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Dynamics of Knowledge Sharing in a Cross-Cultural Environment

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Abstract

Studies have indicated that national culture may impact the choice of who shares knowledge with whom. This paper considers the problem of tacit knowledge sharing in multi-cultural environments and the issues that relate to trust, language, and culture that impact on the choice of how tacit knowledge is shared. A study was conducted in a multi-national, international, and multi-cultural Business School to discover if the theoretical research relating to a potential tacit and thus implicit knowledge sharing archetype had validity. The study conducted with 70 students from 28 nations and 24 languages, discovered that there were a number of variables that impacted who students chose to ask for (academic) tacit knowledge: these variables indicated that the longer that students spent in the Business School; the longer they were in London and the UK; and the older they were; the less they were concerned about the nationality, ethnicity, and language of the person they asked. Additionally, testing the knowledge archetype model it was found that there were no moderating factors. This indicates that a knowledge archetype that is common to all nationalities can be developed. Future research intends to develop a configurable technical based archetype - or avatar - that can be utilised by students as they enter university for implicit knowledge sharing purposes. This avatar will then be tested in multi-cultural business environment to assist tacit/implicit knowledge sharing across divisions and nation as well as languages and culture.

Keywords

Knowledge Management, Avatar, Cross Cultural, Knowledge Sharing, Knowledge Dynamics, Knowledge Archetype, Market Research.

Introduction

The importance of managing knowledge assets in a business enterprise has been investigated and well established by researchers (see for example, McElroy, 2000; Rastogi, 2000; Stenmark, 2001). Recently, empirical studies have shown that good governance in the corporate sector results in the better performance of these knowledge assets and delivers higher financial returns (Makki, 2010). Similarly many like Cole, 1998; Ghosh and Wu, 2007; Prusak, 2001, have argued that knowledge management is the most critical function in an organization to maintain a competitive edge in the global market. It is also argued that knowledge management provides the innovation to provide this competitive advantage (Coakes, et al, 2004; Coakes and Clark, 2010).

When looking for information and knowledge in a new environment, especially when a person is in a new country, it would be normal for that person to look for someone of similar age, ethnicity, culture, or language to assist them in their search. This assumption is one that can cause issues when you cannot find that 'similar' person because your environment does not provide them. Who then will you choose to ask? Indeed, as we enter an age where businesses operate in a complex multi-national environment is this assumption still valid? In order to look at this assumption, and any moderating factors on the choice of assistance in the search, a study was carried out in Westminster Business School (WBS) amongst Postgraduate students from across 28 nationalities.

Using the insight provided by Freud and Jung, the research discussed in this paper now develops the theme of voluntary knowledge sharing and extends it to knowledge sharing in a multicultural environment. An archetype for the successful promotion of knowledge sharing in a multicultural environment is developed and compared with actual data obtained from the survey conducted in the Business School in London. The researchers now intend to develop a digital avatar based on the archetype and use the avatar to share cross-cultural knowledge in a virtual environment.

Global Business Knowledge Sharing

Global markets are integrating businesses in more than one way; the future is not only for financial integration, but for all the business processes in global businesses to undergo integration. The value addition chain that starts from a business idea to the development of the final product could be spread over five continents. It is most likely that the raw material of a product is grown or mined in one region of the world and then shifted to another part of the world for its first stage of manufacturing, and later on

moved again to another region for finishing and packaging, while the product may likely end a the third geographical region as the final product in the market. Similarly the human capital engaged in all of these processes would not be limited to any one culture, ethnic background or a country.

Integration of business processes is bringing different continents closer to one another. The cultural space that was available to the workforce is no longer available to them. People from countries or regions that would have avoided any kind of contact are now obliged by economic forces to work within the same organizations and, in many cases, in a teamwork environment. This cultural integration motivated by economic interest will increase, and the team leaders and team members will be under increased pressure to readjust their social attitudes in order to improve their professional performance.

The emerging change in the business environment has created a need to investigate the dynamics acting behind knowledge sharing in a cross-cultural environment and to develop the means to improve, in particular, tacit and implicit knowledge sharing in such an environment. Specifically this research will consider the following questions.

- Can a descriptive model be developed to understand the dynamics working behind cross cultural knowledge sharing?

- Can an archetype be developed to promote knowledge sharing in cross-cultural environment?

View of knowledge

It is important to consider how researchers view knowledge, before moving on to look at knowledge sharing. The concept of knowledge in the business / management literature is still evolving with a current lack of consensus. Table (1) gives a summary of some of the views on knowledge expressed by researchers. The positivist approach would be to define knowledge as objectively as possible, but this would leave this paper's research falling short of achieving the original objectives that were set out in the research questions. Therefore this research uses the post positivist view of knowledge, ascribing it with much richer attributes. This research thus considers personal knowledge as an individual's world view and that these individual world views combine to form a society's or a community's world view.

Table - 1

Views on Knowledge

Author/s	Knowledge
Wiig (1993)	Truths and beliefs, perspectives and concepts, judgments and expectations, methodologies and know-how
Nonaka and Takeuchi (1995)	Commitments and beliefs created from these messages
Spek and Spijkervet (1997)	The ability to assign meaning
Davenport (1997)	Valuable information from the human mind
Davenport and Prusak (1998)	Experiences, values, insights, and contextual information
Choo et al. (2000)	Justified, true beliefs

In view of the complexity involved in defining knowledge and the research question, it was necessary to use a multidisciplinary approach in the literature review. The main philosophy of this study is rooted in epistemological arguments and as the thought is developed for handling real-world situations, the argument evolves towards a more pragmatic approach.

Socio-technical approach

The evolution of human culture has been linked strongly with the evolution of technology, meaning that the supra-system, which is the human culture, contains socio and technical sub-systems which have co-evolved over the years. The discovery of fire by early man gave a number benefits to society and humans were then able to use fire in a number of ways to help this society. Similarly the invention of the wheel and later on steam engines led civilization to new levels of development. These technological developments have determined the development paths of civilizations. The present day banking and economic infrastructure is based effective on use of ICT (Information Communication Technology). It is difficult to think of a banking system that is not connected online to other banking institutions internationally. Technology and culture has co-evolved in such an integrated manner that any social system or any technological development studied in isolation will give a biased view.

Indeed socio-technologists would argue that the character of technology is shaped by the sociocultural conditions that it is embedded in (see Pinch and Bijker. 1987; Woolgar, 1991). Diverse sociocultural conditions will determine the usefulness of the technology and the use to which it is put. This is what Pinch and Bjiker (1987) refer to as technology being socially constructed. Producers and users of technology shape the definition or

redefinition of these technologies giving it new meanings in specific contexts (Mackay et al, 2000; Suchman, 2002) and this is particularly important as we discuss the uses of an avatar later in this paper.

Exploring the Knowledge Sharing Landscape

Since the popularity of knowledge management (KM) discussions began in the business domain, a number of models have been presented for understanding knowledge sharing in organizations. The earlier KM models are more focused on the hard structure of organizations such as the use of IT (Holsapple and Joshi, 1999), while later models have shifted the focus to a soft structured approach. These later models view knowledge as a dynamic entity rather than an object (see Heisig *et al.*, 2001; McElroy, 2002; Probst *et al.*, 2000; Rastogi, 2000). Still later the researchers started focusing on the study of social structures (Blankenship and Ruona, 2009; Lakshman, 2011) like CoPs (Communities of Practice) within the organizations and developed strategies to promote knowledge sharing in these CoPs (Coakes and Clarke, 2005; Coakes and Clarke, 2010; Jeon *et al.*, 2011). Similarly an emerging idea is to analyse the organizational culture for the promotion of knowledge sharing. The employees are to be facilitated and motivated by management to share knowledge voluntarily within the organization and therefore increase the innovative capacity of the organizations.

The issue of knowledge transfer across teams from different nationalities has gained greater importance due to the globalisation of businesses. The idea of encouraging a specific culture for the promotion of knowledge sharing has been adopted from research in cultural anthropology, referring to the studies on cultural characteristics (Hall, 1959; Hall, 1966; Hofstede, 1980) of the employees and ways in which they can hinder knowledge sharing - Duan *et al.* (2010) for instance has studied knowledge transfer affecting transnational knowledge transfer in not-for-profit organizations. The research develops from the individual level arguing that without the individuals' involvement, knowledge cannot be transferred, and then moves on to consider knowledge transfer at the intra and trans-national organisational levels. Duan's research (ibid) identified 24 major factors and 10 key factors including trust, motivation, leadership, and use of ICT that affect transfer of knowledge across national boundaries. They argue for practitioners to develop a focused approached when dealing with knowledge bottlenecks.

Knowledge Archetypes

The use of archetypes by civilizations to transfer or strengthen their cultural values have been established by Jung (Hampden-Turner, 1982), however the use of an archetype in the KM research literature has not often been approached from psychological perspectives. Lemon and Sahota (2004) present knowledge as a bundle of knowledge repositories with storing and information processing capabilities. They present a three stage process for auditing an organizational culture and propose strategies for the maintenance of the desired organizational culture archetype. Similarly Kang *et al.* (2007) use relational archetypes in relation to organizational learning and value creation with the ultimate function of extending human resource architecture. Other researchers that have used the knowledge archetype concept to study organizations include Desouza and Evaristo (2006) investigating the project management office (PMO) in 32 IT companies, giving four PMO archetypes based on knowledge management functions and capabilities of the organizations. While Makela *et al.* (2009) used the archetype concept on MNC staffing architecture to build human and social capital within an organization.

Developing a Knowledge Sharing Archetype

This study builds a Knowledge Sharing Archetype using the view of knowledge given by Polanyi (1958) utilising the concept of Archetype and collective consciousness as given by Jung. The Archetype is contained by a Culture Based Knowledge Sharing Model for organizations described by Lodhi (2005), and Lodhi and Ahmad (2010).

The knowledge sharing process between two individuals at an abstract level, is presented in Figure-1 below, where an actor "A" has a certain world view based on his/her experiences and information about an object or an issue. When that actor intends to pass his/her understanding of reality to another actor "B", he/she codes his point of view into a verbal and nonverbal message and transmits it the actor "B".

The actor "B" then de-codes the message with the help of his/her previous knowledge, experience and the information contained in the message received from actor "A". The actor "B" after decoding of the complete message is able to create his/her own view of reality. When we compare the reality view of actor "A" with the reality view created by actor "B"; even assuming that there has been no distortion in the message due to noise

or miscoding on the part of actor "A", the world view of actor "B" could never be the same as actor "A".
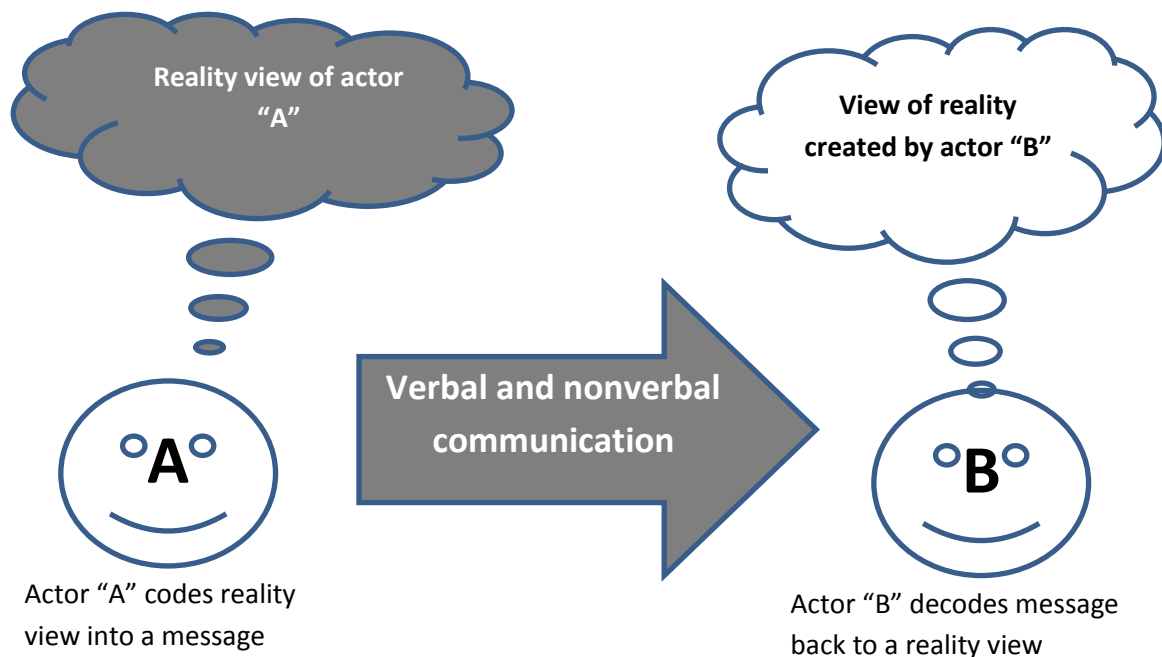
Figure - 1

Showing the knowledge sharing process as a transfer of reality-view from actor "A" to another actor "B"

The knowledge sharing process in Figure -1 is based on Polany's theory of Knowledge, which has roots in constructivism (Svieby, 1994). Polanyi based his concept of knowledge on three main theses:

- First, true discovery cannot be accounted for by a set of articulated rules or algorithms;

- Second, knowledge is public and also to a very great extent personal (i.e. it is constructed by humans and therefore contains emotions, "passion".); and

- Third that the knowledge that underlies explicit knowledge is more fundamental; all knowledge is either tacit or rooted in tacit knowledge.

Considering that knowledge is not private but social in nature, therefore socially conveyed knowledge blends with the experience of reality of an individual. New experiences are always assimilated through the concepts that the individual constructs and which the individual has inherited from other users of the language. Polanyi regards

the process of knowing as fragmentary clues that are integrated under categories - arguing that these patterns of categories contain theories, methods, feelings, values, and skills which can be used in a fashion that the tradition judges are valid.

He argues that humans use previous knowledge as a tool to focus upon particular issues at hand. This act of integration is an informal act of the mind and cannot be replaced by a formal operation. In his later works (Tacit Knowing) he emphasizes the dynamic properties, i.e. the verb: Knowledge is an activity, which would be better described as a process of knowing (Sveiby, 1994). Polanyi regards knowledge as a tool by which humans act or gather new knowledge, therefore for him "knowledge", and "knowing" are synonyms.

The way humans perceive the world or create a reality-view depends on the complex working of the human brain, Hampden-Turner (1982) gives a comprehensive review of the work of theorists on human psyche. Using the metaphor of a map, he has organised the work into different levels, from the mechanistic and physiological, to the paradigmatic and mythological. Hampden-Turner (ibid) states that Freud's contribution begins from understanding that humans "know" more than that they are consciously aware, Freud provided clues to answer basic questions like, why do we forget selective things while remember some seemingly unimportant events for the whole length of our life? Why do people suffer phobic dreads and anxieties or recover buried memories under hypnosis? These cannot be explained without the concepts of the conscious and unconscious mind, with the "Id" embodying the instincts and being controlled by a partially conscious "Ego". The Id consists of instinctual energies and drives which are without rational thought - on the other hand the Ego usually functions intelligently and works to serve the Id. Jung later borrowed the concepts of the conscious and unconscious from Freud, but Jung's concept of the unconscious and conscious was much elaborate than Freud's, He considered that there was a personal unconscious consisting of dimmed memories and a collective unconscious at a still deeper level. By the collective unconscious Jung denoted a possibility of inherited psychical functioning. In Jung's psychology an archetype is an inherited pattern of thought or symbolic imagery that is transferred from culture, and its past collective experience, to an individual unconscious, and then this archetype guides the individual to follow a certain behavioural pattern.

In developing the concept of a knowledge archetype, the model for voluntary knowledge sharing in organizations (Lodhi and Ahmad, 2010) is regarded as a reference model. It is

assumed that an archetype shall be unable to function if it is not synchronised, or embedded, in the environment which contains it. Here the reference model by Lodhi and Ahmad (2010) is developed further using a constructivist approach and utilising Polanyi's theory of knowledge, see Figure 2.
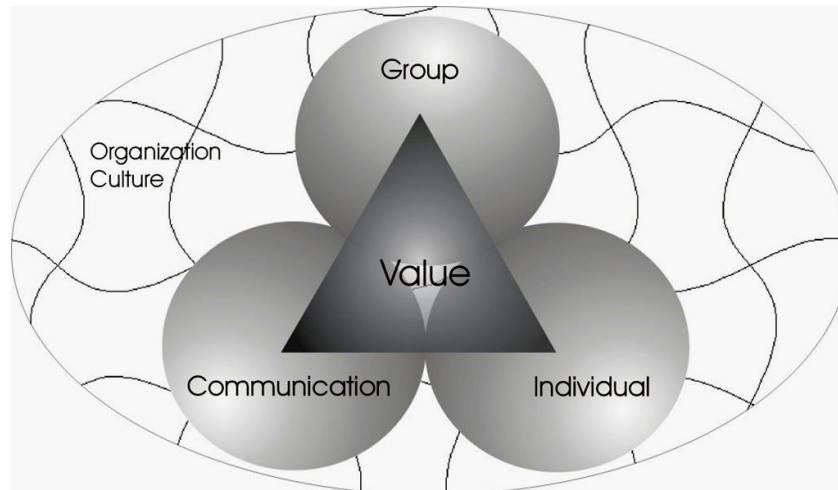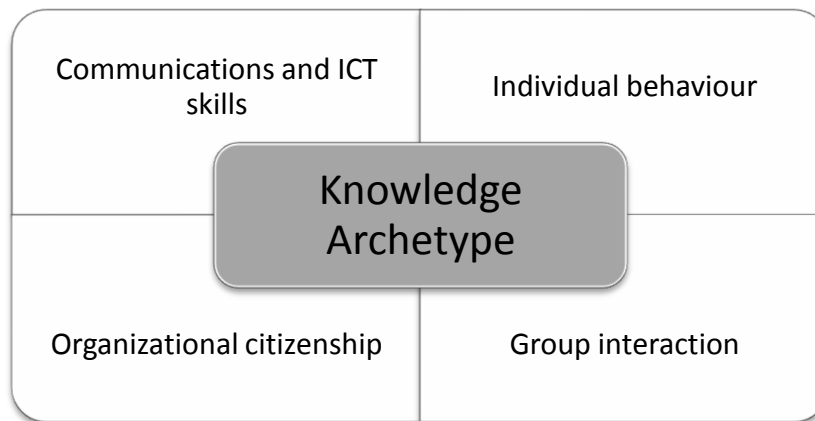

Figure - 2

Voluntary Knowledge Sharing Model (original model described in Lodhi & Ahmad, 2010)

According to this model (Figure 2), the true source of knowledge creation in an organization are individuals, these individuals work in groups and develop their ideas by social interaction. In order to work in groups these individuals need to communicate with one another, and they may use all channels of communications to get their message across to the other team members. These channels of communication in the social aspect include meetings, seminars, group discussions etc. while technically the communication medium used would include books, telephone, and computer networks of different systems and software. The outermost shell of the model is the organizational environment that provides a strategic direction and motivation to the whole system.

A Knowledge Archetype synchronised with the above model is proposed in Figure -3. The archetype has to be observed on four functional dimensions, which are communication abilities; interpersonal interactions at the individual level; and at the group level; and then finally the behavioural expectations at the organizational level.

Figure - 3

Functional dimensions of a Knowledge Archetype

Propositions outlining the behavioural expectation of the archetype in respect of the four dimensions are given in Table-2. The behavioural expectations are based on the broader principles of epistemological constructivism. The domain of epistemological constructivism has a number of theories which may be interpreted somewhat differently, but a number of general principles may be assumed. These are that:

a) Knowledge is actively constructed by the individuals.

Constructivists argue that knowledge creation is not a passive activity and that learning requires effort on the part of learner. The learning process takes place when individuals attempt to make sense of the world around them. (Geary 1995; Sexton & Griffin, 1997; Von Glaserfeld, 1995; Vygotsky, 1978).

b) Learning is both an individual and a social process.

The Constructivists' view is that individuals' interactions with the environment are critical for these learning processes. All knowledge is organized into universal cognitive structures and all of these structures have a social component. (Mahoney, 1995; Piaget, 1926; Piaget & Inhelder, 1969)

c) Learning is a self-regulated process.

An Actor or an Individual learn at different rates due to a number of reasons, including their inborn characteristics (i.e., intelligence) and the external factors that have an effect on them. These external factors including the attitude of the other people and their interaction towards the learner. (Bandura, 1986; Ertl & Kraan,1997)

d) Learning is an organizational process that enables people to make sense of their world.

Experiences or concepts that are encountered by an actor or an individual for the first time undergo evolution over time by one of two processes, which is either (1) assimilation, that is subsuming a new idea into an existing schema (organizational group) or secondly (2) accommodation, creating new schema. This organization and reorganization of experiences and concepts takes place constantly within the human mind. (Piaget, 1926; Piaget & Inhelder, 1969; Von Glaserfeld & Steffe, 1991)

e) Cognition serves the actor to understand the experiential world.

All actors or individuals lead different lives, having different purpose and vision, this indicates that applying the learning should permit individuals to organize what they have experienced, rather than just having to memorise or "knowing" cold facts about "reality," .Therefore learning provides individuals with beliefs about the world in which they live. (Bandura, 1986; Gruender, 1996; Murphy, 1997; Piaget, 1926; Piaget & Inhelder, 1969; Von Glaserfeld, 1995).

f) Language plays an essential role in learning.

Constructivists argue that thinking takes place in communication and consider language as a tool that enables individuals to communicate beyond what has been learned in their own experience in the past, by the formulation of words, sentences, and paragraphs. (Piaget, 1965; Sexton & Griffin, 1997; Vygotsky, 1978).

g) Motivation is a key component in learning.

The motivations possessed by an Actor or Individuals will greatly affect their abilities and resultantly their capacities to learn. The most basic motivation for learning is an individual's desire to make sense of the world. (Bandura, 1986; Gruender, 1996; Piaget, 1926; Piaget & Inhelder, 1969; Vygotsky, 1978)

The propositions in Table -2 give an Archetype's behavioural expectations based on the constructivists' view of knowledge. The propositions were tested in a real life situation with the help of a survey conducted with participants belonging to different countries. It was assumed that based on their previous experience the participants would be able to

identify the true behavioural traits of a Knowledge Archetype, which they thought could promote cross cultural knowledge sharing.

Table - 2

Archetype's functional behaviour

Proposition 1: The individual should be very good in communication skills and excellent in the use of the latest technological aids to enhance his/her communication abilities

Proposition 2: The individual should always be willing to consider new thinking approaches, not confirming to egoistic perspectives

Proposition 3: The individual should promote cross cultural collaboration and group work

Proposition 4: The individual should advocate a strategic orientation to promote cross cultural collaboration at organizational and higher levels

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Methodology

Keeping In view the nature of research question, a review of literature spreading over multidisciplinary domains was necessary. A wide range of subject areas comprising of Philosophy, Epistemology, Psychology, and Anthropology were reviewed for developing a conceptual basis, followed by literature support from Cybernetics, Information Technology, and Knowledge Management which was used to refine the concept (see table -3). It is however acknowledged that the domain can still be viewed from many other perspectives.

Table - 3

Showing literature review domains

Review domains	
1- Conceptual basis	*Philosophy* *Epistemology* *Psychology* *Anthropology*
2- Focused area	*Knowledge Management* *Information Technology* *Cybernetics*

The conceptual model was later compared with the ideal personality that students had in their mind. The task was achieved with the help of a survey, conducted in a Business School situated in the heart of London and enrolling a large number of international students.

Research Hypotheses

The research hypotheses were developed to test the opinion of the population on the Archetype developed. Each hypothesis tested a single facet of the Archetype's personality, within the four broader categories from (a) to (d).

(a) - Communication Channels

H_1 – The individual has an updated knowledge of the latest technological tools

H_2 – The individual participates actively in seminars, competitions, publication of papers/ journals

H_3 - The individual likes to know about the norms of other cultures

H_4 – The individual likes to learn the language used in other regions

(b)- Ego and self-image

H_5 - The individual does a lot of reading, with a diversity of interest areas

H_6 - The individual does not have a big ego

H_7 - The individual forgives others easily

H_8 - The individual listens to other's argument carefully

(c)- Group Development

H_9 - The individual does not considers his/her culture to be the only correct way of living

H_{10} - The individual does not express any demeaning ideas towards other's cultural norms

H_{11} - The individual treats all other individuals similarly at personal level

H_{12} - The individual views him/her self as always willing to learn new concepts

(d) - Organizational Culture

H_{13} - The individual motivates all to work towards achieving higher goals

H_{14} - The individual promotes cultural harmony between different regions/ countries

H_{15} - The individual does not believe that only he/she has the correct view

H_{16} - The individual works with others effectively, even with a difference of opinion

Survey Design

A cross sectional survey design was regarded as the best match to the research objectives, as it would provide a facility to study the variation of data over nationalities and other factors considered important for the model. A cluster sampling technique was used to collect data from four classes in the Business School.

Research Instrument

The questionnaire was designed with reference to the conceptual model and distributed. It is important to note that the questionnaire was in English and designed to be as simple as possible. The students given admission are supposed to have adequate English language skills (6.5 IELTS and above), but still observers were present to clarify any ambiguity in the understanding of the questionnaire.

The questionnaire consisted of three parts, a brief description of each part is provided in Table-4. The answers to part 2 and 3 were collected on a five point Likert scale. The full questionnaire is in Appendix C.

- Part One was designed to gather demographics

- Part Two gathered data to estimate the knowledge sharing issues at Westminster Business School

- Part Three was further divided into four sections looking at: communication channels; ego; group development; and organisational cultural activities.

Table - 4

Questionnaire Description

	Questions	Focus area
Part -1	Questions 1 -20	Demographic information
Part -2	Questions 1 - 8	Exploring the issue of Cross Cultural Knowledge Sharing at Westminster Business School
Part -3	Questions 1 to 4	Inquiring about the behaviour of the Archetype towards **communication channels**
	Questions 5 to 8	Inquiring about the **ego** (personal behaviour) of the Archetype
	Questions 9 to 12	Inquiring about the behaviour of the Archetype towards **group development**
	Questions 13 to 16	Inquiring about the behaviour of the Archetype towards **organization's culture development activities**

Sample Size

The calculation of sample size is important for deducing any results that can be generalized from the research. The only requirement to be the part of sample for the survey undertaken was that the respondent should be a registered postgraduate student of the university's business school. Taking the population of registered students in the Business School as one thousand, the sample size based on Malhotra and Dash (2010) method of standard deviation, came out to be a minimum of 64 participants.

A minimum sample size for co-relational research for a one-tailed hypothesis is regarded as being 64, and 82 for 2 tailed (Onweuegbuzie and Collins 2007); and for causal-comparative research a minimum of 51 participants per group for 1 tailed and 64 for 2 tailed analysis. It is noted that precision increases steadily up to sample sizes of 150-

200 (Fowler, 2009) and thus we are looking to increase this sample as mentioned in the Conclusions.

Data Analysis

The results of research are analysed below in two sections, the first section is related to data interpretation relevant to WBS (Westminster Business School) and the second section deals with the generalization of the survey data for the development of the Knowledge Archetype.

Knowledge Sharing at WBS

A total of seventy valid questionnaires were received from the School of Business, the details of which are given in Table -5. The survey showed that the students studying at WBS came from twenty eight different countries and spoke twenty five languages including English, and for some English was their fourth language. This demonstrates the cultural diversity of the student population at WBS. The mean age of the participant student was 28 years and on average they have visited ten countries, which show that the students have a good exposure to other cultures.

Table - 5

Descriptive Statistics

	Gender				Combined				
	Male		Female						
	N	Mean	N	Mean	N	Minimum	Maximum	Mean	Std. Deviation
Age of participant in years	34	29.4	36	27.3	70	20.0	47.0	28.348	5.3710
Countries visited	34	11.1	36	9.3	70	1.0	40.0	10.217	9.2575
Internet used hours/ day	34	5.5	36	4.7	70	1.0	30.0	5.048	3.8255
Time in WBS in months	34	7.3	36	4.3	70	1.0	38.0	5.768	5.7109
Valid N (listwise)	**34**		**36**		**70**				

The sample collected showed thirty four male and thirty six female participants, giving a very good gender balance. Table 5 also shows the differences between the male and female population, but these differences are not very significant. On average we can say

that the male in our population have visited more countries, they spend more time on the internet per day, and in general the male students have been in WBS for a little longer period in time than an average female student.

Data to explore the issue of knowledge sharing at WBS is obtained from questions Q1 to Q8 of the questionnaire (see Appendix C) and the t-test is applied as given in Table- 6. The test value is taken as 4 on a 1 to 5 point Likert scale. A test value of 4 means that the population is not neutral to the issue and it agrees to the statement given in the questionnaire.

Interpreting the data in Table-6, it is seen that based on their experiences, the participants do think that there is a need for promoting knowledge sharing efforts between students of different cultures at business school. The students in general like to share knowledge and discuss ideas with students from their own culture, a possible reason for this could be due to the fact that the survey was done in the beginning of the semester, and the average time that the student had spent at WBS was less than six months.

Table - 6

One-Sample Test

	Test Value = 4					
					95% Confidence Interval of the Difference	
	t	df	Sig . (2-tailed)	Mean Difference	Lower	Upper
Q1	-8.274	69	.000	-1.2029	-1.493	-.913
Q2	-5.482	69	.000	-.7391	-1.008	-.470
Q3	-5.900	69	.000	-.8551	-1.144	-.566
Q4	-2.166	69	**.034**	-.3043	-.585	-.024
Q5	-4.727	69	.000	-.6667	-.948	-.385
Q6	-7.013	69	.000	-.9710	-1.247	-.695
Q7	-3.777	69	.000	-.4783	-.731	-.226
Q8	-5.896	69	.000	-.9420	-1.261	-.623

Correlation coefficients for questions 1 to 8 are calculated against gender, internet usage, age of participant, time spend at the Business School and lastly the total length of stay of the participant at England (see Appendix A - Table – i). It is observed that as the age of respondent, stay in WBS, and stay in England, is increased they tend to

disagree with Q1, and Q8, meaning that they have relatively few issues in cross cultural communication. Respondents who have spent more time at WBS tends to disagree with Q3, reporting that they have less misunderstandings when undertaking cross culture communicating.

It is seen that respondents who spent more time on the Internet tend to agree that there is a need to increase efforts by WBS to improve cross cultural understanding and they also prefer to ask for information from colleagues from their own nationality. Correlation is also found between the gender type and the responses to Q2 and Q5, but the available data does not identify any probable cause of this difference.

In a nutshell it can be said that WBS has a wide diversity of cultural representation and it has been able to manage this diversity to its advantage. There is however a feeling among the majority of the student population for this survey that there could be further focused efforts to improve ways of cross cultural understanding.

Analysis of Knowledge Archetype

Data on the behavioural aspects of the Knowledge Archetype was collected from questions P1 to P16. The results were tested against a "t" value of 4 on a 1 to 5 point Likert scale.

The questionnaire was designed to explore the response of the population on four dimensions in which the Archetype functions. The data shows that on the communication and ICT skills dimension, the respondents agreed to the P1 and P3 statements while the agreement was not found to be sufficient for P2 and P4 statements. Then on personal behaviour and ego dimension, P5, and P6 statements were not supported. On group development statement P9 and P10 were not supported, while all the other statements regarding an organization's cultural development were supported by the respondents. The details of the t-test are given in Table 7.

Table – 7

Archetype Test Score

One-Sample Test

	Test Value = 4					
					95% Confidence Interval of the Difference	
	t	Df	Sig . (2-tailed)	Mean Difference	Lower	Upper
P1	-2.447	69	.017	-.2609	-.474	-.048
P2	-1.495	69	.140	-.1884	-.440	.063
P3	3.395	69	**.001**	.2899	.119	.460
P4	-1.386	69	.170	-.1739	-.424	.077
P5	.402	69	.689	.0435	-.172	.259
P6	-1.870	69	.066	-.2609	-.539	.017
P7	-2.481	69	.016	-.3043	-.549	-.060
P8	4.697	69	**.000**	.3768	.217	.537
P9	1.352	69	.181	.1594	-.076	.395
P10	.599	69	.551	.0725	-.169	.314
P11	5.858	69	**.000**	.5217	.344	.699
P12	4.441	69	**.000**	.3913	.215	.567
P13	2.521	69	.014	.2464	.051	.441
P14	3.069	69	.003	.2754	.096	.454
P15	2.111	69	.038	.2174	.012	.423
P16	5.915	69	**.000**	.4493	.298	.601

In general it is observed that the respondents have shown agreement to all statements that are related to observable action, while statements focusing on the values on which these actions are actually based are not supported. This could be due to the fact that actions of an individual (archetype) are observable while the values on which the actions were actually taken cannot be observed. Therefore the respondents agreed more with observable actions, when answering the statements.

Conclusion

The student population answered the questionnaire based on their everyday experiences at the university and validated the main concept on all of the four proposed dimensions.

It is important to bear in mind that the Archetype was not developed from this survey, rather it is anchored in theory and the purpose of the survey was to test the results in a real life situation. The result of the survey comprising of 28 countries and 24 languages,

showed that regardless of the country or gender of the student, the general population agreed to all of the dimensions of the Archetype defined.

The archetype can be promoted in educational institutions with cross-cultural enrolment, to encourage knowledge sharing between students from different ethnicity. The Archetype can also be used for improving the performance of the faculty and administrative staff of the educational institutions.

Limitations

One of the limitations that could not be avoided was that the survey questionnaire was in English, it would have been ideal, if the questionnaire had been translated into the native language of the participant, but since the participants were speaking 24 languages this could not be done. However, as English is the default language of education on many international degrees and in many international companies this was not as much a drawback as might first be imagined.

Further Research

It would be interesting to test the Archetype in the business sector or in a not-for-profit organization with teams comprising multicultural members. This would help the researchers in identifying and improving the knowledge flows in international businesses especially the larger Non-Governmental Organisations and Consultancies working in geographically distributed areas.

Data shows that participants who are hesitant in cross cultural communicating prefer to use the Internet for obtaining information. This finding is being further tested by increasing the sample size of students with further surveying of Postgraduate students in different classes. This finding also indicates that another research direction could be to develop an Avatar based on the Knowledge Archetype in a virtual environment. This Avatar can be used for educational purposes for students at Induction into the university to learn their way around and answer early questions; and as it could be then personalised by the student, it could then become their Knowledge Sharing 'buddy' and learn appropriate knowledge to share through using algorithms etc. Similar avatars can also be developed for collecting marketing information on consumer preferences.

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Appendix A

Table - i

One- Sample Test

			Gender	Internet used hours/ day	Countries visited	Age	Time in WBS	Stay in England
Spearman's rho	Q1	Correlation Coefficient	-.028	.263	-.123	-.266	-.210	-.276
		Sig. (2-tailed)	.816	.029	.315	.027	.083	.022
		N	70	70	70	70	70	70
	Q2	Correlation Coefficient	-.245	.015	.011	.003	-.029	-.210
		Sig. (2-tailed)	.042	.903	.929	.977	.812	.083
		N	70	70	70	70	70	70
	Q3	Correlation Coefficient	-.029	.177	-.100	.024	-.270	-.122
		Sig. (2-tailed)	.812	.145	.413	.842	.025	.318
		N	70	70	70	70	70	70
	Q4	Correlation Coefficient	-.136	.224	.118	.039	-.008	-.075
		Sig. (2-tailed)	.265	.065	.333	.748	.950	.542
		N	70	70	70	70	70	70
	Q5	Correlation Coefficient	-.279	.114	-.108	-.166	-.218	-.114
		Sig. (2-tailed)	.020	.353	.376	.173	.072	.350
		N	70	70	70	70	70	70
	Q6	Correlation Coefficient	-.021	.127	-.107	-.002	-.114	-.081
		Sig. (2-tailed)	.863	.300	.383	.988	.351	.506
		N	70	70	70	70	70	70
	Q7	Correlation Coefficient	-.085	.281	-.179	.021	-.171	-.086
		Sig. (2-tailed)	.487	.019	.141	.861	.161	.481
		N	70	70	70	70	70	70
	Q8	Correlation Coefficient	.083	.078	-.131	-.364	-.299	-.368
		Sig. (2-tailed)	.499	.525	.283	.002	.013	.002
		N	70	70	70	70	70	70

Appendix B

Table - ii

One- Sample Test

			Gender	Internet used hours/ day	Countries visited	Age	Time in WBS	Stay in England
Spearman's rho	P1	Correlation Coefficient	-.066	.083	-.032	-.049	-.015	.068
		Sig. (2-tailed)	.591	.499	.793	.688	.901	.579
	P2	Correlation	-.079	.164	.038	.073	-.041	.151
		Coefficient Sig. (2-tailed)	.517	.177	.758	.550	.737	.217
	P3	Correlation	-.047	.046	.073	.012	.057	.105
		Coefficient Sig. (2-tailed)	.700	.708	.553	.925	.641	.389
	P4	Correlation	.079	-.089	.018	-.116	-.025	.096
		Coefficient Sig. (2-tailed)	.521	.465	.884	.344	.837	.434
	P5	Correlation	-.160	.030	.036	.086	.082	.230
		Coefficient Sig. (2-tailed)	.188	.804	.768	.485	.505	.057
	P6	Correlation	-.157	.028	.008	.029	.063	.044
		Coefficient Sig. (2-tailed)	.199	.817	.946	.813	.608	.718
	P7	Correlation	-.077	.156	-.058	.236	.102	.165
		Coefficient Sig. (2-tailed)	.532	.201	.637	.051	.403	.174
	P8	Correlation	-.021	.117	-.047	.150	.102	-.001
		Coefficient Sig. (2-tailed)	.863	.339	.701	.218	.406	.992
	P9	Correlation	-.091	-.082	.123	-.079	-.015	-.116
		Coefficient Sig. (2-tailed)	.457	.504	.315	.518	.906	.342
	P10	Correlation	.052	-.080	.099	-.073	.074	.048
		Coefficient Sig. (2-tailed)	.671	.514	.417	.552	.544	.692
	P11	Correlation	-.036	-.071	.179	-.018	.161	-.061
		Coefficient Sig. (2-tailed)	.769	.560	.142	.886	.185	.616
	P12	Correlation	-.037	-.114	.136	.188	.151	.012
		Coefficient Sig. (2-tailed)	.760	.352	.267	.123	.217	.921
	P13	Correlation	-.105	.032	.161	.106	.162	.076
		Coefficient Sig. (2-tailed)	.389	.795	.187	.388	.183	.534
	P14	Correlation	-.120	-.201	.001	.008	.218	-.041
		Coefficient Sig. (2-tailed)	.326	.098	.994	.945	.072	.737
	P15	Correlation	-.049	-.110	.180	.136	.119	-.075
		Coefficient Sig. (2-tailed)	.690	.367	.139	.266	.332	.540
	P16	Correlation	-.210	-.112	-.002	.015	.124	-.027
		Coefficient Sig. (2-tailed)	.083	.360	.987	.899	.311	.828

*N = 70 for all entries

Appendix C

Describing an ideal personality that promotes Knowledge-sharing in a cross cultural environment

Dear participants

Thank you very much for taking part in this research activity, the information provided by you will be used for writing a working paper on developing an archetype to promote knowledge-sharing in a cross-cultural environment. The questionnaire is designed to take minimum time. The results of the study will be presented in an open seminar. The information provided by you will be strictly confidential and protected.

Part –1- Demographic Information

1	Please state Degree Programme enrolled in.		11	What is your Nationality?	
2	How much Internet do you use - hours/day?		12	What is the Nationality of your father (at birth)?	
3	No of countries visited or lived in?		13	What is the Nationality of your mother (at birth)?	
4	Please state your age in years		14	Gender (Mark with X)	M F
5	If this is your second degree - or equivalent - in which country did you take your first degree?		15	In what country were you born?	
6	How long have you been at WBS? In months.		16	What Language is used in your home?	
7	What Language was used at your secondary school?		17	In which country did you complete your secondary education?	
8	How many years have you been in England? [Please indicate with an X]	*2 or less* *2-5* *5+*	18	If you don't know something [Please indicate with an X]	*You prefer to ask people* *look in a book* *use the internet*
9.	If English is not your native tongue, where did you learn it? [Please indicate with an X]	*School* *University* *College of English Tuition*	19	You choose the people to ask when you have a query because	*They are my superiors at work or school eg tutor/ lecturer* *I think that they are experts in this* *I ask people from my own country first*
10	If English is not your native tongue, is it your? [Please indicate with an X]	*Second language* *Third language* *Fourth Language*	20	Please state your IELTS [or equivalent] qualification if non-native English speaker	

Part –2- Magnitude of the Issue - Mark the appropriate box with a "X", on a "1" to "5" scale, where "1" indicates lowest agreement and "5" as strong agreement on the issue.

Based on your recent experience at WBS, would you agree with the following statements?

		Disagree			Agree	
		1	**2**	**3**	**4**	**5**
1.	Do you prefer asking for information from somebody who is apparently from your nationality?					
2.	Have you felt that you wanted to convey a message to someone from another nationality, but that your message has not been fully understood?					
3.	Does mis-understanding happen often when talking to people with a different ethnicity?					
4.	Do you take special care in selecting your words and sentence construction, when talking with somebody from another nationality?					
5.	In your opinion is mis-understanding related to the language that people speak?					
6.	In your opinion is mis-understanding related to the ethnicity of the people concerned?					
7.	Do you think that there is a need of focused efforts by WBS towards increasing cross cultural understanding for the promoting a knowledge- sharing?					
8.	Do you prefer to ask for information from someone who speaks your national/'home' language?					

Part –3- Developing an Archetype for knowledge-sharing –

Based on your experience, do you think that an individual with the following mind-set would be a good role model for promoting "Knowledge- Sharing" in a multi-culture environment?

		Disagree			Agree	
		1	**2**	**3**	**4**	**5**
1.	He/she has an updated knowledge of latest technological tools (eg language translation, visual dictionaries etc.)					
2.	Participates actively in seminars, competitions, publication of papers/journals					
3.	The individual likes to know about the norms of other cultures					
4.	He/she likes to learn the language used in other regions/ countries					
5.	The individual does a lot of reading, with a diversity of interest areas					
6.	The individual does not have a big ego					
7.	The individual forgives others easily (if no harm done)					
8.	The individual listens to other's argument carefully and then asks questions for clarification of the idea					
9.	The individual does not considers his/her culture to be the only correct way of living					
10.	The individual does not express any demeaning ideas towards other's cultural norms					
11.	He/ She treats all individuals similarly at personal level (no discrimination on skin colour, gender, religion, political views, etc.)					
12.	The individual views him/her self as always willing to learn new concepts (open to new ideas)					
13.	The individual motivates all to work towards achieving higher goals (humanity focused)					
14.	The individual promotes cultural harmony between different regions/ countries					
15.	The individual does not believe that only he/she has the correct view on a the topic under discussion					
16.	The individual can work with others effectively, even when a difference of opinion may exist between them.					