge Management

			Knowledge Management		
			NO	YES	Total
Dominant Culture	Adhocracy	Count	1	11	12
		Expected Count	2.7	9.3	12.0
	Clan	Count	17	116	133
		Expected Count	30.1	102.9	133.0
	Hierarchy	Count	27	44	71
		Expected Count	16.1	54.9	71.0
	Market	Count	13	27	40
		Expected Count	9.1	30.9	40.0
Total		Count	58	198	256
		Expected Count	58.0	198.0	256.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	20.591[a]	3	.000
Likelihood Ratio	20.648	3	.000
N of Valid Cases	256		

a. 1 cells (12.5%) have expected count less than 5. The minimum expected count is 2.72.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.284	.000
	Cramer's V	.284	.000
N of Valid Cases		256	

The chi square result shows that organisation culture type and knowledge management likelihood alpha is lesser than 0.01 which means that there is association between organisation culture types with knowledge management. The Cramer's V value score of 0.284 implied that there this is a medium effect on the relationship with alpha lesser than 0.01 provides that it is a significant correlation between organisation culture types and knowledge management.

The result of Spearman's rank order correlation and multiple regression shows the existence of correlation between organisation culture and knowledge management score. According to the result of Spearman's rank order correlation, each of the organisation culture type score a high significant level with alpha at 0.01. On the other hand, simple regression shows that three of the organisation culture type

namely clan culture type, market culture type and hierarchy culture type correlation significant level is at alpha of 0.01 where adhocracy culture type correlation significant at alpha 0.05. In addition, the result from chi-square which also proves significant association between organisation culture and knowledge management exist in the shared service Centres in Klang Valley. Based on the result, the null hypothesis would be rejected as the result supported the alternative hypothesis that there is correlation between organisation cultures on the implementation of knowledge management in shared services centre in Klang Valley. The finding of this research is consistent with previous researchers (Ba, 2004; Chin-Loy & Mujtaba, 2011; Jones, 2009; Lawson, 2003; Mayfield, 2008).

4.3.2 Hypothesis 2

$H2_0$: Shared Services Company with dominant clan culture type will not have significant positive correlation to knowledge management

$H2_1$: Shared Services Company with dominant clan culture type will have significant positive correlation to knowledge management

In order to test the null hypothesis, the researcher adopted Spearman's rank order correlation, chi square and linear regression analysis.

According to table 13, clan culture type in Spearman's rank order correlation score with the *r*-value of 0.216 and *p*-value of 0.000. The p-value of 0.000 which is lower than the alpha 0.01 level indicates that the correlation for clan culture type is significant with knowledge management. From table 14, the multiple regression result shows that clan culture type beta at 0.243 and the *p*-value of 0.000. *p*-value in multiple regressions shows the same result and indicates the clan culture type has significant impact towards knowledge management. The *r*-value of clan culture type indicates a positive correlation with knowledge management which is the same shown from the regression result as the beta of clan culture showing positive. Hence, the result from both spearman and multiple regressions indicate the clan culture type has strong significant positive correlation towards knowledge management. Hence the stronger the clan culture type in a shared service Centres the better the knowledge management.

Table 16: Spearman's Rank Order Correlation Culture Type and Knowledge Management Cycle

			Create	Capture	Organise	Store	Disseminate	Apply
Spearman's rho	Clan	Correlation Coefficient	.182**	.216**	.140*	.197**	.168**	.136*
		Sig. (2-tailed)	.003	.000	.026	.002	.007	.030
		N	256	256	256	256	256	256
	Adhocracy	Correlation Coefficient	.173**	.086	.150*	.176**	.220**	.110
		Sig. (2-tailed)	.006	.169	.016	.005	.000	.079
		N	256	256	256	256	256	256
	Market	Correlation Coefficient	-.227**	-.307**	-.275**	-.286**	-.089	-.289**
		Sig. (2-tailed)	.000	.000	.000	.000	.154	.000
		N	256	256	256	256	256	256
	Hierarchy	Correlation Coefficient	-.141*	-.115	-.071	-.205**	-.283**	-.087
		Sig. (2-tailed)	.024	.065	.257	.001	.000	.165
		N	256	256	256	256	256	256

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

To further investigate on the culture type relations with knowledge management, the researcher had tested the culture type correlation with each stage of the knowledge management cycle. In table 16, the clan culture types result shows that there is significant positive correlation in every stage of the knowledge management cycle. The result implied that clan culture types have a significant positive correlation with each of the knowledge management cycle which is creating knowledge, capturing knowledge, organising knowledge, storing knowledge, disseminating knowledge and applying knowledge.

Table 17: Chi-square test – Clan and Knowledge Management Cycle

		Value	df	Asymp. Sig. (2-sided)
Creating Knowledge	Likelihood Ratio	260.263	40	.000
	Cramer's V	.472		.000
Capturing Knowledge	Likelihood Ratio	186.585	36	.000
	Cramer's V	.400		.000
Organising Knowledge	Likelihood Ratio	171.817	32	.000
	Cramer's V	.380		.000
Storing Knowledge	Likelihood Ratio	219.755	40	.000
	Cramer's V	.468		.000
Disseminating Knowledge	Likelihood Ratio	150.768	36	.000
	Cramer's V	.379		.000
Applying Knowledge	Likelihood Ratio	185.784	36	.000
	Cramer's V	.424		.000

On top of this, chi-square test (refer to appendix 2 for result), found that clan culture type shows significant association with all six knowledge management cycle with the likelihood ratio alpha is lesser than 0.01. The Cramer's V value at 0.472, 0.400, 0.380, 0.468, 0.379 and 0.424 for each of the knowledge management cycle respectively implied that there is medium effect on the relationship with alpha lesser than 0.01.

The results from Spearman's rank order correlation, chi-square test and multiple regression has directed that clan culture type has significant correlation with knowledge management. In addition, clan culture type also shows significant correlation with all six knowledge management cycle. The correlation from the test taken had directed that clan culture type have significant positive correlation with knowledge management. Based on the result, the null hypothesis would be rejected as the result supported the alternative hypothesis that Shared Services Company with dominant clan culture type in Klang Valley will have significant positive correlation to knowledge management.

4.3.3 Hypothesis 3

$H3_0$: "Shared Services Centre with dominant hierarchy culture type will not have significant negative correlation to knowledge management in Malaysia".

$H3_1$: "Shared Services Centre with dominant hierarchy type will have significant negative correlation to knowledge management in Malaysia".

Table 13 shows that hierarchy culture type in Spearman's rank order correlation score with the *r*-value of -0.175 and *p*-value of 0.005. The p-value of 0.005 which is lower than the alpha 0.01 level indicates that the correlation for hierarchy culture type is significant with knowledge management. From table 14, the multiple regression result shows that hierarchy culture type beta at -0.268 and the *p*-value of 0.000. *p*-value in multiple regressions shows similarity with Spearman's rank order correlation. The result indicates that hierarchy culture type has significant impact towards knowledge management. The *r*-value of hierarchy culture type indicates a negative correlation with knowledge management which is

the same shown from the regression result as the beta of hierarchy culture showing negative. Hence, the result from both spearman and multiple regressions indicate the hierachy culture type has significant but negative correlation towards knowledge management. Thus, the result directed that the stronger the hierarchy culture type in shared service centre in Klang Valley, the lower the score for knowledge management.

Result shows in table 16 for spearman's rank order correlation of hierarchy culture type and knowledge management cycle indicate that three out of six have significant correlation. The three knowledge management cycle are creating knowledge, storing knowledge and disseminating knowledge with the alpha value lesser than 0.01 except for the creating knowledge which score the alpha value lesser than 0.05. Although not the whole knowledge management cycle could be determine to have significant correlation with hierarchy culture type, the result is still acceptable as overall the culture type does have significant correlation with knowledge management. The reason that hierarchy culture type did not show significant correlation with capturing knowledge, organising and applying knowledge could be due to the strict rule base environment which share service centre in Klang Valley embrace with hierarchy culture type.

Table 18: Chi-square test – Hierarchy and Knowledge Management Cycle

		Value	df	Asymp. Sig. (2-sided)
Creating Knowledge	Likelihood Ratio	184.376	40	.000
	Cramer's V	.419		.000
Capturing Knowledge	Likelihood Ratio	184.583	36	.000
	Cramer's V	.476		.000
Organising Knowledge	Likelihood Ratio	170.652	32	.000
	Cramer's V	.402		.000
Storing Knowledge	Likelihood Ratio	170.559	40	.000
	Cramer's V	.420		.000
Disseminating Knowledge	Likelihood Ratio	187.633	36	.000
	Cramer's V	.493		.000
Applying Knowledge	Likelihood Ratio	119.638	36	.000
	Cramer's V	.306		.000

Chi-square test on the association of hierarchy with knowledge management cycle (refer to appendix 3 for result) shows significant association with the likelihood ratio alpha is lesser than 0.01. The Cramer's V value at 0.419, 0.476, 0.402, 0.420, 0.493 and 0.306 for each of the knowledge management cycle respectively implied that there is medium effect on the relationship of hierarchy culture type with knowledge management with alpha lesser than 0.01.

The result from Spearman's rank order correlation, chi-square test and multiple regressions has directed that hierarchy culture type has significant correlation with knowledge management. Although hierarchy culture type shows significant correlation with three out of six knowledge management cycle, the chi-square supported that hierarchy culture type have significant influence on all knowledge management cycle. The correlation from the test taken had directed that hierarchy culture type have significant negative correlation with knowledge management. Based on the result, the null hypothesis would be rejected as the result supported the alternative hypothesis that Shared Services Company in Klang Valley with dominant hierarchy culture type will have significant negative correlation to knowledge management.

4.3.4 Hypothesis 4

$H4_0$: Shared Services Company with dominant adhocracy culture type will not have significant positive correlation to knowledge management

$H4_1$: Shared Services Company with dominant adhocracy culture type will have significant positive correlation to knowledge management

According to table 13, adhocracy culture type in Spearman's rank order correlation score with the *r*-value of 0.184 and *p*-value of 0.003. The p-value of 0.003 which is lower than the alpha 0.01 level indicates that the correlation for adhocracy culture type is significant with knowledge management. From table 14, the multiple regression result shows that adhocracy culture type beta at 0.150 and the *p*-value of 0.020. *p*-value in multiple regressions shows that adhocracy significant at alpha of 0.05 which is lower compare to the spearman. However, both the test indicates the adhocracy culture type has significant impact towards

knowledge management. The *r*-value of adhocracy culture type indicates a positive correlation with knowledge management which is the same shown from the regression result as the beta of adhocracy culture showing positive. Hence, the result from both spearman and multiple regressions indicate the adhocracy culture type has significant positive correlation towards knowledge management.

From table 16, shows that four out of six knowledge management cycles have significant correlation with adhocracy culture type using Spearman's rank order correlation. The four knowledge management cycles include creating knowledge, organising knowledge, storing knowledge and disseminating knowledge and each of the alpha value is lesser than 0.01 except for organising knowledge that is score with significant lesser than alpha 0.05. Although not the full cycle could be determine to have significant correlation with adhocracy culture type, the result is still acceptable as overall the culture type does have significant correlation with knowledge management. The reason that adhocracy culture type did not show significant correlation with capturing knowledge and applying knowledge could be due to the innovative and seeking for new method in shared service environment.

Table 19 – Chi-square test – Adhocracy and Knowledge Management Cycle

		Value	df	Asymp. Sig. (2-sided)
Creating Knowledge	Likelihood Ratio	167.146	40	.000
	Cramer's V	.413		.000
Capturing Knowledge	Likelihood Ratio	117.031	36	.000
	Cramer's V	.453		.000
Organising Knowledge	Likelihood Ratio	147.807	32	.000
	Cramer's V	.370		.000
Storing Knowledge	Likelihood Ratio	150.182	40	.000
	Cramer's V	.361		.000
Disseminating Knowledge	Likelihood Ratio	144.331	36	.000
	Cramer's V	.364		.000
Applying Knowledge	Likelihood Ratio	166.247	36	.000
	Cramer's V	.521		.000

Chi-square test on the association of adhocracy with knowledge management cycle (refer to appendix 4 for result) shows significant association with the

likelihood ratio alpha is lesser than 0.01. The Cramer's V value at 0.413, 0.453, 0.370, 0.361, 0.364 and 0.521 for each of the knowledge management cycle respectively implied that there is medium effect on the relationship of adhocracy culture type with knowledge management with alpha lesser than 0.01.

The results from Spearman's rank order correlation, chi-square test and multiple regression has directed that adhocracy culture type has significant correlation with knowledge management. Although adhocracy culture type shows significant correlation with four out of six knowledge management cycle, the chi-square supported that adhocracy culture type have significant influence on all knowledge management cycle. The correlation from the test taken had directed that adhocracy culture type have significant positive correlation with knowledge management. Based on the result, the null hypothesis would be rejected as the result supported the alternative hypothesis that Shared Services Company in Klang Valley with dominant adhocracy culture type will have significant positive correlation to knowledge management.

4.3.5 Hypothesis 5

$H5_0$: "Shared Services Centre with dominant market culture type will not have significant negative correlation to knowledge management in Malaysia".

$H5_1$: "Shared Services Centre with dominant market culture type will have significant negative correlation to knowledge management in Malaysia".

According to table 13, market culture type in Spearman's rank order correlation score with the *r*-value of -0.305 and *p*-value of 0.000. The p-value of 0.000 which is lower than the alpha 0.01 level indicates that the correlation for market culture type is significant with knowledge management. From table 14, the multiple regression result shows that market culture type beta at -0.458 and the *p*-value of 0.000. The *p*-value in multiple regressions shows similarity with Spearman's rank order correlation. The result indicates that market culture type has significant impact towards knowledge management.

The *r*-value of market culture type indicates a negative correlation with knowledge management which is the same shown from the regression result as the beta of market culture showing negative. Hence, the result from both spearman and multiple regressions indicate the market culture type has significant negative correlation towards knowledge management. Thus, the result directed that the stronger the market culture type in shared service centre in Klang Valley, the lower the score for knowledge management.

Table 16 result of spearman's rank order correlation of market culture type and knowledge management cycle indicate that five out of six have significant correlation. The five knowledge management cycle are creating knowledge, capturing knowledge, organising knowledge, storing knowledge and applying knowledge with the alpha value lesser than 0.01. Although not all six knowledge management cycle could be determine to have significant correlation with market culture type, the result is still acceptable as overall the result on the culture type does show significant correlation with knowledge management. The reason that market culture type did not show significant correlation with disseminating knowledge could be due to the competitiveness of the culture in the keeping knowledge from disseminating to others within shared service centre in Klang Valley.

Table 20 – Chi-square test – Market and Knowledge Management Cycle

		Value	df	Asymp. Sig. (2-sided)
Creating Knowledge	Likelihood Ratio	136.368	40	.000
	Cramer's V	.536		.000
Capturing Knowledge	Likelihood Ratio	121.144	36	.000
	Cramer's V	.409		.000
Organising Knowledge	Likelihood Ratio	142.781	32	.000
	Cramer's V	.474		.000
Storing Knowledge	Likelihood Ratio	126.144	40	.000
	Cramer's V	.515		.000
Disseminating Knowledge	Likelihood Ratio	107.611	36	.000
	Cramer's V	.443		.000
Applying Knowledge	Likelihood Ratio	142.719	36	.000
	Cramer's V	.453		.000

Chi-square test on the association of market culture type with knowledge management cycle (refer to appendix 5 for result) shows significant association with the likelihood ratio alpha is lesser than 0.01. The Cramer's V value at 0.536, 0.409, 0.474, 0.515, 0.443 and 0.453 for each of the knowledge management cycle respectively implied that there is medium effect on the relationship of hierarchy culture type with knowledge management with alpha lesser than 0.01.

The result from Spearman's rank order correlation, chi-square test and multiple regression has indicate that market culture type has significant correlation with knowledge management. Although market culture type shows significant correlation with five out of six knowledge management cycle, the chi-square supported that hierarchy culture type have significant influence on all knowledge management cycle. The correlation from the test taken had indicate that market culture type have significant negative correlation with knowledge management. Based on the result, the null hypothesis would be rejected as the result supported the alternative hypothesis that Shared Services Company in Klang Valley with dominant market culture type will have significant negative correlation to knowledge management. The result on this study shows similar finding from past researcher (Jones, 2009).

4.4 Chapter Summary

In this chapter, a total of 256 usable data from the collected survey questionnaire. The demographic analysis was made to picture the characteristic of the sample population and hypotheses were tested. The data collected through the analysis of skewness and kurtosis has found that not all data are normally distributed and the sample size is considerably small in comparison to the population. Hence, non-parametric analysis has been chosen. From the hypotheses analysis the research conclude that there is significant correlation between organisation culture and knowledge management. Hence the null hypothesis 1 was rejected.

Follow through with the hypothesis 2, 3, 4 and 5 which the researcher found that both clan and adhocracy culture type portrayed significant positive correlation and both hierarchy and market culture type portrayed significant negative correlation. From the findings, hypothesis 2, 3, 4 and 5 which are referring to the correlation between clan, hierarchy and adhocracy with knowledge management has rejected the null hypothesis.

CHAPTER 5

CONCLUSION AND RECOMMENDATION

The purpose of this study is to examine the relationship of organisation culture and knowledge management in shared service centre in Klang Valley. The study sought to determine which organisation culture types support the knowledge management in the shared service environment. To answer the following two research questions 1) “Does organisational culture has correlation with knowledge management in shared service centres in Klang Valley?” 2) “Which dominant organisational culture type has correlation to knowledge management in shared services company in Klang Valley?” the researcher used statistical analysis to determine the correlation of organisation culture and knowledge management and the correlation of culture type with knowledge management cycle. As a result, total of 298 number of response collected from the sample population of four shared services around Klang Valley and with 256 usable responses for the data analysis.

The result from the findings from chapter 4 will be discussed, implication of the study, limitation of the study and recommendation for future research in this chapter. A conclusion of this study will be draw at the end of this chapter.

5.1 Discussion

5.1.1 Research Question 1

From the finding from chapter 4, researcher applies chi-square test to determine find whether organisation culture will influence knowledge management and the

result from chi-square determine there is significant effect of organisation culture and knowledge management.

Through the test is using Spearman's rank order correlation and multiple regressions the research test for significant correlation of organisation culture and knowledge management and the result from both test had pointed that there is significant correlation with significant value lesser than alpha 0.01. From chi-square test, result has implied that there is significant effect of organisation culture to knowledge management. The overall result has concluded that there is significant positive correlation. The result from the test had rejected the null hypothesis one and accepted the alternative hypothesis of there is correlation between organisation cultures on the implementation of knowledge management in shared services centre in Malaysia. Hence, the answer to the first research question is there is correlation of organisation culture with knowledge management in shared service centres in Klang Valley.

The finding from the study was found consistent with the previous research (Ba, 2004; Chin-Loy & Mujtaba, 2011; Jones, 2009; Lawson, 2003). The finding in the previous researchers had found positive correlation between organisation culture and knowledge management with significant value lesser than alpha 0.01 (Chin-Loy & Mujtaba, 2011) and Lawson (2003), found that there is significant correlation between organisation culture on all culture types and knowledge management.

5.1.2 Research Question 2

In chapter 4, the researcher has tested the correlation of each organisation culture type in shared service centres and knowledge management.

Clan Culture Type

Chi-square test on the clan culture indicates that clan culture type has influence towards knowledge management and spearman's rank order test and multiple regression result strengthen the finding from chi-square to conclude that there is a significant correlation between clan culture type and knowledge management. In

addition, the Spearman's rank order and multiple regressions also indicate that the correlation between clan culture type and knowledge management is positive which became the confirmative for the researcher to reject the null hypothesis two and accept the alternative hypothesis of there is significant positive correlation between clan culture type and knowledge management in shared service centres in Malaysia. In addition, the researcher seek for more confirmative to identify the correlation of clan culture type with each stage of the knowledge management cycle and found that there is significant correlation on all six stages of knowledge management cycle. The findings of this research for clan culture type is similar to findings of previous researcher that highlighted that culture type which characteristic values of trust, teamwork, individual contribution to the organisation and thought sharing path a solid foundation of network relationship on each individual (Berman-Brown & Woodland, 1999; Lesser & Storck, 2001). In this case, clan culture type which upheld friendly internal environment and value teamwork, individual involvement and sharing of concern are being valued greatly (Quinn & Cameron, 2011). The characteristic of clan culture type of upholding and employees acting together that develop group thinking do prove that it significantly helps in knowledge management in the shared service centres environment.

The togetherness and openness in clan culture type promote information sharing that could lead to knowledge being found and created and captured. The group thinking and selflessness in this culture type would also meant that the employees and department in the shared service centres embrace are more likely to share their knowledge with the others within the group or clan which could enhance the effectiveness of knowledge management cycle (Lesser & Storck, 2001). In the shared service environment, this culture type tend to have its employees to exercise best practice sharing among its department or even cross department to garner benefit for the company. This could be witness from the result of the significant positive correlation shown by clan culture type with each stages of the knowledge management cycle.

Hierarchy culture type

The result in chapter four of data analysis shows that hierarchy culture clan will influence knowledge management through chi-square test. While Spearman's rank order and multiple regressions test supported the result that show there are significant correlation between hierarchy culture type with knowledge management and shows that the relationship is negatively associated. The result from the three test has provide conformity for the researcher to accept the null hypothesis which state that there is no significant positive correlation between hierarchy culture type with knowledge management. The test result shows similar trait as hierarchy culture type influence on employees' satisfaction, organisation commitment (Goodman, Zammuto, & Gifford, 2001) and knowledge management (Lawson, 2003; Tsai, 2002). To investigate further on the correlation, the researcher seeks to find the correlation and influence of hierarchy culture type with each stages of knowledge management cycle. Although the chi-square result indicate that hierarchy culture type has effect on each stages of knowledge management cycle, results from spearman's indicate that there is only significant negative correlation between three stages of the knowledge management cycle. The characteristic of hierarchy culture type which pose high structure in assumption, orientation and values shown to stop the organisation in looking for new method and creating knowledge which lead to the knowledge management cycle being disrupted. Moreover, hierarchy culture type sees knowledge management as process that could be controlled through enforcing compliances to the process and procedure (Mayfield, 2008). The knowledge management in the hierarchy culture environment are usually being controlled and managed by a specific employee who is empowered. Hence, limiting growth of knowledge and sharing of knowledge from other employees within the organisation.

The hierarchy culture type could also associate with bureaucratic management style where decision making and communication are normally coming from the top and disseminate to the bottom. Communication in this environment is slow and prone to have lost of message. Moreover, there will be lack of communication bottom up due to the hierarchy structure and thus management normally does not receive feedback from the operation or ground employees which could use to enhance knowledge management. Besides that, the knowledge management in this culture type does not provide opportunity for employees to gives feedback as they

are only required to follow the instruction and ensure job are completed and tend to eliminate the requirement of employees making judgment. Hence, reduce the effort and input from the employees in managing knowledge which lead to incomplete knowledge management cycle which could be seen from the result in this research.

Adhocracy Culture Type

Result from chi-square test shows that adhocracy culture type has significant influence over knowledge management. The Spearman's rank order and multiple regressions result indicate that there is significant correlation exist between adhocracy culture type and knowledge management. The results from the data analysis reveal that there is significant positive correlation on adhocracy culture type and knowledge management hence provides a reasonable conclusion for the researcher to reject the null hypothesis and accept the alternative hypothesis. The findings from the data analysis shows similarity in previous studies done by previous researcher which indicate that there is significant positive correlation (Ba, 2004; Chin-Loy & Mujtaba, 2011; Jones, 2009; Lawson, 2003). The further analysis on the adhocracy culture type and knowledge management cycle shows that adhocracy displayed correlation with four out of six stages of knowledge management cycle through spearman's rank order correlation and multiple regressions. The chi-square for the examination shows that adhocracy have significant impact on all stages of knowledge management cycle.

For this culture type in shared service centres environment in Malayisa, normally associate with the department strategic and task emphasis on task improvement and project management. In order for shared service centres to stay with competitive, continuous improvement is the key in creating competitive advantage. Hence, characteristic of the adhocracy culture type such as innovative and dynamic (Ba, 2004; Lawson, 2003) are usually found in shared service centres embracing this culture type. The characteristic and emphasis of shared service centre with adhocracy culture type tend to seek for information which helps in creating new knowledge in order to create new knowledge throughout the course of task improvement. In addition, the employees are being responsive towards the change and seek for change to improve on the processes which would likely to

contribute to knowledge management cycle. As changes would meant that the employees would apply available knowledge while getting new knowledge from the change in improving the task that would meant improve or strengthen the available knowledge.

Market culture type

In chapter 4 data analysis, chi-square test reveal that shared service centre with market culture type have significant association with knowledge management. Although spearman's rank order and multiple regressions indicate significant correlation, the result shows that market type culture in shared service centres in Malaysia has a significant negative correlation. The result from the findings did not support the hypothesis and thus the null hypothesis was accepted. The finding from this research contradict with the findings from previous researchers (Ba, 2004; Chin-Loy & Mujtaba, 2011; Lawson, 2003) but it was similar finding found in the research of Jones (2009). In addition, the test for market culture type with the knowledge management cycle shows that five of the stages of knowledge management cycle are showing significant negative correlation. From past findings of past researchers, market culture type are usually emphasize on the importance on assigning meaning to new information and transforming it to valuable knowledge for the organisation (Ba, 2004). However, in the context of shared service centres in Malaysia that does not seems to be the case. The market culture which characterise as result-oriented in achieving target and goal, would be implied differently in shared service environment. As shared service centres mainly perform the supportive task for the group organisation business operation, the characteristic of market culture that is competitive, goal stretching and result-oriented would negatively impact on knowledge management. As team members may too focus on competition and personal goals which neglect on information and knowledge sharing causing the breakdown on knowledge management. According to past researchers, this culture type which shows favourable towards knowledge management would be a double-edge sword in different environment. Depending on the implication and the shared service centre embracement of the culture, the result orientation and competitiveness if directed within a group or department may see positive results as found in past research (Ba, 2004; Chin-Loy & Mujtaba, 2011; Lawson, 2003; Quinn & Cameron, 2011). However, if the

focus of the competitiveness is directed to individualise; it would harm the importance of knowledge management as individual employee tend to be self-oriented and refuse to communicate and share of knowledge that could be reflected in the findings from this research.

Overall from the findings, the answer for the second research question is each of the four culture types has correlation to knowledge management in shared services centres in Malaysia. However, the findings indicate that clan culture type in shared service centres shows a better positive correlation to knowledge management and follow by adhocracy. Hierarchy and market culture types have a significant negative correlation with knowledge management.

5.1.3 Other Findings

From the data collected and analysis, the researcher found that 73 percent of the respondents from shared service centres in Klang Valley are aware of knowledge management that are in place. The result shows that respondents in shared service centres in Klang Valley are familiar with knowledge management or have come across with knowledge management in their work. As shared service centre specialist and support specific departmental task, knowledge management is important in order to gather the knowledge and perform standardisation of the task to improve efficiency and effectiveness in supporting the group companies. Moreover, continuous improvement has been one of the key points for shared service centre in creating competitive advantage for the group companies and to achieve economies of scale and scope. Moreover, the researcher also found that awareness of knowledge management in place has significant contribution towards the rating on the knowledge management in which the result implied that the higher the awareness of knowledge management in place, the better the knowledge management score.

The amount of training received by respondents in the past two years with the current shared service centres they are in also indicate significant contribution towards knowledge management. As training is one of the communications which organisation used to equip its employees with the specific knowledge, thus

training helps in improving knowledge management in a company. Training normally consists of disseminating knowledge to the employees in turn the employees would undergo of capturing, storing and applying the knowledge which is similar to the knowledge management cycle. The result implied that the more training given to the employees the better the knowledge management score. Hence it is not surprising that the response from the respondents shows that 54.3 percent of the respondents had received more than five training in the past two years with the current shared service centre. The result indicates that shared service centre in Klang Valley value knowledge management within the organisation.

5.2 Implication of studies

Shared service centres which was established in Malaysia helps to create competitive advantage for group companies through achieving economies of scale and scope. These companies provide service to within the group companies and affiliates by centralising the process or support services such as Information Technology, Finance, Human Resources, Project Management, Controlling and Internal Audit and Master Data Management. In addition, the shared services companies are usually not only supporting companies within the same country but cross countries and even continents. Therefore, ensuring the continuity of the services is a top priority to ensure processes and operation could operate smoothly. One of the most importance elements on ensuring continuity of the support is knowledge on processes, countries and region rules and regulation, and organisation policies and controls. Therefore, ensuring knowledge are retained is as important as retaining any key employees within the company. In the event of key employees leaving the organisation, there are always great likelihood for the importance and critical knowledge to be lost; hence knowledge management in shared service centres is critical in ensuring the retention of knowledge in the event of key employees are leaving. As disruption of supports or services from shared service centres due to loss of knowledge would impact on the group operation and in worst case scenario reputation and financial losses.

Therefore, this research which objective to identify types of organisation culture which would contribute towards knowledge management in shared service centres. Shared service centres which supporting multiple countries for the similar operation or tasks work on standardisation of the task; knowledge of the task from different countries are reviewed to search for best practices and efficient method in performing the task. Standardisation of the task not only helps to improve efficiency but also ensure task back-up available. In the event of one employee is away, another employee would be able to handle the same task to ensure the continuity of the service.

This study could be implied to academia and managers in shared service centres environment. The findings on this research especially for clan culture type which was found significant correlate to knowledge management. The findings could help managers incorporating organisation culture in the strategic planning for knowledge management initiatives and manage the knowledge management through the understanding of the organisation culture (Jones, 2009). Besides that, organisation planning on incorporating shared service centre for the group could seek for talent which possess the specific culture types in heading the centre to lead and promote the newly setup shared service centre. Based on the findings, the clan and adhocracy culture types improve the success of knowledge management strategy. On the other hand, hierarchy and market culture type was found to diminish the success of knowledge management strategy.

The findings from this study also indicate training and awareness of knowledge management in place could significantly improve knowledge management in shared service centres. Therefore, investing in training of the employees could ensure knowledge management progress significantly and enhance knowledge through employees creating and capturing new knowledge from the training courses. Moreover, the training provides a platform for idea to be exchange. The results also indicate that shared service centres should continuously have open communication and training which promote the awareness of the knowledge management (Jones, 2009). Awareness of knowledge management could help employees to continuously be self-aware for opportunity to gain new knowledge.

In addition, managers could periodically perform assessment on knowledge management program to determine shortfall (Jones, 2009). The review to identify the gap on each stage of the knowledge management cycle and work process to address the gap in order to improve knowledge management in the shared service centres. Moreover, encourage open communication and platform for knowledge exchange between employees in order to have more knowledge to be generated. According to Jones (2009), rewarding on new idea and knowledge exchange could promote a mechanism for knowledge management in the shared service centre.

5.3 Limitation of Study and Future Research

The limitation of this study investigate on organisation culture and knowledge management in shared service centres in Malaysia, however this could not be used to generalise to other country as culture and norm of each country may influence the result of the findings. For future, researchers could perform studies on comparison of organisation culture and knowledge management with different countries or regions (Lawson, 2003).

In this study is not able to obtain response rate due to companies data privacy protection which companies does not provide employees contact email or number of employees to the researcher. Therefore, the researcher is unable to determine the response rate while using web-based survey. In future researches, the researchers could opt for conventional hard copy questionnaire to be sent out to receive the actual count. Moreover, future researchers could opt for qualitative research method in performing interview or mix method in examining the correlation of organisation culture with knowledge management (Jones, 2009)

This study focuses on study the correlation of organisation culture and knowledge management however there was no indication on the effect of organisation culture to the effectiveness of knowledge management (Zheng, 2005). Thus providing opportunity for further study in control environment by examining using human

subject on different culture type shared service centres or department to determine on the progress of knowledge imparting to the individual. The adoption of observation could be taken into consideration for future study on the effectiveness. Besides, researchers could study on the performance of shared service centres which display different culture type and its knowledge management (Powers & Hahn, 2004).

5.4 Conclusion

This research examine the correlation of organisation culture and knowledge management in shared service centres in Malaysia which provide empirical evidence for academic and management from this industry. The study objective in identifying the culture type which promote knowledge management in shared service centres environment in Malaysia which the result indicates organisation culture having correlation with knowledge management. The result from this research which indicates clan culture type is more in favour with knowledge management in shared service centres and having consistent result with each stage of knowledge management cycle.

The findings from this study could provide information to managers in shared service centres while incorporating or managing knowledge in the centres to consider on the type of culture embraced. Thus, the result assists the manager to restructure the strategic planning to fit the organisation culture to promote effective knowledge management. In the event of knowledge management has been incorporated in the organisation and the culture does not support, management could also work strategy in changing culture if necessary to achieve effectiveness on the knowledge management.

REFERENCES

70 % of employees plan to leave their jobs , says survey. (2014, January 22). *The Malaysian Insider*. Retrieved from http://www.themalaysianinsider.com/malaysia/article/70-of-employees-plan-to-leave-their-jobs-says-survey

Allee, V. (1997). *The knowledge evolution: Expanding organizational intelligence*. Routledge.

Ba, L. (2004). *Knowledge Management and Organizational Culture: A Social Action Perspective*. West Virginia University.

Baddi, A., & Sharif, A. (2003). Information management and knowledge integration for enterprise innovation. *Logistics Information Management*, *16*(2), 145–155. http://doi.org/10.1108/09576050310467287

Balmer, J. M. T., van Riel, C. B. M., Jo Hatch, M., & Schultz, M. (1997). Relations between organizational culture, identity and image. *European Journal of Marketing*, *31*(5/6), 356–365.

Baptista Nunes, M., Annansingh, F., Eaglestone, B., & Wakefield, R. (2006). Knowledge management issues in knowledge-intensive SMEs. *Journal of Documentation*, *62*(1), 101–119. http://doi.org/10.1108/00220410610642075

Beckman, T. (1999). The Current State of Knowledge Management, Knowledge Management Handbook/edited by Jay Liebowitz. CRC Press LLC, USA.

Berman-Brown, R., & Woodland, M. J. (1999). Managing knowledge wisely: A case study in organisational behaviour. *Journal of Applied Management Studies*, *8*(2), 175–198.

Brightman, H. J. (1994). *Statistics for business problem solving*. South-Western Pub.

Brown, J. S., & Duguid, P. (1991). Organizational learning and communities-of-practice: Toward a unified view of working, learning, and innovation. *Organization Science*, *2*(1), 40–57.

Brown, J. S., & Duguid, P. (1998). Organizing knowledge. *California Management Review*, *40*(3), 90–111.

Cameron, K. S., & Quinn, R. E. (2005). *Diagnosing and changing organizational*

culture: Based on the competing values framework. John Wiley & Sons.

Chen, J., Zhu, Z., & Xie, H. Y. (2004). Measuring Intellectual Capital: A new model and empirical study. *Journal of Intellectual Capital*, *5*(1), 196–212. http://doi.org/10.1108/14691930410513003

Chin-Loy, C., & Mujtaba, B. G. (2011). The influence of organizational culture on the success of knowledge management practices with North American companies. *International Business & Economics Research Journal (IBER)*, *6*(3).

Cummings, T. G., & Worley, C. G. (1997). Organization change and development. Cincinnati, OH: South-Western College Publishing.

Davenport, T. H., & Prusak, L. (1998). *Working knowledge: How organizations manage what they know*. Harvard Business Press.

De Long, D. W., & Fahey, L. (2000). Diagnosing cultural barriers to knowledge management. *The Academy of Management Executive*, *14*(4), 113–127.

Economic Transformation Programme. (2012). *Chapter 12 Business Services*. Retrieved from http://etp.pemandu.gov.my/Download_Centre-@-Download_Centre.aspx

Goodman, E. A., Zammuto, R. F., & Gifford, B. D. (2001). The competing values framework: Understanding the impact of organizational culture on the quality of work life. *Organization Development Journal*, *19*(3), 58.

Gupta, B., Iyer, L. S., & Aronson, J. E. (2000). Knowledge management: practices and challenges. *Industrial Management & Data Systems*, *100*(1), 17–21.

Herkema, S. (2003). A Complex Adaptive Perspective on Learning within Innovation Projects. *The Learning Organization*, *10*(6), 340–346. http://doi.org/10.1108/09696470310497177

Horwitch, M., & Armacost, R. (2002). Helping knowledge management be all it can be. *Journal of Business Strategy*, *23*(3), 26–31.

Ichijo, K., & Nonaka, I. (2007). Knowledge as a competitive Advantage in the Age of Increasing Globalization. Knowledge Creation & Management: New Challenges for Managers. Oxford University Press.

Janz, B. D., & Prasarnphanich, P. (2003). Understanding the antecedents of effective knowledge management: The importance of a knowledge-centered culture. *Decision Sciences*, *34*(2), 351–384.

Jennex, M., & Olfman, L. (2005). Assessing knowledge management success.

International Journal of Knowledge Management (IJKM), *1*(2), 33–49.

Jones, D. G. (2006). Defining knowledge management. *Journal of Knowledge Management*, *3*(1).

Jones, M. B. (2009). *Organizational culture and knowledge management: An emperical investigation of U . S . manufacturing firms*. Nova Southeastern University, United States of America.

Kerr, S., & Landauer, S. (2004). Using stretch goals to promote organizational effectiveness and personal growth: General Electric and Goldman Sachs. *The Academy of Management Executive*, *18*(4), 134–138.

King, W. R. (2007). A research agenda for the relationships between culture and knowledge management. *Knowledge and Process Management*, *14*(3), 226–236.

Lawson, S. (2003). *Examining the relationship between organizational culture and knowledge management*. Nova Southeastern University, United States Of America.

Lesser, E. L., & Storck, J. (2001). Communities of practice and organizational performance. *IBM Systems Journal*, *40*(4), 831.

Mayfield, R. D. (2008). *Organizational Culture and Knowledge Management in Electric Power Generation Industry*. University of Phoenix, United States of America.

McHugh, M. L. (2013). The chi-square test of independence. *Biochemia Medica*, *23*(2), 143–149.

Merriam, S. B., & Caffarella, R. S. (1991). Learning in Adulthood. A Comprehensive Guide.

Moore, C. (1998). KM Meets BP: Knowledge management efforts will flop unless they are tied to business processes. *CIO-FRAMINGHAM MA-*, *12*, 64–68.

Nonaka, I. (1991). The Knowledge-Creating Company Harvard Business Review November-December.

Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organization Science*, *5*(1), 14–37.

Nonaka, I., & Konno, N. (1998). The concept of“ ba”: Building a foundation for knowledge creation. *California Management Review*, *40*(3), 40–54.

Nonaka, I., Takeuchi, H., & Umemoto, K. (1996). A theory of organizational knowledge creation. *International Journal of Technology Management*,

11(7–8), 833–845.

Obenchain, A. M. (2002). *Organizational Culture and Organizational Innovation in Not-for-profit, Private, and Public Institutions of Higher Education*.

Pallant, J. (2013). *SPSS survival manual*. McGraw-Hill Education (UK).

Parikh, M. (2001). Knowledge management framework for high-tech research and development. *Engineering Management Journal*, *13*(3), 27–34.

Powers, T. L., & Hahn, W. (2004). Critical competitive methods, generic strategies, and firm performance. *International Journal of Bank Marketing*, *22*(1), 43–64.

Quinn, R. E., & Cameron, K. S. (2011). Diagnosing and Changing Organizational Culture: Based on The CompetingValues Framework-3/E.

Quinn, R. E., & Spreitzer, G. M. (1991). *The psychometrics of the competing values culture instrument and an analysis of the impact of organizational culture on quality of life*. Emerald.

Ribiere, V. M. (2001). *Assessing knowledge management initiative successes as a function of organizational culture*. The George Washington University.

Romãn-Velãzquez, J. A. (2004). *An empirical study of knowledge management in the government and nonprofit sectors: organizational culture composition and its relationship with knowledge management success and the approach for knowledge flow*.

Saunders, M. N. K., Lewis, P., & Thornhill, A. (2012). *Research Methods for Business Students* (6th ed.). England: FT Prentice Hall.

Schein, E. H. (1984). Coming to a new awareness of organizational culture. *Sloan Management Review*, *25*(2), 3.

Schein, E. H. (1999). The corporate culture survival guide.

Schwandt, D. R., & Marquardt, M. J. (2000). *Organizational learning: From world-class theories to global best practices*. St. Lucie Press.

Siew, Y. K. (2015). *Employee Retention Remains A Key Challenge in Malaysia: Claim supervisors face challenges in making time to perform their most important task*. Retrieved from https://www.towerswatson.com/en/Press/2015/01/Employee-Retention-Remains-A-Key-Challenge-in-Malaysia

Sims, R. L. (2000). *Bivariate data analysis: A practical guide*. Nova Publishers.

Srikantaiah, T., Srikantaiah, T. K., & Koenig, M. E. D. (2000). *Knowledge*

management for the information professional. Information Today, Inc.

Stewart, K. A., Baskerville, R., Storey, V. C., Senn, J. A., Raven, A., & Long, C. (2000). Confronting the assumptions underlying the management of knowledge: an agenda for understanding and investigating knowledge management. *ACM SIGMIS Database*, *31*(4), 41–53.

Teece, D. J. (2000). Strategies for managing knowledge assets: the role of firm structure and industrial context. *Long Range Planning*, *33*(2000), 35–54. http://doi.org/10.1016/S0024-6301(99)00117-X

Tsai, W. (2002). Social structure of "coopetition" within a multiunit organization: Coordination, competition, and intraorganizational knowledge sharing. *Organization Science*, *13*(2), 179–190.

Von Krogh, G., Ichijo, K., & Nonaka, I. (2000). *Enabling knowledge creation: How to unlock the mystery of tacit knowledge and release the power of innovation*. Oxford university press.

Wigg, K. (1993). Knowledge management foundations. *Knowledge Management Foundations*.

Wong, K. (2012). *Malaysia Average Turnover Rate for Executive - GEC Business Review*. *GE Consult*. Retrieved from http://www.geconsult.asia/2012/03/malaysia-average-turnover-rate-for.html

Yeung, A. K., Brockbank, J. W., & Ulrich, D. (1991). *Organizational culture and human resource practices: An empirical assessment*.

Zammuto, R. F., & Krakower, J. Y. (1991). *Quantitative and qualitative studies of organizational culture*. JAI Press Inc.

Zheng, W. (2005). *The impact of organizational culture, structure, and strategy on knowledge management effectiveness and organizational effectiveness*. UMI.

APPENDICES

Appendix 1 Questionnaire

Instrument for Measuring Organizational Culture and Knowledge Management

The participation of this survey is voluntary and all information collected in this survey will be kept confidential and only use for this research purpose. This survey consists of three (3) sections which will take no more than 15 minutes to complete. Your response will be anonymous and confidential. Thanking you in advance for your participation.

Section A: Demographic Profile

Instruction: Please read each statement careful and select one answer.

1. Department I am in
    (1) Finance
    (2) Human Resources (Include Learning and Development)
    (3) Project Management
    (4) Administration
    (5) IT
    (6) Other _____

2. Number of employees in my department
    (1) 10 and less
    (2) 11 – 40
    (3) 41 – 80
    (4) 81 – 100
    (5) 100+

3. My duration of service with the current company
    (1) 0 - 1 year
    (2) 2 – 3 years
    (3) 4 – 6 years
    (4) 7 + years

4. Gender
    (1) Female
    (2) Male

5. Age Group
    (1) Below 30
    (2) 31 – 40
    (3) 41 – 50
    (4) 51 and above

6. Educational Qualification
    (1) High School Graduate
    (2) Technical Training/Diploma
    (3) Undergraduate Degree
    (4) Graduate Degree/Diploma
    (5) Postgraduate/Professional
    (6) Other_____

7. Number of promotion I have received in the last 3 years in the current company
    (1) 0
    (2) 1
    (3) 2
    (4) 3+

8. Number of job training attended in the last 2 years in the current company
    (1) 0
    (2) 1
    (3) 2
    (4) 3
    (5) 4
    (6) 5+

9. My organisation has a Knowledge Management Program in place?
    (1) Yes
    (2) No
    (3) Not aware

Knowledge Management is a process that helps organizations find, select, organize, disseminate, and transfer important information and expertise necessary for activities such as problem solving, dynamic learning, strategic planning, and decision-making. It includes SOPs, best practice sharing and etc.

Section B: The Organizational Culture Assessment Instrument – Current

Choose one which best describe you organisation and its culture

1.	**Dominant Characteristics**
A	My organization is a very personal place. It is like an extended family. People seem to share a lot of themselves
B	My organization is a very dynamic and entrepreneurial place. People are willing to stick their necks out and take risks.
C	My organization is very results oriented. A major concern is with getting the job done. People are very competitive and achievement oriented.
D	My organization is a very controlled and structured place. Formal procedures generally govern what people do. People do not welcome new idea or creativity.
2.	**Organizational Leadership**
A	The leadership in my organization is generally considered to exemplify mentoring, facilitating or nurturing.
B	The leadership in my organization is generally considered to exemplify entrepreneurship, innovating, or risk taking.
C	The leadership in my organization is generally considered to exemplify a no-nonsense, aggressive, results-oriented focus.
D	The leadership in my organization is generally considered to exemplify coordinating, organizing or smooth-running efficiency.
3.	**Management of Employees**
A	The management style in my organization is characterized by teamwork, consensus, and participation.
B	The management style in my organization is characterized by individual risk-taking, innovation, freedom, and uniqueness.
C	The management style in my organization is characterized by hard-driving competitiveness high demands, and achievement.
D	The management style in my organization is characterized by security of employment, conformity, predictability, and stability in relationships.

4.	**Organization Glue**
A	The glue that holds my organization together is loyalty and mutual trust. Commitment to this organization runs high.
B	The glue that holds my organization together is commitment to innovation and development. There is an emphasis on being the cutting edge.
C	The glue that holds my organization together is the emphasis on achievement and goal accomplishment. Aggressive and winning are common themes.
D	The glue that holds my organization together is formal rules and policies. Maintaining a smooth-running organization is important.
5.	**Strategic Emphases**
A	My organization emphasizes human development. High trust, openness, and participation persist.
B	My organization emphasizes acquiring new resources and creating new challenges. Trying new things and prospecting for opportunities are valued.
C	My organization emphasizes competitive actions and achievement. Hitting stretch targets and winning in the marketplace are dominant.
D	My organization emphasizes permanence and stability. Efficiency, control and smooth operations are important.
6.	**Criteria of Success**
A	My organization defines success on the basis of the development of human resources, teamwork, employee commitment, and concern for people.
B	My organization defines success on the basis of having the most unique or newest products. It is a product leader and innovator.
C	My organization defines success on the basis of winning in the marketplace and outpacing the competition. Competitive market leadership is the key.
D	My organization defines success on the basis of efficiency. Dependable delivery, smooth scheduling, and low-cost production are critical.

Section C: The Knowledge Management Assessment Instrument – Current

Scale: 1 – Strongly Agree 2 – Agree 3 – Neither Agree nor Disagree
4 – Disagree 5 – Strongly Disagree

1.	**Creating Knowledge**	**1**	**2**	**3**	**4**	**5**
A	My organization has mechanisms for creating and acquiring knowledge from different sources such as employees, customers, business partners and competitors.					
B	My organization encourages and has processes for the exchange of ideas and knowledge between individuals and groups.					
C	My organization rewards employees for new ideas and knowledge.					
D	My organization has mechanisms for creating new knowledge from existing knowledge and uses lessons learnt and best practices from projects to improve successive projects.					
2.	**Capturing Knowledge**	**1**	**2**	**3**	**4**	**5**
A	My organization responses to employees ideas and documents them for further development.					
B	My organization has mechanisms in place to absorb and transfer knowledge from employees, customers and business partners into the organization.					
C	My organization has mechanisms for converting knowledge into action plans and the design of new products and services.					
D	My organization has policies in place to allow employees to present new ideas and knowledge without fear and ridicule. The organization showcases new ideas from employees to other staff.					

3.	**Organizing Knowledge**	**1**	**2**	**3**	**4**	**5**
A	My organization has a policy to review knowledge on a regular basis. Persons are specially tasked to keep knowledge current and up to date.					
B	My organization has mechanisms for filtering, cross listing and integrating different sources and types of knowledge.					
C	My organization gives feedback to employees on their ideas and knowledge.					
D	My organization has processes for applying knowledge learned from experiences and matches sources of knowledge to problems and challenges.					
4.	**Storing Knowledge**	**1**	**2**	**3**	**4**	**5**
A	My organization utilizes databases, repositories and information technology applications to store knowledge for easy access by all employees					
B	My organization utilizes various written devices such as newsletter, manuals to store the knowledge they captured from employees.					
C	My organization has different publications to display the captured knowledge.					
D	My organization has mechanisms to patent and copyright new knowledge.					
5.	**Disseminating Knowledge**	**1**	**2**	**3**	**4**	**5**
A	My organization has knowledge in the form that is readily accessible to employees who need it. (intranets, internet)					
B	My organization sends out timely reports with appropriate information to employees, customers and					

	other relevant organizations.					
C	My organization has libraries, resource centre and other forums to display and disseminate knowledge.					
D	My organization has regular symposiums, lectures, conferences, and training sessions to share knowledge.					
6.	**Applying Knowledge**	**1**	**2**	**3**	**4**	**5**
A	My organization has different methods for employees to further develop their knowledge and apply them to new situations.					
B	My organization has mechanisms to protect knowledge from inappropriate or illegal use inside and outside of the organization.					
C	My organization applies knowledge to critical competitive needs and quickly links sources of knowledge in problem solving.					
D	My organization has methods to analyze and critically evaluate knowledge to generate new patterns and knowledge for future use.					

Thank you once again for your participation and have a good day.

Appendix 2 – Chi-square test – Clan & Knowledge Management Cycle

Chi-Square Tests - Clan & Creating Knowledge

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	227.820[a]	40	.000
Likelihood Ratio	260.263	40	.000
Linear-by-Linear Association	10.437	1	.001
N of Valid Cases	256		

a. 35 cells (63.6%) have expected count less than 5. The minimum expected count is .53.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.943	.000
	Cramer's V	.472	.000
N of Valid Cases		256	

Chi-Square Tests - Clan & Capturing Knowledge

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	163.465[a]	36	.000
Likelihood Ratio	186.585	36	.000
Linear-by-Linear Association	8.593	1	.003
N of Valid Cases	256		

a. 32 cells (64.0%) have expected count less than 5. The minimum expected count is .13.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.799	.000
	Cramer's V	.400	.000
N of Valid Cases		256	

Chi-Square Tests - Clan & Organising Knowledge

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	147.638[a]	32	.000
Likelihood Ratio	171.817	32	.000
Linear-by-Linear Association	4.243	1	.039
N of Valid Cases	256		

a. 27 cells (60.0%) have expected count less than 5. The minimum expected count is 2.13.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.759	.000
	Cramer's V	.380	.000
N of Valid Cases		256	

Chi-Square Tests - Clan & Storing Knowledge

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	224.450[a]	40	.000
Likelihood Ratio	219.755	40	.000
Linear-by-Linear Association	7.354	1	.007
N of Valid Cases	256		

a. 34 cells (61.8%) have expected count less than 5. The minimum expected count is .53.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.936	.000
	Cramer's V	.468	.000
N of Valid Cases		256	

Chi-Square Tests - Clan & Disseminating Knowledge

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	146.916[a]	36	.000
Likelihood Ratio	150.768	36	.000
Linear-by-Linear Association	7.783	1	.005
N of Valid Cases	256		

a. 31 cells (62.0%) have expected count less than 5. The minimum expected count is .27.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.758	.000
	Cramer's V	.379	.000
N of Valid Cases		256	

Chi-Square Tests - Clan & Applying Knowledge

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	184.128[a]	36	.000
Likelihood Ratio	185.784	36	.000
Linear-by-Linear Association	6.575	1	.010
N of Valid Cases	256		

a. 33 cells (66.0%) have expected count less than 5. The minimum expected count is .53.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.848	.000
	Cramer's V	.424	.000
N of Valid Cases		256	

Appendix 3 – Chi-square test – Hierarchy & Knowledge Management Cycle

Chi-Square Tests - Hierachy & Creating Knowledge

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	180.150[a]	40	.000
Likelihood Ratio	184.376	40	.000
Linear-by-Linear Association	7.006	1	.008
N of Valid Cases	256		

a. 38 cells (69.1%) have expected count less than 5. The minimum expected count is .13.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.839	.000
	Cramer's V	.419	.000
N of Valid Cases		256	

Chi-Square Tests - Hierarchy & Capturing Knowledge

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	232.256[a]	36	.000
Likelihood Ratio	184.583	36	.000
Linear-by-Linear Association	4.575	1	.032
N of Valid Cases	256		

a. 36 cells (72.0%) have expected count less than 5. The minimum expected count is .03.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.952	.000
	Cramer's V	.476	.000
N of Valid Cases		256	

Chi-Square Tests - Hierarchy & Organising Knowledge

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	165.110[a]	32	.000
Likelihood Ratio	170.652	32	.000
Linear-by-Linear Association	.779	1	.377
N of Valid Cases	256		

a. 30 cells (66.7%) have expected count less than 5. The minimum expected count is .50.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.803	.000
	Cramer's V	.402	.000
N of Valid Cases		256	

Chi-Square Tests - Hierarchy & Storing Knowledge

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	180.915[a]	40	.000
Likelihood Ratio	170.559	40	.000
Linear-by-Linear Association	7.467	1	.006
N of Valid Cases	256		

a. 40 cells (72.7%) have expected count less than 5. The minimum expected count is .13.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.841	.000
	Cramer's V	.420	.000
N of Valid Cases		256	

Chi-Square Tests - Hierarchy & Disseminating Knowledge

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	248.904[a]	36	.000
Likelihood Ratio	187.633	36	.000
Linear-by-Linear Association	19.818	1	.000
N of Valid Cases	256		

a. 34 cells (68.0%) have expected count less than 5. The minimum expected count is .06.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.986	.000
	Cramer's V	.493	.000
N of Valid Cases		256	

Chi-Square Tests - Hierarchy & Applying Knowledge

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	96.051[a]	36	.000
Likelihood Ratio	119.638	36	.000
Linear-by-Linear Association	4.594	1	.032
N of Valid Cases	256		

a. 36 cells (72.0%) have expected count less than 5. The minimum expected count is .13.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.613	.000
	Cramer's V	.306	.000
N of Valid Cases		256	

Appendix 4 – Chi-square test – Adhocracy & Knowledge Management Cycle

Chi-Square Tests - Adhocracy & Creating Knowledge

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	174.312[a]	40	.000
Likelihood Ratio	167.146	40	.000
Linear-by-Linear Association	1.319	1	.251
N of Valid Cases	256		

a. 38 cells (69.1%) have expected count less than 5. The minimum expected count is .02.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.825	.000
	Cramer's V	.413	.000
N of Valid Cases		256	

Chi-Square Tests - Adhocracy & Capturing Knowledge

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	209.838[a]	36	.000
Likelihood Ratio	117.031	36	.000
Linear-by-Linear Association	.039	1	.844
N of Valid Cases	256		

a. 34 cells (68.0%) have expected count less than 5. The minimum expected count is .00.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.905	.000
	Cramer's V	.453	.000
N of Valid Cases		256	

Chi-Square Tests - Adhocracy & Organising Knowledge

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	140.453[a]	32	.000
Likelihood Ratio	147.807	32	.000
Linear-by-Linear Association	1.142	1	.285
N of Valid Cases	256		

a. 25 cells (55.6%) have expected count less than 5. The minimum expected count is .06.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.741	.000
	Cramer's V	.370	.000
N of Valid Cases		256	

Chi-Square Tests - Adhocracy & Storing Knowledge

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	133.339[a]	40	.000
Likelihood Ratio	150.182	40	.000
Linear-by-Linear Association	4.733	1	.030
N of Valid Cases	256		

a. 39 cells (70.9%) have expected count less than 5. The minimum expected count is .02.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.722	.000
	Cramer's V	.361	.000
N of Valid Cases		256	

Chi-Square Tests - Adhocracy & Disseminating Knowledge

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	135.701[a]	36	.000
Likelihood Ratio	144.331	36	.000
Linear-by-Linear Association	6.491	1	.011
N of Valid Cases	256		

a. 34 cells (68.0%) have expected count less than 5. The minimum expected count is .01.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.728	.000
	Cramer's V	.364	.000
N of Valid Cases		256	

Chi-Square Tests - Adhocracy & Applying Knowledge

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	277.782[a]	36	.000
Likelihood Ratio	166.247	36	.000
Linear-by-Linear Association	.085	1	.771
N of Valid Cases	256		

a. 36 cells (72.0%) have expected count less than 5. The minimum expected count is .02.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	1.042	.000
	Cramer's V	.521	.000
N of Valid Cases		256	

Appendix 5 – Chi-square test – Market & Knowledge Management Cycle

Chi-Square Tests - Market & Creating Knowedge

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	294.365[a]	40	.000
Likelihood Ratio	136.368	40	.000
Linear-by-Linear Association	12.933	1	.000
N of Valid Cases	256		

a. 42 cells (76.4%) have expected count less than 5. The minimum expected count is .09.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	1.072	.000
	Cramer's V	.536	.000
N of Valid Cases		256	

Chi-Square Tests - Market & Capturing Knowledge

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	171.637[a]	36	.000
Likelihood Ratio	121.144	36	.000
Linear-by-Linear Association	18.862	1	.000
N of Valid Cases	256		

a. 41 cells (82.0%) have expected count less than 5. The minimum expected count is .02.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.819	.000
	Cramer's V	.409	.000
N of Valid Cases		256	

Chi-Square Tests - Market & Organising Knowledge

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	229.619[a]	32	.000
Likelihood Ratio	142.781	32	.000
Linear-by-Linear Association	23.850	1	.000
N of Valid Cases	256		

a. 34 cells (75.6%) have expected count less than 5. The minimum expected count is .38.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.947	.000
	Cramer's V	.474	.000
N of Valid Cases		256	

Chi-Square Tests - Market & Storing Knowledge

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	271.856[a]	40	.000
Likelihood Ratio	126.144	40	.000
Linear-by-Linear Association	26.589	1	.000
N of Valid Cases	256		

a. 45 cells (81.8%) have expected count less than 5. The minimum expected count is .09.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	1.031	.000
	Cramer's V	.515	.000
N of Valid Cases		256	

Chi-Square Tests - Market & Disseminating Knowledge

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	200.890[a]	36	.000
Likelihood Ratio	107.611	36	.000
Linear-by-Linear Association	4.462	1	.035
N of Valid Cases	256		

a. 38 cells (76.0%) have expected count less than 5. The minimum expected count is .05.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.886	.000
	Cramer's V	.443	.000
N of Valid Cases		256	

Chi-Square Tests - Market & Applying Knowledge

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	210.485[a]	36	.000
Likelihood Ratio	142.719	36	.000
Linear-by-Linear Association	19.656	1	.000
N of Valid Cases	256		

a. 41 cells (82.0%) have expected count less than 5. The minimum expected count is .09.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.907	.000
	Cramer's V	.453	.000
N of Valid Cases		256	