The Effect of National Culture on Knowledge Sharing: Empirical Study on University Students in UK

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Abstract

This paper explores the effect of national culture on knowledge sharing attitude among an international sample of students in UK universities. Following Hofstede's cultural instrument, hypothesis was examined to detect if students from different culture groups will have different knowledge sharing attitude. Moreover, different motivators and barriers to knowledge sharing were examined to see if participants from different cultural backgrounds would perceive different types of motivators and barriers.

Data were collected from 103 students using online questionnaire. After confirming the validity and reliability of the measures, descriptive analysis showed that the majority of the sample has a high knowledge sharing attitude, moreover, T-test showed no significant differences in knowledge sharing attitudes between participants from different cultural backgrounds. However, there was a significant difference on some motivators and barriers, detected between students from different cultures

This paper tried to explore the role of culture in knowledge sharing among a sample of international students. The study not only adds to the few number of research that explored the role of culture on knowledge sharing, but it also adds to the literature of KS within students' context, thus flagging some important findings that could be of interest to higher education institutes in UK and other multicultural universities worldwide.

Keywords: *Knowledge sharing, Culture, Hofstede, International sample, Postgraduate and undergraduate students, UK universities, Motivators, Barriers.*

Introduction

In this era of information, knowledge is the most important organizational resource. Although some people believe that knowledge is the power, it seems that knowledge has no power per se, and what gives power to the people, is that part of their knowledge that they share with others.

Knowledge sharing (KS) has become a vital activity, as it involves exchange of information to help others in related jobs. Knowledge-sharing activities provide opportunities to exchange ideas and take part in cooperative activities, so that the effectiveness of members' performance in contributing to the success of their organization will be maximized (Dokhtesmati and Bousari, 2013; Mansor et al., 2015).

Nevertheless, much of the knowledge management literature tends to assume a rather universalist understanding of knowledge sharing. Yet, attitudes to knowledge sharing as well as actual knowledge-sharing behavior depend on conditions that vary across institutional and cultural environments (Michailova and Hutchings, 2006). For example, today there is a growing demand for sharing quality resources and expertise in academic institutions. However, individual members of academic institutions place a higher priority on individual scholarly achievement than on sharing common visions toward organizational goals. As a result, there could be a relatively weak willingness to share knowledge for achieving common goals in academia compared to in profit-oriented organizations. Due to these unique characteristics of exclusiveness and individualism, studying KS in academic organizations is very important (Dokhtesmati and Bousari, 2013). Nevertheless, whilst there is a strong body of research into knowledge sharing in commercial environments, and in public sector organizations (e.g. Brown and Brudney, 2003; Sandhu et al., 2011), research into knowledge management in universities is very limited (Fullwood et al., 2013) .

Equally, it has been largely argued that the degree of knowledge sharing depends on culture (Ford & Chan, 2003). For instance, mutual trust, motivation, and the willingness to solve problems are actually culturally determined conditions that affect whether knowledge sharing will come about (Hendriks, 2004). However, despite its importance, examining the effect of culture on knowledge sharing has been limited (Chang et al., 2015, sandhu and Ching, 2014).

The above discussion flags to the importance of the institutional context especially the academic context and its associated challenges in sharing knowledge as well as to the importance of culture and its impact on KS, thus raising the overarching question of this research "To what extent academic students who are from different cultural background would share knowledge? " To answer this question, attitudes of knowledge sharing was assessed among an international university-students sample.

Attitude is described as "the degree to which a person has a favorable or unfavorable evaluation of the behavior in question" (Ajin, 1991, p.188). In the context of knowledge sharing, attitude is looked upon as the evaluation measure of behavioral belief within the context of KS as being either favorable or harmful. Moreover, this study intends also to explore the barriers and motivators of knowledge sharing attitude.

To reach the above objectives, the paper opted for an empirical study using the approach of online survey to university students holding different nationalities, at higher education institutions in the UK. The conclusion present higher education instituitions with implications on how to achieve a better knowledge-sharing framework that fully utilizes students' knowledge potential.

Literature Review and Hypothesis Development

Knowledge sharing is defined as the process of exchanging knowledge like skills, experience, and understanding among researchers, policymakers, and service providers, (Tsui, 2006). Knowledge sharing is becoming increasingly important to ensure that practice and policy are based on sound evidence, not a fake. It was supported by Connelly and Kelloway (2003), that knowledge sharing is a set of behaviors that involve the exchange of information or assistance to other.

Within the academic discipline, Oosterlinck (2004) found that knowledge sharing assists students to receive additional feedback and improves their further research initiatives. Thus, enabling undergraduate and postgraduate students to enhance their credibility to change the traditional culture of an organization, which will eventually, assist them in obtaining a suitable job upon graduation. In contrast, knowledge hoarding is the deliberate withholding of knowledge that would benefit others.

Wiewiora et al., (2013) revealed that cultural values related to informality, teamwork, collaboration, employee involvement, and non-competitive environment promoted sharing of any kinds of knowledge,

whereas values related to competitiveness, achievement, and focus on winning, led to knowledge hoarding. Thus, cultures can shape the norms defining social interaction, and consequently, degree of social interaction influences the degree of knowledge sharing within groups of individuals (Jing, 2010). However, despite culture importance, research shows there is a lack of empirical research on knowledge sharing in multiple national-culture contexts (Sherry et al., 2010).

Several theorists have described the cultural values characterizing national cultures, with Hofstede's (1984) cultural dimensions and Trompenaars and Hampden-Turner's (1997) cultural dimensions, offering significant insights into understanding national cultures. There are various definitions of culture. Hofstede (1984a, p. 51) defines culture as "the collective programming of the human mind that distinguishes the members of one human group from those of another. Culture in this sense is a system of collectively held values". According to Ali et al., (2005) Cultural values (CV) are "embedded in the collective memory of people of a particular society".

One of the most extensively used frameworks developed to examine cultural values is Hofstede's model of cultural dimensions (Hofstede, 1997). The four dimensions identified were power distance (PD), individualism (I) versus collectivism (C), uncertainty avoidance (UA), and masculinity (M) versus femininity (F). The fifth dimension: long-term (LT) versus short-term orientation (ST) was added later based on another survey conducted by Chinese scholars in 23 countries (Hofstede and Bond, 1988; Hofstede, 2001).

Although Hofstede's cultural framework has received criticism, (e.g by Bakir et al., 2000; McSweeney, 2002), nevertheless, Hofstede's CVs framework has been used extensively by other authors to develop various cultural values dimensions (Trompenaars, 1994; Triandis, 1995) and has been used by many to measure culture (e.g. Sandhu and Ching, 2014; Wolfe and Loraas's, 2008). Thus, the current study will employ the Hofstede instrument to measure culture, using the main four basic dimensions namely: Power distance, Indivisualism/Collectivism, Uncertainty Avoidance, and Masculinity/femininity.

Hofstede Dimensions and KS

Power Distance

The power-distance dimension of national culture indicates the degree to which the less powerful members of society accept unequal power distribution (Hofstede, 1984).

According to Jing (2010), people from differing power-distance cultures react differently to authority, with the individuals from high power-distance cultures likely to accept unequal authority. Knowledge sharing is likely to be more open in low power-distance cultures due to the perception of equality across different levels of hierarchy in the organization. According to Herremans and Isaac (2007), low power distance is more conducive to a creative knowledge sharing atmosphere because this type of atmosphere facilitates the informal knowledge sharing essential for sharing tacit knowledge. In contrast, individuals in high power-distance cultures accept unequal distribution of higher authority and are hesitant to share knowledge across hierarchy levels due to their perception of an unequal power distribution (Jing, 2010). Moreover, Heier and Borgman (2002) by analyzing a knowledge-management project at Deutsche Bank, they discovered a negative correlation between the power distance index and willingness for knowledge searching.

Collectivism / Individualism

Collectivism "is characterized by a tight social framework in which people distinguish between in-groups and out-groups; they expect their in-groups (relatives, clan, organizations) to look after them, and in exchange for that they feel they owe absolute loyalty to it" (Hofstede, 1980: 45). Members in collectivistic society emphasize more on maintaining their relationship with others (Markus and Kitayama, 1991) and

tend to avoid offending people's feelings (Gudykunst et al., 1996). Ardichvili et al. (2006) found that members are more willing to share knowledge if they are part of the in-group and not willing to share knowledge with members not within the group.

On the other hand, Individualism "implies a loosely knit social framework in which people are supposed to take care of themselves and their immediate families only" (Hofstede, 1984b, p. 83). People in individualistic societies may belong to many in-groups, but their relationships with other group members tend to be loose as compared to collectivists (Triandis, 1995). In an individualistic society, people pay more attention to personal goals and pleasure and less to group goals, and they tend to maintain independence from other members (Ali et al., 2005; Markus and Kitayama, 1991). Assertiveness, independence, personal self-gratitude, self-reliance, and self-control are some of the personal values that can be seen in individualistic society (Ali et al., 2005). Members in individualistic cultures tend to focus more on their "uniqueness" than on their connectedness with others (Markus and Kitayama, 1991).

Uncertainty Avoidance

The uncertainty-avoidance dimension reflects the degree to which members of society feel uncomfortable with uncertainty (Hofstede, 1984). Hofstede claimed that cultures with high uncertainly avoidance are characterized by the presence of strict rules and regulations to avoid uncertainty or ambiguity. Members of cultures with high uncertainty avoidance participate in high levels of information sharing and seeking other trusted sources to avoid uncertainty (Schumann et al., 2010). Individuals from cultures with higher levels of uncertainty avoidance are more likely to be inclined to share and transfer tacit knowledge than are individuals from cultures with lower levels of uncertainty avoidance (Qin et al., 2011).

Masculinity / Feminism

Masculinity denotes "the extent to which the dominant values in society are 'masculine' that is, assertiveness, the acquisition of money and things, and not caring for others, the quality of life, or people" (Hofstede, 1980, p. 46).The masculinity dimension represents a preference in society for achievement and other forms of material reward (Hofstede, 1984). Hofstede contrasted it with the femininity dimension, in which the preference is for cooperation and quality of life. Thus, members in a masculine society are more competitive and may be less willing to share knowledge since they may view this as a competitive advantage (Sandu and Ching,2014).

Influence of National Culture on Knowledge Sharing

Our review of the literature on the impact of culture values on KS narrows our discussion to two important studies. The first one was a case study of a Japanese manufacturing subsidiary in the US (Ford and Chan, 2003). The purpose of this research was to explore the extent to which KS is dependent on national and organizational culture. Interestingly, results showed that organizational culture had greater impact than national culture on KS behavior.

The second study of Wolfe and Loraas's (2008) conducted two lab experiments on MBA students. They examined factors promoting KS in a professional service firm. It adopted Triandis's CV typology that subdivided the Individualism-Collectivism constructs into Vertical-Individualism(V-I), Horizontal-Individualism (H-I), Vertical-Collectivism (V-C), and Horizontal-Collectivism (H-C). Results showed that V-C and H-C were found to have positive effects on KS intentions. Conversely, V-I and H-I both had negative effects on KS intentions.

A more recent study by Sandu and Ching, (2014) has corroborates the findings from those past research, and found that collectivist values have positive influence on KS behavior. Irrespective of whether

it is vertical collectivist culture or horizontal collectivist culture, employees in a collectivist culture tend to work to achieve overall group goals and in the process are committed and loyal to its members. Thus, they would show positive KS behavior.

With regards to the influence of individualistic cultural values on KS behavior, the findings from Sandu and Ching, (2014) research tend to differ slightly from past research. Only V-I was found to have negative effects on KS behavior. This was supported by Wolfe and Loraas's research (2008). Employees that show V-I values believe in inequality among its members and work to achieve personal goals rather than group goals and therefore would influence KS behavior negatively. In contrast, H-I was found to have positive effects on KS behavior, although the results were not significant. They explained it by arguing that, although employees in a horizontal individualistic culture tended to emphasize independent and self-reliant characteristics, they may still work towards achieving group goals since there is equality among its members.This result did not support findings by Wolfe and Loraas (2008) who found negative effects on KS intentions. In the same study, masculinity was found to have positive effect on KS (not significant), and this did not corroborate past findings that found a negative relationship (Ford and Chan, 2003). It was suggested that employees who show masculine values are more willing to share knowledge to show their dominant characteristic among its members.

There was also other evidences that cultures that are high in masculinity, power distance, and uncertainty avoidance can have more problems in knowledge sharing compared to cultures that are low in masculinity, power distance, and uncertainty avoidance. For example, in Kirvak et al, (2014) it was suggested that high power distance cultures like Japan, information flows are usually constrained by hierarchy that can create barriers for knowledge sharing. Also, American and British participants, whose countries have a low uncertainty avoidance index (Hofstede et al., 2010), have a tolerance to new ideas that facilitates knowledge sharing, in contrast to high uncertainty avoidance cultures like Japan and Arab countries, who tend to avoid risk taking and resist to change.

Kirvak et al., (2014) results were alsosupportive to Muller et al., (2005) findings that showed the average per capita knowledge sharing has a high standard deviation and therefore varies greatly between countries.

From the discussion above, it is could be obvious how different cultural dimensions could affect KS differently. Thus, building on this literature, it could be hypothesized that H1: International students from different cultural dimensions will have different KS attitude.

Drivers/Inhibitors to Share Knowledge

Many have studied different factors that could work as drivers or inhibitors to share knowledge within a variety of institutions and settings (e.g. Kirvak et al., 2014; Sohail and Daud, 2009; Al-Busaid, et al., 2010; Vajjhala, 2013). Most of those studies were either exploratory or qualitative in nature. Also, most of the factors concluded as drivers or inhibitors to share knowledge were almost the same, especially among participants from different cultural backgrounds. Among those well-establisehd factors are: method of communication or language, relationship and/or trust between parties who share knowledge, reciprocity or expected reward/return, and competion. Each of these drivers will be discussed next.

Language and Communication

Many participants in Kirvak, (2014) study, have identified communication and language as the major problem in knowledge sharing among different cultures. This finding correlates well with previous studies regarding the impact of culture on knowledge sharing (Ford and Chan, 2003). Based on Kirvak (2014) resuts,

communication styles have a significant impact on knowledge sharing. For instance, being from high-context cultures, the Japanese professionals tend to avoid direct interactions with foreigners and prefer indirect communication as compared to others from different cultures.

Trust and Relationships

Trust is especially important in sharing tacit knowledge (Nonaka and Takeuchi, 1995).

Trust was highlighted as a key factor in facilitating knowledge sharing between people from different cultures (Kirvak et al., 2014). Result of Kirvak, et al., 2014, study, confirmed that, participants from high-context and collectivist cultures such as Japan, India, and the Philippines focused more on the importance of trust in knowledge sharing than participants from low-context and individualistic cultures such as the US, UK, and Germany. This finding might be expected since people from high-context and collectivist cultures place more importance on trust in business relationships than people who belong to low-context and individualistic cultures (Scarborough, 1998).

Moreover, Weiwiora et al., (2014), study showed that culture appears to influence the perception of trust, which in turn has an effect on the choice of the knowledge sharing mechanism used to share knowledge. Project managers operating in cultures consistent with clan-type characteristics that facilitate frequent interaction, informality, and collaboration are more likely to report trusting relationships embedded in knowledge sharing practices, and hence value organic, over non-organic, sources of knowledge sharing mechanisms, including face to face informal communication with colleagues and other collaborative mechanisms.

Although trust can be considered as part of personal relationships, the participants in Krvak et al., (2014) made a slight distinction between these two terms. Based on the interviews, personal relationships were described as how they know each other, and how they understand, respect and accept the cultural differences. During the interviews, only the participants from high-context and collectivist cultures focused on the role of personal relationships in knowledge sharing. In these cultures, people have a tendency to develop personal relationships with their colleagues before doing any business activity with them. On the other hand, people from low-context and individualistic cultures place less importance on personal relationships when doing any business activity. The survey results of the same study also supported these qualitative findings, whereby Language was the most important factor for British and American managers while, personal relationships, trust and motivation were the important ones for the Japanese and Chinese managers.

Reciprocity

Studies (e.g. Silverthorne, 2005; Michailova and Hutchings, 2006) pointed out that motivation affects knowledge sharing, yet the drivers of motivation depends on the culture. Jiacheng et al (2010) investigated a cognitive model of knowledge-sharing motivations between the United States and China. The results showed that the effects of these motivations were significantly different in the two countries and thus flagged that culture can play an important role in what is seen as a reward/motivator or not (Comeau-Kirchner, 2000). Also, results in Kirvak,et al., (2014) showed that participants from individualistic cultures stated that promotions can facilitate knowledge sharing between people having different cultural orientations. On the other hand, participants from collectivist cultures focused more on group rewards to motivate people. This finding is also consistent with previous studies. For example, Scarborough (1998) stated that collectivist cultures prefer evaluation and reward of group performance more than individual performance. Results from Muller et al., (2005) have also shown that in countries with higher individualism, voluntary knowledge sharing is harder to achieve, while other auxiliary activities, like incentive systems are recommended; contrary to societies with a higher power distance, where KS can be encouraged if the reward of knowledge sharing is higher reputation and status.

Competition

More than half of the participants in Kirvak et al., (2014) study, believed that people hide knowledge, especially tacit, if there is strong competition between professionals within the organization. This can be linked to the cultural dimension of masculinity since in masculine cultures status and power are dominant values and people may consider to lose their power if they share their valuable knowledge. Ford and Chan (2003) also argued that cultures that are high in masculinity may have difficulty with knowledge sharing if there is competitiveness between individuals. However, although Japan has a high masculinity index (Hofstede et al., 2010), Japanese participants did not support this argument. The study attributed this to their system of lifetime employment, which offers a secure working environment in which people do not worry about losing their power or status when they share knowledge.

KS Drivers/Barriers among Academic Student's Settings

Knowledge-sharing culture is necessary for undergraduate and postgraduate students in their learning process (Ma and Yuen, 2011). The successful implementation of a knowledge-sharing culture in an academic institution can assist both undergraduate and postgraduate students to increase their credibility in problem-solving and analytical skills (Al-Hawamdeh, 2003; Hogberg and Edvinsson,1998).

Nevertheless, the success of knowledge sharing depends on the willingness and ability to share knowledge and the quality of communication and supporting environment (Lagerström and Andersson, 2003). In reply to that, a number of studies have examined KS among students setting. For example, Wei et al. (2012) and Yuen and Majid (2007) researched knowledge-sharing patterns among public and private university students within the Malaysian and Singaporean context.

These studies among others have confirmed the presence of certain drivers and barriers that are more or less similar to other factors in non-academic settings discussed above, for example, Droege and Hoobler (2003) highlighted that reciprocity together with trust promotes knowledge sharing. The lack of in-depth relationship between the source and recipient of knowledge (Cross and Baird, 2000), lack of motivation or rewards to share (Yuen and Majid, 2007), lack of time, and non-existence of knowledge sharing culture in the learning environment (Ikhsan and Rowland, 2004) are likely to impede knowledge sharing among students.

In Yuen and Majid, 2007 study, students have stated that they are motivated to share their knowledge for the following reasons: in order to helping others, as an exchange or feedback, for self-satisfaction, to obtain reward or recognition and to cultivate image of expertise. In contrast, they have stated many barriers such as lack of depth in relationship, afraid to be outperformed by others, don't want to be perceived as showing off, afraid of providing wrong information, shy, and lack of time and lack of appreciation of KS.

From the discussion stated above, it could be obvious the role some academic-based factors could play on the attitude of knowledge sharing, and since it is suggested in this research that these factors could have a culture-based explanation, thus it could be safely hypothesized that

H2: International Students from Different Cultural Dimension will Perceive KS Barriers and Motivators Differently.

Despite the number of studies dicussed in the literature review above, according to our review, almost no study has examined KS among students from different cultural or nationalities.

Importance of studying KS within international students discipline in UK specifically, stems from the importance of UK universities as a host for many international students and also from the economic impact of these academic institutions on the UK economy. According to Universities in UK reports, in 2016—17,

there were 2.32 million students studying at UK higher education institutions, among which the non UK students compromise almost 20% of the total students.

The economic impact of universities in UK is crucial to the UK economy where, universities across the UK generated £95 billion in gross output for the economy (in 2014–15). The UK university sector contributed £21.5 billion to GDP, representing 1.2% of the UK's GDP. The sector also supported more than 940,000 jobs in the UK.

As per the University research, and postgraduates sector, the 2014 Research Excellent Framework rated 76% of the research submitted as 'world leading' or 'internationally excellent'. UK academic research productivity is 3.6 times the world average. In 2014, the UK represented 4.1% of the world's researchers, and accounted for 15.2% of the world's most highly-cited articles.

From the above, it could be noted the importance of studying this research in UK univerisites, and the appropriateness of testing the research objectives within the selected sample.

Method

Participants and Procedure

In the research's earliest phase, the pilot study, a qualitative strategy was employed using unstructured interviews for the purpose of identifying the key concepts of salience to the research, the nature of the sampled population and for assessing situational factors related to data access. Thus this study beside its analytical cross-sectional survey design (Oppenheim, 1992), it was supported by exploratory interviews to aid questionnaire development and data contextualization.

In order to identify the KS attitude items, as well as the KS motivators and barriers factors, the study has first extracted a number of cultural and organizational (students-based) factors borrowed from the KS literature. The main aim was to have a comprehensive list of items. However, it was important to check the applicability of these factors in the context understudy, via testing them in the pilot study phase.

According to the pilot study ammendemnets , the motivators list was downsized from 8 items to 5 items (namely: Same language, same culture, same field of study, a person whom I have relationship with, for a reward). For the barriers list, it was downsized from 12 to 7 items (namely: Different language, different cultural background, Lack of time, no relationship, not to lose power of knowledge, there is no reward in exchange, do not know how to do it).Details on variables measurement is presented in the measures section.

The pilot study also flagged to the difficulty in accessining the sampling frame showing the population number for the postgraudtes in UK universities. Moreover, due to the international context of the sample, the pilot study has confirmed the importance of applying a combined sampling strategy. First, data were collected using an online survey where its URL was distributed to university students through approaching them via their university emails and intranet blogs whenever researcher got access to. However, due to low responses which is normally reported when international sample is concerned (similar to other studies in the international field as Feldman and Bolino, 1999; Black, 1992), coupled with the mail surveys weak response, this approach was then supplemented by snowball sampling through which personal contacts with expatriate community-based groups in UK worked as liaisons. Students reached were also encouraged to circulate the link of the survey to other colleagues from different nationalities both within and outside their universities. Data collection has taken approximately 10 months (September 2017- July 2018). Notably, data were collected first from postgraduate students, as our main source for international community, yet to increase the size of the sample, undergraduate students were included.

Exactly 105 hits were recorded, of whom 103 completed the questionnaires (98 per cent response rate). Male students accounted for almost 52 per cent (n =54) of the total respondents, whereas the female sample totaled 49 students. Most students (55%) are below 30 years old, and are on postgraduates (56%) courses, mainly on a part-time mode (66%). Most of the respondents (80%) were studying in university of Huddersfield, while the rest (20%) came from different universities (e.g. university of Bath, Oxford, Cardiff, and Goldsmiths). Around third of the students are British, equally, another third are Egyptian students, while different nationalities, namely; Swiss, Chinese, Italian, Saudi Arabian, Indian, Malaysian and Lithuanian compromised the last third of the sample. Students' duration of studying in university ranged between one month and 7 years, with most (33%) being in the university for less than one year. They also vary between new comers and residents of UK, where 20% of the respondents have been in UK for less than one year, while 36% of the respondents were residents.

Measures

KS Attitude

This measure used 5 items. Three items (statements 1, 2, 4) were extracted from Yuen and Majid, (2007); and 2 items (3 and 5) were extracted from Kivrak et al, (2014). Examples of these statements are: "KS with students from other cultures is for the benefit of all"; "I feel that sharing is caring". Respondents were asked to rate their level of agreement regarding each statement on a scale from "1" (strongly disagree) to "5" (strongly agree). Last two items were negatively worded and had their scores reversed.

Culture

This variable was measured by asking the respondents to enter his/her nationality. Reported nationalities where then classified into its corresponding four culture dimensions using Hofstede index (120 scale-with 60 as average point). Accordingly, those nationalities scoring less than or equal to 60 is recorded to be low on the culture dimension, while those above 60 are reported to have a high score.

Barriers and Motivators

Five motivators and seven barriers were included to measure degree of importance of each motivator and barrier in facilitating or hindering KS. These motivators and barriers were extracted from Yuen and Majid, (2007), and Kirvak et al., (2014). Respondents were asked to denote the degree of importance of each item on a likert scale from 1 (not important at all) to 5 (extremely important).

Demographic Variables

Nine demographic variables were included: gender, age, level of study, mode of study, university, faculty, and field of study, time in the university and time being in UK.

Results

Data Testing

Research data was analyised using the statistical package of SPSS – version 25. As a preliminary step of analysis, data was first tested for its reliability and validity. Reliability is the degree of consistency between items of one construct. The Cronbach's alpha was computed to test reliability, while Validity is the degree of measuring the items of a certain construct in the right way (Sekaran & Bougie, 2016); Kaiser-Meyer-Olkin (KMO), Bartlett's Test, Average Variance Extracted (AVE), Factor Loading (FL) were computed using principal component method to test validity.

Table 1 shows the results obtained, implying that data under study are reliable and valid to measure Knowledge Sharing Attitude. Cronbach alpha = 0.721, showed an acceptable reliability coefficient (Hair et al., 2014). Also, AVE (>50%), and FL (>0.4) were accepted for all items (Sekaran & Bougie, 2016), except for two items (KS4 and KS5) which had to be deleted due to low factor loading.

Table 1 Reliability and Validity Tests for Knowledge Sharing Attitude

Variables	KMO	Bartlett Test	AVE	Cronbach's Alpha	Items	Item Loading
Knowledge Sharing Attitude	0.662	0.000	60.573%	0.721	KS1	.613
					KS2	.630
					KS3	.574
					KS4	.013
					KS5	.111

Table 2 shows the results of descriptive analysis for the sample under study, where it could be observed that students have a positive knowledge sharing attitude, with an average responses Mean = 4.1650.

As for the descriptive analysis of the motivators and barriers variables, Table 3 shows that respondents have perceived motives with a mean between 2.4 to 2.8, with most within the 2.8 range, leaning towards the average score. However, by looking closely at the frequencies, the highest motivators reported within the categories of " important" and "extremely important" were M3 (same field of study) and M4 (having relationship) (N=33); while the least important motivators

Table 2 Descriptive statistics for knowledge sharing attitude

Variable	Mean	Std. Deviation	Frequency					Total
			1	2	3	4	5	
KS	4.1650	0.68738	0	2	11	58	32	103

were M1(same language) (N=59). This results corroborates with other studies implemented within the students settings (e.g. Yuen and Majid,2007) donating that students would be encouraged to share their knowledge with those who share them the same field of study and those who they have relationship with. This may be due to the fact that those within the same field are expected to share their knowledge anyway within their learning process or may be that they would see more relevance in and/or a as exchange for a probable benefit.

Table 4 shows the results of descriptive analysis for the barriers, where the results show a relatively larger number of respondents have reported high means to most of the barriers. This means that, students have some perceived barriers against knowledge sharing. The highest reported barrier is B2 (different cultural background) (N=54), while the lowest barrier was B4 (no relationship) (N=59).

As expected, this result confirm the argument of this study which see that culture is important in KS, and to other studies that show that culture could be a barrier for participants from different backgrounds (e.g.Kirvak, et al., 2014). Also the results came to support many studies' results (e.g Scarborough 1998; Weiwiora et al, 2014) that see that relationship is an essential factor to KS. As shown in the results, its presence could work as motivator and its absence could be a barrier.

Table 3 Descriptive Statistics for Perceived Motives

Motives	Mean	Std. Deviation	Frequency					Missing
			1	2	3	4	5	
M1	2.4455	0.95368	15	44	24	18	0	2
M2	2.7525	1.42412	24	27	18	14	18	2
M3	2.6907	1.39464	20	38	6	18	15	6
M4	2.8485	1.35800	15	36	15	15	18	4
M5	2.8485	1.33526	21	18	30	15	15	4

Table 4 Descriptive Statistics for Perceived Barriers

Barriers	Mean	Std. Deviation	Frequency					Missing
			1	2	3	4	5	
B1	2.8788	1.15416	9	36	21	24	9	4
B2	3.2121	1.50015	21	15	9	30	24	4
B3	2.8252	1.26357	17	27	30	15	14	0
B4	2.6634	1.23513	14	45	15	15	12	2
B5	3.5152	1.13716	3	18	27	27	14	4
B6	3.0909	1.38572	18	18	18	27	18	4
B7	2.6875	1.38650	21	30	21	6	18	7

Table 5 shows the results of descriptive analysis for the sample under study, where it could be observed that according to the PD dimension, more respondents (62) have a high power distant culture, yet, for the individualism set, more students came from a low individualism culture, while on the masculinity and UCA groups, more numbers with high Masculinity and high uncertainty avoidance were recorded in each set.

Table 5 Descriptive Statistics for Cultural Differences

Culture Dimensions	Low	High	Total
Power Distance	41	62	103
Individualism	56	47	103
Masculine	47	56	103
Uncertainty Avoidance	50	53	103

Comparing Means of Knowledge Sharing Attitude According to Different Culture Dimensions (H1)

Table 6 shows the difference in knowledge sharing attitude according to different culture dimensions. T-test was used to detect if there is a significance difference between KS attitude between different culture dimensions. The results showed there is no significant difference in knowledge sharing attitude with all different culture dimensions, as all the corresponding P-values are greater than 0.05. This reveals that students have a favourable belief towards sharing knowledge, regardless the difference in their culture background.

Table 6: T-test for Knowledge Sharing Attitude According to Cultural Differences

Variable	Groups	Power Distance Mean	P-value	Individualism Mean	P-value	Masculine Mean	P-value	Uncertainty Avoidance Mean	P-value
KS	Low	4.2439	0.346	4.1071	0.353	4.2979	0.072	4.1000	0.353
	High	4.1129		4.2340		4.0536		4.2264	

Comparing Means of Perceived Motives according to Different Culture Dimensions (H2)

Table 7 shows the difference in perceived motives according to different culture dimensions. It could be noticed that there is a significant difference in M2 (same culture) and M3 (Same field of study) with different power distance sets. It could be observed that mean perceived M2 is higher in high power distance (M= 3.0806) than that of low power distance group (M= 2.2308). On the other hand, mean perceived M3 is higher in low power distance (Mean = 3.0976) than that of high power distance (Mean = 2.3929).

Regarding Individualism, it could be noticed that there is a significant difference in M2 and M3 with different Individualism. It could be observed that mean perceived M2 is higher in low individualism (Mean = 3.3036) than that of high individualism (Mean = 2.0667). On the other hand, mean perceived M3 is higher in high individualism (Mean = 3.2128) than that of low individualism (Mean = 2.2000).

Considering Masculinity, there is a significant difference in perceived mo-

Table 7 T-test for Perceived Motives According to Cultural Differences

Motives	Groups	Power Distance Mean	P-value	Individualism Mean	P-value	Masculine Mean	P-value	Uncertainty Avoidance Mean	P-value
M1 Same.Lang.	Low	2.5385	0.440	2.2143	0.005	2.2553	0.061	2.5625	0.242
	High	2.3871		2.7333		2.6111		2.3396	
M2 Same.Cult.	Low	2.2308	0.003	3.3036	0.000	3.6170	0.000	2.4375	0.033
	High	3.0806		2.0667		2.0000		3.0377	
M3 Same.Field	Low	3.0976	0.013	2.2000	0.000	2.2128	0.000	3.0909	0.009
	High	2.3929		3.2128		3.1400		2.3585	
M4 For Relationship	Low	2.7692	0.642	2.6667	0.145	2.3333	0.000	2.8750	0.051
	High	2.9000		3.0667		3.2778		2.8235	
M5 For reward	Low	2.6154	0.162	3.0000	0.217	3.1333	0.052	2.5000	0.676
	High	3.0000		2.6667		2.6111		3.1765	

tives of M2, M3 and M4 (having relationship) according to different masculine groups. It could be observed that mean perceived M2 is higher in low masculinity (Mean = 3.6170) than that of high masculinity (Mean = 2.0000). On the other hand, the mean perceived M3 and M4 is higher with high masculinity than that with low masculinity.

Finally, when considering uncertainty avoidance, it could be noticed that there is a significant difference in M2 and M3 with different uncertainty avoidance. It was found that the mean M2 is higher in high uncertainty avoidance than that in low uncertainty avoidance. On the contrast, the mean M3 of high uncertainty avoidance is lower than that of low uncertainty avoidance.

Comparing Means of Perceived Barriers According to Different Culture Dimensions

Table 8 shows the difference in perceived barriers according to different culture dimensions. It could be noticed that there is a significant difference in B2, B4, B5, and B6 with different power distance sets. It could be observed that mean perceived barriers are higher in high power distance than low power distance groups. For example, mean B2 in high power distance is 3.800, while mean B2 in low power distance is 2.3077. Also, mean B4 in high power distance is 2,9355, while mean B4 win low power distance 2.2308. Similarly, B5, and B6 are higher in high power distance than low power distance sets.

Regarding individualism, it was found that there is a significant difference in B2, B3, and B6 with different Individualism sets. It could be observed that mean B2 is higher in low individualism (Mean = 4.000) than that in high Individualism group (Mean = 2.2667). Similarly, the mean perceived barriers for B6 are higher in low individualism rather tha in high individualism. On the other hand, it was noticed that mean B3 in high individualism (Mean = 3.2979) is higher than that in low individualism (Mean = 2.4286).

Regarding masculinity, it was found that there is a significant difference in B1, B2, B3, B6 and B7 with different masculinity sets. It could be observed that mean B1 is higher in low Masculine (Mean = 3.200) than that in high Masculine groups (Mean = 2.6111). Similarly, the mean perceived barriers for B6 and B7 are higher in low Masculine rather than with high Masculine groups. On the other hand, it was noticed that mean B3 in high Masculine (Mean = 3.1964) is higher than that in low masculine (Mean = 2.3830).

Finally, considering uncertainty avoidance, it was found that there is a significant difference in B2, B4, B5, B6, and B7 with different uncertainty avoidance dimnsions. It could be observed that mean B2 is higher in high uncertainty avoidance (Mean = 3.9412) than that in low uncertainty avoidance (Mean = 2.4375). Similarly, the mean perceived barriers for B4, B5, B6, and B7 are higher in high uncertainty avoidance rather than in low uncertainty avoidance set.

Table 8 T-test for Perceived Barriers According to Cultural Differences

Barrier	Group	Power Distance		Individualism		Masculine		Uncertainty Avoidance	
		Mean	P-value	Mean	P-value	Mean	P-value	Mean	P-value
B1 Diff lang.	Low	2.6154	0.067	2.9444	0.53797	3.2000	0.01075	2.6875	0.11003
	High	3.0500		2.8000		2.6111		3.0588	
B2 Diff Cult.	Low	2.3077	0.000	4.0000	0.00000	4.2667	0.00000	2.4375	0.00000
	High	3.8000		2.2667		2.3333		3.9412	
B3 No time	Low	3.0488	0.145	2.4286	0.00037	2.3830	0.00090	2.8600	0.78778
	High	2.6774		3.2979		3.1964		2.7925	
B4 No relationship	Low	2.2308	0.00470	2.8214	0.15233	2.5957	0.61020	2.3750	0.02480
	High	2.9355		2.4667		2.7222		2.9245	
B5 Will lose power	Low	3.0769	0.00165	3.6667	0.14735	3.4667	0.70065	3.2500	0.02362
	High	3.8000		3.3333		3.5556		3.7647	
B6 No reward	Low	2.6154	0.00532	3.6667	0.00000	3.4667	0.01302	2.7500	0.00000
	High	3.4000		2.4000		2.7778		3.4118	
B7 Don't know how to	Low	2.4615	0.18802	2.9412	0.05589	3.2143	0.00079	2.3125	0.00000
	High	2.8421		2.4000		2.2778		3.0625	

Discussion

This study aimed to detect if culture could affect KS attitude. To reach this aim, two hypotheses were extracted, first hypothesis examins whether students from different cultural backgrounds would have different sharing knowledge attitudes and the second tests if student in opposite cultural sets would have different motivators and barriers for knowledge sharing.

The result of the first hypothesis has confirmed that there is no significant difference in KS attitude between different culture sets. The result has shown that students from different cultural backgrounds all share almost the same attitude which is a positive attitude towards KS, with an average mean between 4 and 4.2. This result, despite being different from the main stream of research in this area, yet there are few studies that support this findings. For example, in Genderen study, (2014) it was found that two countries who are totally different on PD and UAI as USA and Russia still have same result.

One of the possible explanations to the current result could be due to the institutional structure which could have positive effect on KS. Institutional structures are typically referred to as an organization's culture or climate and it is known as the values, norms and accepted practices which are instrumental in shaping individuals' belief structures (Delong and Fahey 2000).

Although this study focused on analyzing student's values and beliefs that are shaped by their own national cultural, yet, the institutional structure of UK universities, could have also played an important role in shaping those students norms. UK university culture could have promoted KS among students; especially since KS is an important principle for UK higher education system in general (Universities UK, strategic plan 2018-2023). This result is supported by Soahil and Daoud, 2009 and also by Connelly, and Kelloway, 2003, findings that showed that perception of positive social interaction culture and management support for KS can predict a positive KS attitude. Also, Ford and Chan, (2003) results showed that organizational culture had greater impact than national culture on KS behavior.

Moreover, this explanation seems to be more logic when we realize that most of the sample (80%) was students within the same university (Huddersfield University). Another note is that more than third of the sample (36%) were UK residence (most were British and the rest despite their different original nationalities were residence in the UK). This remarks that students may have already got used not only to the university culture but also the to the host country culture-UK. Staying in the host country for long time could mask the home country's effect on individual's norms and behavior as suggested by many expatriates' studies which denoted the effect of time in host country on adjustment (Torbiorn, 1982).

Combining the above facts together flags that, almost third of the students are very similar in terms of culture (most students were either from British origin or UK residence), organization structure (within the same university) and having close age ranges. These similarities could have facilitated having a positive knowledge sharing attitude.

Moreover, by looking at the sample again, we can detect that most of the responses were postgraduate studetns (56%) and on a part time mode (66%). It could be easier for those types of students to have a positive attitude to share their knowledge especially that competition between those postgraduates could be low because each has his/her own individual course/path.

Another important explanation lies in the mechanism upon which KS factor is being measured. Although it is argued that attitude towards knowledge sharing is vital for knowledge sharing intention, yet it is still different from actual KS behavior (Goh and Sandhu, 2013). Measuring KS through examining participants' actual behavior rather than attitude could have reached a different result.

This explanation is thought to be largely accepted because if we look closely at the second hypothesis results we will find out evidence of influence of cultural factors detected by barriers and motivators for KS.

To sum up, the findings of the first hypothesis suggests that there could be some evidences that may have contributed to mask national cultural effect, especially when it is detected superficially in an

attitude not by actual behavior lens. And thus it is suggested that the effect could be clearer when it is tested sophisticatedly in the second hypothesis.

In the second hypothesis, a number of motivators and barriers seemed to be playing an important role in discriminating between students' KS attitude.

Firstly, as per the motivator list, results showed that high PD needed to share the "same culture" to be motivated to share their knowledge as compared to the low PD counterparts who favored sharing the "same field" of their colleagues as a motivator to share knowledge.

Norms and values related to the high and low power distant culture can help explain this result. For example, Hofstede (2001) argued that students in high PD are highly dependent on their teachers, while in low PD all are interdependent; also the quality of learning in high PD societies depends on excellence of teachers only, while in low PD quality of learning dependence on excellence of students. Thus the interdependent low PD students would be more encouraged to share the "same field of study" with their colleagues to get the most benefit they need for success through their colleagues, yet, high PD students would not matter for them if they share the same field with their colleagues, as long as the learning benefit is mainly depended and teacher-centered. Also opposite to the low PD students, it could be that high PD cultures cannot see the "same field" as a motivator especially if they will be competing against each other. They would prefer not to share their knowledge within those in the same field fear of being outperformed by them, especially because they have been raised in education system that focuses only on top level performers (Hofstede, 2001).

Sharing knowledge with colleagues from the "same field of study" was found to be a a prefebable motivator also for those who are originally from an individualism based culture. Again based on hofsted's work (2010), this could be because in high individualism societies, education is mainly students centered, where students are expected to find their own intellectual paths, and the quality of learning is based on students work. Moreover, in an individualistic society, people pay more attention to personal goals and pleasure and less to group goals.

In UK as a high individualism society, and also among university level education that encourages student self-learning, students from individualism backgrounds could have prefered having ties with colleagues from the "same field of study" to share knowledge which is more relevant to their own studies.

Opposite to those from collectivist cultures who normally favor inner groups and affiliations that are well established, so sharing from colleagues within their own culture could be more satisfying and make sense to them even if this was on the expense of their own individual benefit if they share the knowledge within their own field of study. This explanation is supported by Scarborough (1998) who stated that collectivist cultures prefer reward of group performance more than individual performance.

The masculinity dimension of culture represents a preference in society for achievement and other forms of material reward (Hofstede, 1984). Having said this, thus, getting to share knowledge from colleagues within the "same field" would be more appealing for the masculine "culture" students than those from the feminine culture which on the contrary favor caring for others and quality of life that could be achieved from people of the same culture.

Members of cultures with high uncertainty avoidance participate in high levels of information sharing and seeking other trusted sources to avoid uncertainty (Schumann et al., 2010). Buidling on this, it seems that, trusted sources could be in the forms of close "personal relationships" with those who they trust or those who share the "same culture" with, rather than with those who happened to be within their field of study. If we add to this that there might be a possible sort of competition between members from the same field of study, then we can also assume that students form higher uncertainty avoidance backgrounds, would not favor to share knowledge within their "same field of study" group fearing to be outperformed, than those from lower uncertainty avoidance cultures.

Secondly, as per the barriers list, the result came to support some of the results on the motivators section discussed above. For example, as culture appeared to be the main and only motivator for the high PD students, similarly, having colleagues from "different culture" was found to be one of the main barriers to KS. "Different culture" was also accompanied by other barriers that seem to hinder KS among high PD students, namely, "fear to lose power", "lack of reward", and "lack of relationship". All those factors go favorably with high PD characteristics and supports evidences claiming that cultures emphasizing individual power and competition, believe that sharing what they know incurs personal risks and decreases power (De Long and Fahey, 2000).

Again results pertaining to the individualism dimension give another support to the results within the motivators section. As the factor "having same culture" worked as motivator for the collectivist group, here its absence, worked as barrier to the same group, which denote the importance of this particular factor to the collectivist set. In addition to culture, "lack of rewards" was also a strong barrier to the collectivist students. This could support the importance of reward as factor to encourage KS, however, as the question did not differentiate between group based-rewards versus individual based rewards, we cannot claim that the participants from the collectivist set favored the group based reward, as found out in other studies (e.g. Scarborough, 1998; Kivrak, 2014)

In the literature,"Lack of time" was one of the important barriers that could impede sharing knowledge among students (Ikhsan and Rowland, 2004; Yuen and Majid, 2007). However, in our study this factor was more related to the individualist students in particular, and this could be due to the fact that in individualism societies, education is mainly students centered, where students are expected to find their own intellectual paths, and thus it could be thought that spending their time to share knowledge with other colleagues could be hindering their learning path. Moreover, it could be that because being from an individualistic society, students would choose to pay more attention to their personal goals and less to group goals and thus sharing knowledge with others could be on the expense of the time dedicated to achieve their own goal.

Significant differences between the masculine sets were detected, specifically for barriers of "different culture", and "don't know how to do it", "different language", "no rewards" and "lack of time". The first four barriers were higher among those from femnine (low masculine) set, while only "lack of time" was a higher barrier in the high masculine set. This means that low masculine participants had shown more barriers to KS than their counterparts from the high masculine group.

Based on the definition of masculinity that focus on assertiveness, meeting personal deadlines, and overall preferences of achievement and other forms of material rewards (Hofstede, 1984), it could be proposed that due to these characteristics nothing could represent a real threat/barrier, with the exception of the barrier of time. Hence, it could be argued that since these characters has strong preferences for achievements, then students would be expected to perceive no barrier that could stop them, except for time-which if not present-all their plans would be delayed or even lost.

On the contrary, feminine societies who care about cooperation, and caring for others, may consider people from "different culture" and/or speaking "different language" an obstacle for the cooperation they seek. Moreover, having "no rewards" and also the risk of "not knowing how to" share knowledge may hinder the aimed quality of life and relations they normally pursue. Theis result could be evidence to other studies that suggested that employees who show masculine values are more willing to share knowledge to show their dominant characteristic among its members (e.g. Wolfe and Loraas, 2008).

Lastly, following the literature, in the uncertainty avoidance dimension, all of the barriers recorded for this set were reported for those from high uncertainty avoidance culture. The most important barriers seem to be those pertaining to "different culture background", "no reward" and "don't know how to do it" factors and with less significant values, on the "lack of relationships" and "afraid of losing power" factors.

As the uncertainty-avoidance dimension of culture reflects the degree to which members of society feel uncomfortable with uncertainty (Hofstede, 1984), it seems obvious that most of the barriers stated

above, hold a kind of risk that could hinder KS for them. This could be specifically relevant to the two factors "don't know how to do it" and "afraid of losing power". They also mirror the educational systems in these societies which prefer tasks that have certain outcomes, no risks, following teachers instructions, associated with low student self-efficacy, and fear of failure rather than hope of success (Hofstede, 2001).

This result corroborates with other studies that showed that individuals from cultures with higher levels of uncertainty avoidance are less likely to be inclined to share and transfer knowledge than are individuals from cultures with lower levels of uncertainty avoidance (e.g. Qin et al., 2011; Kiravk, et al., 2014).

It is worth noting that, not only the type of barriers that differed between cultures sets and dimensions, but also the number of those barriers corresponding to each set. With the exception of the high masculine set, this study supports other studies (e.g. Kirvak, et al., 2014) that argued that cultures that are high in masculinity, power distance, and uncertainty avoidance can have more problems in knowledge sharing compared to cultures that are low in masculinity, power distance, and uncertainty avoidance. By looking at the barriers in each set we will find that the set with highest numbers of barriers is the high uncertainty avoidance group (5 barriers), followed by the high power distance set (4 barriers).

Conclusion, Recommendation, and Limitations

To conclude, this study aimed to investigate the interrelationships between KS and culture, in the context of academic universities. It specifically tried to examine if each of Hofsted's culture dimensions would have different KS attitude, and if each set would be associated with certain group of motivators and/or barriers to KS. Accordingly, this paper provides an accumulated contribution to the body of knowledge and extends previous research on the relationships between cultures and knowledge sharing by identifying potential cultural-based factors that could work for students in a multi-cultural university context.

It also shed light on the critical role that culture plays in determining a knowledge sharing enablers and or inhibitors. The conclusions present higher education institutions implications on how to build post graduate students relationships and achieve a better knowledge-sharing framework that fully utilizes students' knowledge potential, student's education and academic performance. For example, professors in such disciplines should be more selective in the tools and methods they need to motivate their students especially those who work on multicultural research or projects. Also, they should be carefully selecting those team members who share close KS motivators, in a way that would guarantee maximum cooperation. Moreover, since there is some evidence that show the importance of university/organizational cultural, those institutions should work generally on developing a trusting environment and establishing personal relationships that can improve knowledge sharing between students as well as staff, from different nationalities.

On the other hand, limitation to this work lies in the following points, first, national culture is not the only factor affecting KS, there are also many other factors that can affect knowledge sharing behavior. Besides, we have limited our analysis to national culture, yet, culture is a broad term that covers professional culture, organizational culture and national culture. Future research should benefit from comparing the effects of these different culture levels. Second, cause and effect relationships were not detected in this paper. This could have enriched and confirmed the above results and thus upcoming research should emloy it. Third, previous research (e.g. Michailova and Hutchings, 2006) has documented that combining two cultural dimensions could have a different effect on individuals behavior. It would, therefore, be valuable for future research to study couplings between various cultural dimensions in an effort to investigate their influences on knowledge sharing. Finally, the size and the composition of the sample was affected by the electronic survey limitation, the difficult accessibility to international population; and limiting the context to UK, hence care should be taken when generalizing the findings, whereby future research is encourged to include more variation and bigger sample size.

Nevertheless, it is believed that the study findings can give a fair idea about the possible impacts of national culture on knowledge sharing in international academic domain.

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