

EXPLORING THE FACTORS THAT IMPACT ON SAUDI FEMALE INTERNATIONAL STUDENTS' USE OF SOCIAL TECHNOLOGIES AS AN INFORMATION SOURCE

Haifa M. Binsahl, Department of Computing and Information Systems, The University of Melbourne, Australia, hbinsahl@student.unimelb.edu.au

Shanton Chang, Department of Computing and Information Systems, The University of Melbourne, Australia, shanton.chang@unimelb.edu.au

Rachelle Bosua, Department of Computing and Information Systems, The University of Melbourne, Australia, rachelle.bosua@unimelb.edu.au

Abstract

This research in progress explores the use of Social Technologies (ST) by Saudi female international students (SFIS) in Australia. More specifically, this study aims to investigate how SFIS use these sites for their information seeking activities. While research into the use of social technologies in higher education is gaining more momentum, there remains a dearth of research that aims to understand the potential of using social technologies for everyday life information activities. By facilitating communication between users, ST enables the rapid and easy exchange and dissemination of information. Derived from literature on ISB and ST use, this research in progress paper proposes a conceptual model that predicts factors that impact on SFIS' use of ST in general and as a source of information over time and across cultures. Understanding these factors would aid university service providers and system designers in developing effective social media applications that meet the increasing challenges of a diversified society.

Keywords: Social Technologies, Everyday Life Information Seeking (ELIS), Saudi Culture, Saudi Female International Students (SFIS).

1 INTRODUCTION

A recent report by Australian Education International shows a rapid growth in the number of international students enrolled in Australian institutions (375,000 students in 2005 to 526,932 in 2013) (AEI 2013). During their transition, international students as transient migrants face a number of challenges that could affect both their academic and cross-cultural adaptation success. Academic and social challenges such as culture shock, homesickness, loneliness, and unfamiliar learning styles have been extensively investigated (Komito 2011, Neri & Ville 2008, Sawir et al. 2008). Recent studies also indicate that ineffective information seeking or the inability to fulfil information needs can cause challenges in terms of cross-cultural adjustment to a new environment (Chang et al. 2012, Sin & Kim 2013). The importance of helping these students fulfil their information needs has been emphasized by many scholars (Alzougool et al. 2013, Sin & Kim 2013). To better support international students in their information-seeking-behaviour (ISB) before coming and during their stay in Australia, Australian service providers and governments have established a number of online and offline information portals (e.g. the Study Melbourne Website) (COAG 2010). However, international students do not access these websites widely (Alzougool et al. 2013). Researchers attribute the ineffective use of information provided to international students via various portals and websites to the lack of understanding how international students seek and use information (Alzougool et al. 2013, Chang et al. 2012).

In everyday life, international students encounter a wide range of information needs. Researchers classify these needs into academic-related and non-academic information or as 'Savolainen' (1995:266) called "Everyday Life Information Seeking (ELIS). The latter refers to information associated with daily living including lifestyle information e.g. shopping, finance-related, accommodation, health, legal information etc. Alzougool et al.'s (2013) study on international students' ISB revealed that during their stay in their host country, international students rely on a wide range of information sources. Information seeking has been studied in some Information Systems (IS) and library science literature, and has been found to occur through various online platforms. Among the various information sources used to search information, the Internet is nearly always the source most often used when seeking information (Griffiths & King 2008, Majid & Fai 2012). Using search engines such as Google was cited as the most preferable way students start their information seeking activities (Morris & Teevan 2012, Morris et al. 2010). More recently, social technologies (ST) such as social networking sites, media sharing sites and others have provided a new and potentially powerful platform for international students to use when seeking information (Sin & Kim 2013). Of all social technologies, Facebook was cited the most useful channel to find and discuss information about health, trends, learn more about their host countries, establish and maintain relationships, and stay informed about events that occur in their home countries (Binsahl & Chang 2012, Sawyer 2011, Sin et al. 2011). Therefore, given the fact that most ISB models were developed prior to the rise of social technologies, there is a need to look at ISB models in the face of newer social technologies.

Research on international students' ISB reveals differences in the way international students access, share and seek information. Two main reasons for different ISB patterns among international students are: 1) cultural differences which not only affect the way they obtain their everyday life information (ELIS) (Jeong 2004, Sin & Kim 2013, Yeh 2006) but also an individual's preferred sources of information (Chang et al. 2014, Komlodi & Carlin 2004, Saw et al. 2013) and 2) differences in the internet environment where international students come from (Mehra & Bilal 2013). It can be argued that some international students come from stricter and more censored online environments where the accessibility to information sources is controlled by the government (Binsahl et al. 2015). Therefore, it is difficult to assume that those students show similar ISB practices as international students who come from more open Internet environments. Therefore, unless there is an understanding of how international students from different backgrounds access use and seek their everyday life information (ELI), it would be difficult to enhance their ISB (Chang et al. 2014, Sin & Kim 2013) and meet the expectations and needs of students with diverse backgrounds (Song 2004).

In addition, a recent study by Chen (2010) showed that over time and the longer an immigrant stays in a host country, the more likely there might be changes in his/her ISB. Therefore, we propose that by

moving to a different Internet environment and culture, international students may show different ISB because of the transition. However, it is unclear how this change happens and what are the factors that directly impact on any possible changes. The existing literature on ISB provides only limited understanding of the phenomenon. This is because many existing ISB models and frameworks tend to focus on a single point of time (Al Muomen et al. 2012, Wilson 1999). Hence, there is a gap in the literature in understanding the impact of transitional experience across cultures and Internet environments on international students' ISB and ST use. Saudi female international students (SFIS) present an interesting case study for exploring how transition may impact on the ISB experience of such a transient population. Justifications for conducting the study on SFIS are further provided in Section 1.2.

Consequently, this longitudinal qualitative study aims to contribute to the literature on international students' information seeking by exploring how a new and different segment of transient migrants who are culturally unique, obtain their everyday-life information in general and via ST in particular. More specifically, the study aims to develop a conceptual model identifying the factors that affect SFIS' ISB and ST-use as a source of information when moving between two vastly different contexts, both in terms of the Internet environment and the cultures. So, this research in progress paper asks the question: **"What factors impact on Saudi female international students' use of ST as an information source over time and across cultures?"** To answer this question, this study adopts the Decomposed Theory of Planned Behaviour as the lens to identify the factors that may lead to changes in SFIS' information seeking habits and preferences when moving between two different cultural contexts and over time. Understanding SFIS' information needs and information-seeking behaviour via social technologies may help universities' admissions and service providers in developing systems and services to meet the increasing challenges of a diversified society. Findings of this study will also allow information providers (e.g, librarians) to target appropriate communication channels for engaging SFIS (Saw et al. 2013) and contribute to a smoother cross-cultural transition (Kim et al 2011).

The remainder of this report is organized as follows: We start by giving justifications for conducting the study on SFIS. Next, we give a brief overview on related research done in international students' ISB and ST use. After that, the conceptual model for this study is proposed in Section 2.

1.1 Why Saudi Female International Students (SFIS)?

Over the past six years, Australian educational institutions have witnessed an increasing number of students arriving from Saudi Arabia to extend their graduate studies in Australia (234 students in 2004 to 8515 students in 2011) (Alqarni 2011). This increase in numbers is due to the unprecedented initiative taken in 2005 by King Abdullah Bin Abdul-Aziz who, for the first time in the Saudi history, launched a foreign scholarship program titled the "King Abdullah Bin Abdul-Aziz Scholarship Program (KASP) (Shepherd & Rane 2012). Of all Saudi students studying in Australia, Saudi female students constitute 60.6% (Australian Education International 2011).

It is possible that SFIS' ISB and ST-use have some commonalities with other international student groups, but a focus on the experience of this group is almost absent from published literature in Australia and elsewhere. This absence can be attributed to the fact that before the KASP initiative, most of the Saudi scholarship programs were directed to male Saudis due to cultural reasons (Lefdahl-Davis & Perrone-McGovern 2015). Until recently in Saudi Arabia, Saudi women were expected to be "fully committed to her family and home," and were rarely encouraged to study abroad (Lefdahl-Davis & Perrone-McGovern 2015). The last reason supporting the lack of studies on Saudi females can be attributed to the highly gender-segregated culture of the Saudi society. This makes it difficult, especially for male researchers, to conduct studies on this student group of student who are described as "the hard to reach population"(Al-Kahtani et al. 2006).

There are significant differences between SFIS and female students of other nationalities (Al-Hazmi & Nyland 2010, Binsahl & Chang 2012). One difference is that SFIS in Australia are sponsored by KASP rather than self-funded. Thus, they have less concern about "finding accommodation, employment and struggling with course fees" (Al-Hazmi & Nyland 2010: 2). In contrast to Sin and

Kim's (2013) findings where participants identified financial information as the second most important type of information, this may not be the case with SFIS. Another important factor is that there is a significant number of Saudi female students in Australia with a chaperone or 'mahram' - a male guardian (i.e. her husband, father or even brother) to whom they have to seek permission for nearly all activities (Hall 2013). Some SFIS in Australia also have children. Therefore, besides personal information needs, Saudi females will have other informational needs, e.g. information that includes finding schools or childcare.

It is impossible to conduct a study on Saudi international students without referring to the effect of the relatively conservative Saudi culture, which significantly impacts on various aspects of their sojourn experience. Unlike other international students, SFIS belongs to one of the most conservative and gender-segregated cultures wherein women are not allowed to communicate with strange males (Al-Saggaff 2004). Additionally, while sharing personal information (including personal photos) was popular among students, SFIS consider sharing and posting personal photos on social media as a red line that they shouldn't cross (Binsahl & Chang 2012). This was attributed to the Saudi culture norms in which Saudi women usually wear either head coverings (hijab) or full body coverings (burqa) and are not allowed to show their faces or photos to people other than their relatives (Lefdahl- Davis & Perrone-McGovern 2015). Finally, in Saudi culture, women are expected to remain modest, respectful, and seldom engage in social interactions with men (Oshan 2007) or discuss sensitive topics (e.g. politics or health topics related to sex) (Al-Zahrani 2010). These cultural norms are predicted to strongly affect the SFIS perception and use of ST for ELIS. For instance, to comply with their cultural norms, SFIS may prefer to use offline sources (e.g. asking friends or family) when it comes to specific personal or health-related information, especially when they have relatives added to their ST accounts.

SFIS also belongs to a country where accessibility to some information sources is blocked for political, cultural and religious reasons (Al -Saggaf et al. 2008). For instance, in Saudi Arabia, in an attempt to stop immoral or illegal materials among Saudis (e.g. pornographic material), many medical sites that have content related to private body parts are blocked (Al-Saggaf et al. 2008). Additionally, in Saudi Arabia wherein the freedom of expression is limited many online sources such as social media are also blocked (Al-Saggaf et al. 2008). Recently the Saudi government blocked Facebook and Twitter pages initiated by Saudi women who were asking for their rights to drive cars. In their Facebook and Twitter "Women2Drive" pages Saudi women for the first time turned their private complaints about their rights to drive into a heated public discussion (Dubai School of Government 2011).

In addition to the adjustment difficulties resulting from the transition from Saudi to Australia, recent studies on international Saudi female's adjustment reveals the positive or "transformative potential" of being an international students (Al-Hazmi & Nyland 2010, Lefdahl-Davis & Perrone- McGovern 2015). Recent studies on international Saudi students also show that the longer the students stay in the host country, the more changes they reported in their attitudes and beliefs towards some cultural aspects such as interactions with the opposite sex (Alhazmi & Nyland 2013, Hall 2013). Therefore, in this study, we assume the transition experience to Australia would lead to some attitudinal changes for these students, which is anticipated to affect SFIS' ISB and use of ST.

However, it is important to note that unlike other international students who may be motivated to study in Australia with the intention of getting permanent residency, all Saudi students know that their stay in Australia will be temporary. When they finish their studies they have to go back Saudi unless they extend their scholarship to get a higher degree (Hall 2013). This means that Saudi students know that their overseas transition with all its benefits and challenges are just temporary and that the return to their conservative culture is inevitable. For example, Binsahl and Chang' participants (2012) reported changes in the time they spend on Facebook when they return to Saudi. They attributed these changes to the Saudi cultural and technical environment. Technological barriers (e.g. connectivity) and cultural norms (e.g.: spending a lot of time with family) were reasons that could reduce the time they spend on Facebook (FB) back in Saudi (Binsahl & Chang 2012). Finally, the researchers assume that by returning to the Saudi censored and controlled online environment, SFIS will show different ISB and ST use than when they are in Australia.

A review of the literature shows that despite the expected growth in the number of international Saudi students in Australia, no research has been undertaken to examine the way in which Saudi Arabian students' access and seek information. There are only a few studies conducted on international Saudi students and focused almost exclusively on the various cultural and social adjustments that adversely affect international Saudi students' educational experience in Australia (Al-Hazmi & Nyland 2010, Midgley 2009). Consequently, the purpose of this study is to fill this gap and contribute to the international literature on students' ISB and ST use by examining the use of ST by Saudi women students who are either currently studying in Australia or have already finished their study and returned Saudi. Indeed, understanding how SFIS who are from different cultural backgrounds seek and access information in a host country and the factors impacting on their ISB would help service providers develop strategies that meet and also influence the expectations and needs of students with diverse backgrounds (Song 2004) and help them adjust to their new environment (Lin et al. 2012).

2 CONCEPTUAL MODEL OF THE FACTORS THAT AFFECT SFIS' ISB VIA ST

This research develops a conceptual model as the result of empirical investigations and assessments of factors informed by a review of literature on ISB and ST adoption. Literature on international students' ISB identifies a number of factors that affect their ISB (Esfahani & Chang 2012, Liao et al. 2007, Song 2004). In their study, Esfahani & Chang (2012) propose a conceptual model predicting the factors that impact on international students' ISB. However, the model was built based on an international students' ISB literature review and focused on academic ISB via sources other than ST, which believed to be inadequate when it comes to ISB via ST. Esfahani & Chang (2012) categorized the factors affect international students' ISB into three levels of contextual interactions adopted from Foster's (2005) ISB model (Internal Context, External Context, and Cognitive Approach) as illustrated in Figure 1. The model did consider ST use.

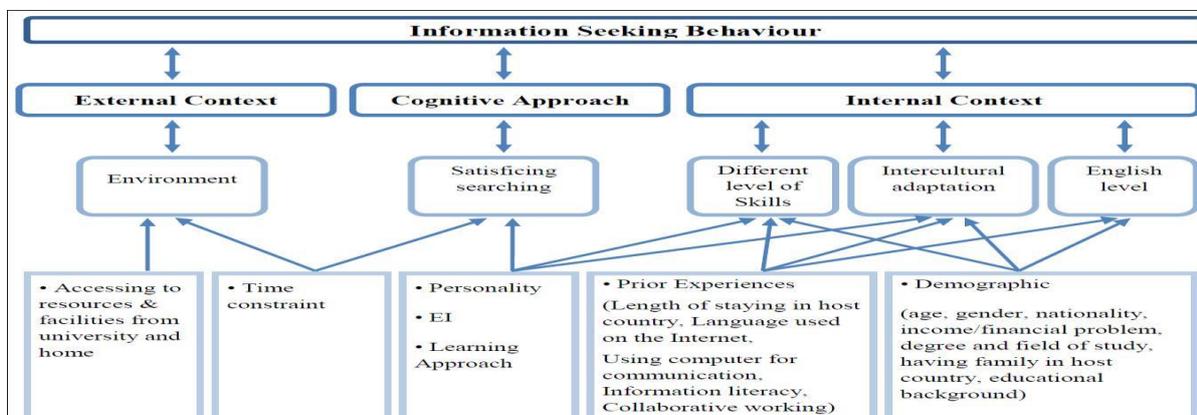


Figure 1. Conceptual Model: Factors affecting international student's ISB (Esfahani & Chang 2012)

According to Esfahani's and Chang's model, the external context refers to environmental factors such as resources accessibility and time constraints, internal context refers to individual factors related to student's level of English, intercultural adaptation and ISB skills. Cognitive approach on the other hand, includes the factors that impact on an individual's mode of thinking and willingness to identify and use information (Esfahani & Chang 2012). In looking at social technologies as an information source, it has been argued that although the above model broadly informs of the factors that impact how international students access and seek information; the model doesn't explain how international students socialise or seek information in a social networking environment.

Despite the fact that the identified factors in Esfahani & Chang’s (2012) model are applicable to the current study, when it comes to the use of social technologies as a source of information, it is argued that the internal context factors, in particular the intercultural adaptation component, is more complex than presented in Esfahani’s & Chang’s model. This is primarily because, unlike academic ISB, ELIS includes searching for a wide range of information including sensitive information (e.g. health and personal information), and the inclusion of factors such as an individual’s information needs (Majid & Fai 2012), social networks (Chang et al.2014) and cultural norms (Al-Saggaf et al. 2008, Chang et al. 2014) are crucial. Hence, this study proposes that internal or personal factors as suggested by Esfahani and Chang (2012) *need to be expanded* when it comes to ISB via ST. In fact, when it comes to SFIS’ ISB and ST use, the internal context needs to not only consider SFIS’ English proficiency level, intercultural adaptation and their level of skills, but also more closely the Saudi cultural influence, transition to Australia, SFIS’ social networks and information needs. The aim of this study is therefore to test these additional factors illustrated in Figure 2.

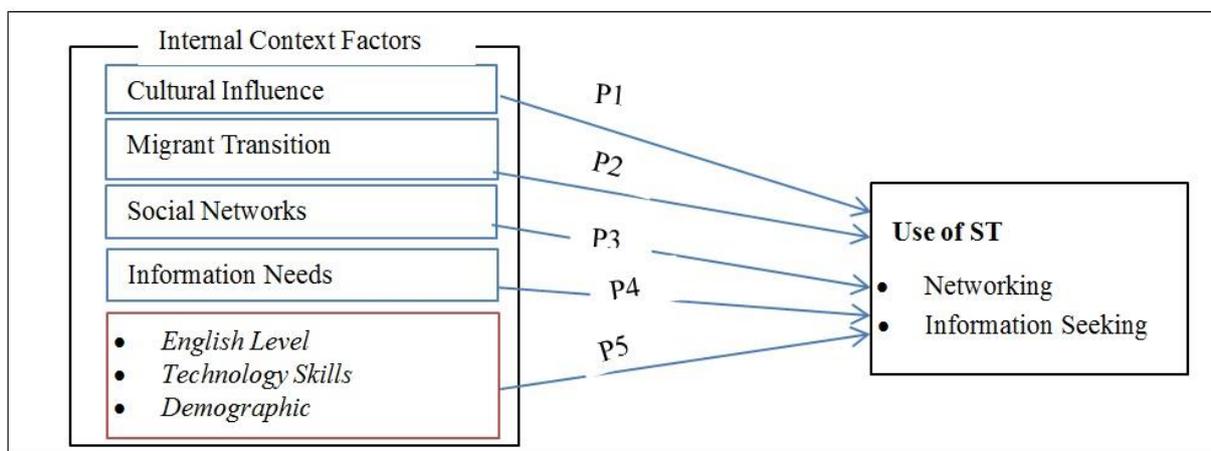


Figure 2. Conceptual Model of Factors that Influence Use of ST as an Information Source

Table 1 below defines the additional factors, believed to affect the use of ST for ELIS by SFIS.

CONSTRUCT	DEFINITION OF CONSTRUCTS
Cultural Influence	The extent to which SFIS’ gender-segregated culture influences their use of ST.
Migrant Transition	The extent to which the transition to a new and different culture will influence SFIS’ use of ST.
Social Networks	The demographic makeup of SFIS offline and ST social networks (e.g. number of friends and followers, origin of friends, etc.)
Information needs	The type of information SFIS needs to satisfy a more basic need, that is, to achieve a goal (Wilson 1977 as cited by Al-Saleh 2004).
Use of ST	The way in which SFIS uses ST.
Networking	The way in which SFIS communicate and interact when using ST.
Information Seeking	The activities SFIS may engage in when identifying their needs for information (Wilson 1999, p. 249 as cited by AlMuomen et al. 2012).

Table 2. Definition of additional factors that are assumed to affect SFIS’ use of ST for ELIS.

Propositions:

Based on the proposed model in Figure 2, this study suggests the following five propositions:

P1: The Saudi conservative and religious culture impacts on the way SFIS use social technologies for networking, seeking and sharing information.

Komlodi and Carlin (2004) conducted a study to examine the differences in searchers’ information seeking due to their different cultural backgrounds. Referring to Hofstede’s cultural dimensions, researchers found that information seekers’ culture has a major impact on how they use, find and evaluate information. Among Hofstede’ five dimensions of cultural differences, Komlodi and Carlin (2004) considered collectivism and individualism to strongly affect the types of information needs and

the search techniques used. Researchers assume that unlike searchers in individualist cultures, searchers in collectivist cultures (e.g. Saudi Arabia) where people view themselves as part of a group, SFIS may prefer to share and seek information from others before accessing computerized systems (Komlodi & Carlin 2004). Additionally, when it comes to Saudi female's Internet and technology use, investigators identify *the Saudi gender segregated culture* as one of the major factors to affect the way Saudi women use and share information (Al-Otaibi 2011, Binsahl & Chang 2012, Oshan 2007). For instance, while the sharing of personal information such as personal photos is common among social technologies users, SFIS consider this type of information private and unfit to share (Binsahl & Chang 2012). This was attributed to the Saudi cultural norms of not revealing faces to strangers. Lastly, coming from a gender-segregated culture, SFIS would be hesitant to seek suggestions and help when encountering information needs from males. Consequently, we assume that SFIS culture will have an impact on the students' ELIS via social technologies.

P2: SFIS' transition experience to Australia is assumed to lead to an increase in the use of ST for different purposes including seeking information.

P2 reflects challenges and opportunities that SFIS might face when moving between two vastly different cultures. It also seeks to explore the impact of the transition between two different online environments on the students' ISB and ST use. A recent study on Facebook use of five SFIS identifies the transition to Australia as a factor to encourage SFIS to use ST (Binsahl & Chang 2012). SFIS also describe the transition experience to Australia as positive which helps them overcome the accessibility issues they encounter when they are in Saudi. On the other hand, SFIS considered the transition back to Saudi negatively affects their Facebook use due to cultural and technical reasons (Binsahl & Chang 2012). Therefore, exploring the effect of the transitional experience on ISB is important because previous ISB studies tend to take a cross-sectional approach. Consequently, we assume the transition between the two different cultural and online environments would impact on SFIS' ISB and ST use.

P3: SFIS' social networks (offline and online) may impact on their ISB and ST use.

In a study conducted by Gomes et al. (2014), researchers found that during their stay in Australia, international students tend to form 'multiple identity social networks' (friends) that are not exclusively made up of international students from their home country. In fact, *by studying overseas, SFIS will have the opportunity of building multiple offline and online social networks*. These social networks can include members from different cultures and backgrounds that may affect the way they seek their information (Chang et al 2014). It has been argued that international students with large and diverse social networks are presented with a wide range of information sources than international students whose social networks made up only of friends from home country (Chang et al. 2014). Based on the above argument, we assume that SFIS whose offline and online social networks include friends from different background will have access to a wide range of information sources and thus be able to fulfil their information needs more easily and quickly. On the other hand, we also assume that SFIS whose social networks include friends from different background will be less likely to share and seek personal information due to cultural reasons.

P4: SFIS' information needs influence SFIS' use of online and offline information sources.

Studies on ISB suggest a relationship between the type of information an individual seeks and his/her selection of the information source (Chang et al. 2014, Zhang 2012). For instance, in a study conducted by Zhang (2012) examining college students' perceptions on the use of FB for health and wellness information, the majority considered it as an inappropriate site for such sensitive information. On the other hand, Binsahl and Chang's (2012) study participants described Facebook as the best media channel for political and social information. This difference in perception could be attributed to the different information types the two groups of students were seeking. Consequently, it is assumed that they would rely on different online and offline sources for different information types. For instance, we assume that family and friends would be the most preferable source of information for personal and health-based information.

P5: SFIS' English proficiency level, technological skills and demographic characteristics influence SFIS' ISB and their use of ST as an information source.

P5 refers to the relationship between SFIS' use of ST as a source of information and their demographic characteristics, English proficiency level and technology skills. Previous studies on international students' ISB, identifies students' low *English proficiency* as a major challenge that may cause significant difficulties in finding useful information due to the inability to search local websites or through word of mouth with locals (Jeong 2004, Liu & Redfern 1997). However, while language proficiency is identified by many researchers to affect academic information seeking activities (Andrade 2006, Esfahani & Chang 2012, Liu & Redfern 1997), in the ELIS context this may not be the case. By using social technologies, international students can access, use and share information in their own language. So that may not be a challenge for them. Additionally, when it comes to online information seeking, previous studies show that students' experience with computers and their use of search engines have an effect on their choice of search techniques to retrieve information from e-sources and search engines (Korobili & Zapounidou 2011). Consequently, it is assumed that the more *technological skills* SFIS have, the more likely they would rely on ST for their information seeking. Finally, previous studies on ISB and ST use emphasize the impact of an individual's *demographics* (e.g. his/ her age, educational background, marital status etc) on their ISB and ST use (Chang et al. 2014).

3 PROPOSED RESEARCH METHODOLOGY

This study will recruit 20-30 prospective SFIS and will collect data through a series of two-round one-on-one interviews with each SFIS. Participants will be divided into two groups: 1) SFIS who recently arrived in Melbourne and 2) SFIS who are about to finish their studies and planning to permanently return to Saudi. Data collection will include two phases:

- **Phase 1:** Participants will be asked to participate in a one-on-one interview lasting between 45 to 60 minutes. At the end of the interview, participants will be given a 7-day diary to complete over a period of one month. This diary will garner richer data on the participants' everyday experience (Lakshminarayanan 2010).
- **Phase 2:** Following their 4-6 months stay in Australia or their return to Saudi, the two groups of participants who participated in the first interview will be contacted to participate in a second interview to identify any changes in their ISB over time.

While the propositions are useful in guiding the questions for interviews, the Decomposed Theory of Planned Behaviour (DTPB) as a theory can be a useful lens in looking at the collected data. One justification to the selection of DTPB lies in the fact that unlike other IS theories (e.g. TAM), DTPB identifies subjective norms and perceived behavioural control (PBC) as main elements in user intention to use IS (Ajzen 1991, Taylor & Todd 1995). Given the fact that STs are generally used in social contexts, the inclusion of factors such as subjective norms seems very important (Kim 2011, Hsu et al. 2014). In fact, each proposition in this study has an indication to the crucial role DTPB's subjective norms and PBC may play in affecting SFIS' ISB via ST. For instance, while the cultural influence and social networks can refer to DTPB's subjective norms, technology skills and English level can refer to DTPB's PBC. Therefore, we argue that DTPB is well suited as a lens through which the collected qualitative data can be analysed.

4 CONCLUSION

This working paper aims to propose a conceptual model of the expected factors that impact on SFIS' use of ST for their everyday life information seeking over time and across cultures. In the next stage of this research, empirical data will be collected to understand the way SFIS seek their ELIS and the factors that affect their use of ST for their ELIS. Identifying which ST are preferred by SFIS for their academic and non-academic activities will allow service providers to target appropriate communication channels to better engage these students (Alzougool et al. 2013, Saw et al. 2013) and help them adjust to new environments (Lin et al. 2012).

References

- Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes* 50(2), 179-211.
- Al-Kahtani, N. K. M., Ryan, J. J. C. H. and Jefferson, T. I. (2006). How Saudi female faculty perceive internet technology usage and potential. *Information, Knowledge, Systems Management*, 5(4), 227-243.
- Al-Hazmi, A. and Nyland, B. (2010). Saudi International Students in Australia and Intercultural Engagement: A Study of Transitioning From a Gender Segregated Culture to a Mixed Gender Environment. in: ISANA International Education Association Inc. 1-11.
- Al Muomen, N., et al. (2012). Modelling information-seeking behaviour of graduate students at Kuwait University. *Journal of documentation*, 68(4), 430-459.
- Al-Otaibi, J. (2011). The Saudi Universities students' use of Facebook- an applicable study. Unpublished Master Degree, King Saud University, Riyadh.
- Al-Saleh, Y. N. (2004). Graduate students' information needs from electronic information resources in Saudi Arabia.
- Al-Saggaf, Y., Himma, K. E. and Kharabsheh, R. (2008). Political online communities in Saudi Arabia: the major players. *Journal of information, communication & ethics in society*, 6(2), 127-140.
- Al-Saggaf, Y. (2004). The effect of online community on offline community in Saudi Arabia. *The Electronic Journal of Information Systems in Developing Countries* 16(0).
- Al-Zahrani, A. (2010). Women's Sexual Health Care in Saudi Arabia: A Focused Ethnographic Study. Unpublished Doctor of Philosophy, University of Sheffield.
- Al Muomen, N., Al Muomen, A., Morris, S. and Maynard (2012). Modelling information-seeking behaviour of graduate students at Kuwait University. *Journal of documentation*, 68(4), 430-459.
- Alhazmi, A. and Nyland, B. (2013). The Saudi Arabian international student experience: from a gender-segregated society to studying in a mixed-gender environment. *Compare: A Journal of Comparative and International Education*, 43(3), 346-365.
- Alqarni, I. (2011). Middle East Students Studying in Australia- The Saudi Arabian Students' Example. in, Canberra: Saudi Arabian Cultural Mission.
- Alzougool, B., Chang, S., Gomes, C. and Berry, M. (2013). Finding Their Way around: International Students' Use of Information Sources. *Journal of Advanced Management Science*, 1(1), 43-49.
- Andrade, M. S. (2006). International students in English-speaking universities adjustment factors. *Journal of Research in International Education* 5(2), 131-154.
- Australian Education International (2013). International Student Enrolments in Australia 1994–2013. <<https://aei.gov.au/research/International-StudentData/Documents/INTERNATIONAL%20STUDENT%20DATA/2013/2013%20Time%20Series%20Graph.pdf>>, Accessed 17 April 2014.
- Australian Education International (2011). Research snapshot: international student numbers. <http://www.aei.gov.au/research/International-Student-Data/Documents/INTERNATIONAL%20STUDENT%20DATA/2011/2011Nov_0712.pdf>, Accessed 24 April 2014.
- Binsahl, H., Chang, S. and Bosua, R. (2015). Identity and belonging: Saudi female international students and their use of social networking sites. *Crossings: Journal of Migration and Culture*, 6(1), 81-102.
- Binsahl, H. and Chang, S. (2012). International Saudi Female Students in Australia and Social Networking Sites: What are the motivations and barriers to communication. In Paper Presented to the ISANA International Academy Association Conference.
- Chang, S., Alzougool, B., Berry, M., Gomes, C., Smith, S. and Reeders, D. (2012). International students in the digital age: do you know where your students go to for information?. in Australian International Education Conference (AIEC 2012): AIEC.
- Chang, S., Alzougool, B., Reeders, D., Berry, M. and Gomes, C. (2014). Mapping the Social Networks of International Students: Foundation for Improving Communication. in COAG (2010) International Students Strategy for Australia 2010–2014 in GOVERNMENTS, C. O. A., (ed.), Australia.
- Chen, W. (2010). Internet-usage patterns of immigrants in the process of intercultural adaptation. *Cyberpsychology. Behavior And Social Networking*, 13 (4), 387-399.
- Council of Australian Governments (COAG) (2010). International Students Strategy for Australia 2010–2014 in GOVERNMENTS, C. O. A., (ed.), Australia.
- Dubai School of Government. (2011). The Role of Social Media in Arab Women's Empowerment. Governance and Innovation Program, Dubai, United Arab Emirates, <<http://www.arabsocialmediareport.com/UserManagement/PDF/ASMR%20Report%203.pdf>> Accessed 15 March, 2014.
- Esfahani, L. and Chang, S. (2012). Factors Impacting Information Seeking Behaviour of International Students: Towards A Conceptual Model. In Paper Presented to the ISANA International Education Conference Auckland, New Zealand.
- Gomes, C., Berry, M., Alzougool, B. and Chang, S. (2014). Home Away from Home: International Students and

- their Identity-Based Social Networks in Australia. *Journal of International Students*, 4(1), 2-15.
- Gray, K., Chang, S. and Kennedy, G. (2010). Use of social web technologies by international and domestic undergraduate students: implications for internationalising learning and teaching in Australian universities. *Technology, Pedagogy and Education*, 19(1), 31-46.
- Griffiths, J. and King, D. (2008). *InterConnections: The IMLS national study on the use of libraries, museums and the Internet: General information report*. Washington, DC: Institute of Museum and Library Services.
- Hall, T. R. (2013). *Saudi Male Perceptions of Study in the United States: An Analysis of King Abdullah Scholarship Program Participants*. Unpublished Doctor of Education, Western Kentucky University, Bowling Green, Kentucky.
- Hartshorne, R. and H. Ajjan (2009). Examining student decisions to adopt Web 2.0 technologies: theory and empirical tests. *Journal of Computing in Higher Education*, 21(3), 183-198.
- Hsu, C.-L., Yu, C.-C. and Wu, C.-C. (2014). Exploring the continuance intention of social networking websites: an empirical research. *Information Systems and e-Business Management*, 12(2), 139-163.
- Jeong, W. (2004). Unbreakable ethnic bonds: Information-seeking behavior of Korean graduate students in the United States. *Library and Information Science Research*, 26, 384-400.
- Kim, B. (2011). Understanding Antecedents of Continuance Intention in Social-Networking Services. *Cyberpsychology, Behavior And Social Networking*, 14(4), 199-205.
- Kim, Y., Sohn, D. and Choi, S. M. (2011). Cultural difference in motivations for using social network sites: A comparative study of American and Korean college students. *Computers in Human Behavior*.
- Komito, L. (2011). Social media and migration: virtual community 2.0. *Journal of the American Society for Information Science and Technology*, 62 (6), 1075-1086.
- Komlodi, A. and Carlin, M. (2004). Identifying cultural variables in information-seeking.
- Korobili, S., Malliari, A. and Zapounidou, S. (2011). Factors that influence information-seeking behavior: The case of Greek graduate students. *The Journal of Academic Librarianship*, 37(2), 155-165.
- Lakshminarayanan, B. (2010). Towards developing an integrated model of information behaviour.
- Lefdahl-Davis, E. M. and Perrone-McGovern, K. M. (2015). The Cultural Adjustment of Saudi Women International Students: A Qualitative Examination. *Journal of Cross-Cultural Psychology*.
- Liao, Y., Finn, M. and Lu, J. (2007) Information-seeking behavior of international graduate students vs. American graduate students: A user study at Virginia Tech 2005. *College & Research Libraries*, 68(1), 5-25.
- Lin, J.-H., Peng, W., Kim, M., Kim, S. Y. and LaRose, R. (2012). Social networking and adjustments among international students. *New Media & Society*, 14(3), 421-440.
- Liu, M. and B. Redfern (1997). Information-seeking behavior of multicultural students: a case study at San Jose State University. *College & Research Libraries* 58(4), 348-354.
- Majid, S. and Fai, C. (2012). Perceptions and Use of Social Networks by University Students for Information Seeking and Sharing. In Paper Presented to the Saudi Association for Media and Communication, King Saud University-Riyadh.
- Mehra, B. and Bilal, D. (2013). International students' perceptions of their information seeking strategies. In Proceedings of the Annual Conference of CAIS/Actes du congrès annuel de l'ACSI.
- Midgley, W. (2009). When we are at uni our minds are at home: Saudi students worrying about wives. in Proceedings of the 20th ISANA International Education Association Conference: International Student Advisers' Network of Australia (ISANA).
- Morris, M. and Teevan, J. (2012). Exploring the complementary roles of social networks and search engines. in Human-Computer Interaction Consortium Workshop (HCIC).
- Morris, M. R., Teevan, J. and Panovich, K. (2010) A Comparison of Information Seeking Using Search Engines and Social Networks. *ICWSM*, 10, 23-26.
- Ndubisi, N. O. (2004). Factors influencing e-learning adoption intention: Examining the determinant structure of the decomposed theory of planned behaviour constructs. *HERDSA 2004 Conference*.
- Neri, F. and Ville, S. (2008). Social capital renewal and the academic performance of international students in Australia. *The Journal of Socio-Economics*, 37 (4), 1515-1538.
- Oshan, M. (2007). *Saudi women and the internet: gender and culture issues*. Unpublished Doctor of Philosophy. Loughborough University.
- Rowley, J. and Urquhart, C. (2007). Understanding student information behavior in relation to electronic information services: Lessons from longitudinal monitoring and evaluation, Part 1. *Journal of the American Society for Information Science and Technology*, 58(8), 1162-1174.
- Savolainen, R. (1995). Everyday life information seeking: Approaching information seeking in the context of "way of life". *Library & Information Science Research*, 17(3), 259-294.
- Saw, G., Abbott, W., Donaghey, J. and McDonald, C. (2013) Social media for international students - it's not all about Facebook. *Library Management*, 34(3), 156-174.
- Sawir, E., Marginson, S., Deumert, A., Nyland, C. and Ramia, G. (2008). Loneliness and international students: An Australian study. *Journal of Studies in International Education*, 12 (2), 148-180.
- Sawyer, R. (2011). *The Impact of New Social Media on Intercultural Adaptation*. Unpublished Senior Honors Projects, University of Rhode Island.
- Shepherd, G. and Rane, H. (2012). Experiencing Australia: Arab students' perspectives and perceptions informing enhancement strategies. In Paper Presented to the ISANA International Education Conference, Auckland, New Zealand.

- Sin, S. and Kim, K. (2013). International students' everyday life information seeking: The informational value of social networking sites. *Library & Information Science Research*, 35(2), 107-116.
- Sin, S. C. J., Kim, K. S., Yang, J., Park, J. A. and Laugheed, Z. T. (2011). International students' acculturation information seeking: Personality, information needs and uses. *Proceedings of the American Society for Information Science and Technology*, 48(1), 1-4.
- Song, Y.-S. (2004). A comparative study on information-seeking behaviors of domestic and international business students. *Research Strategies*, 20(1-2), 23-34.
- Taylor, S. and P. A. Todd (1995). Understanding information technology usage: a test of competing models. *Information systems research* 6(2): 144-176.
- Wilson, T. D. (1999). Models in information behaviour research. *Journal of documentation*, 55(3), 249-270.
- Yeh, N. C. (2006). A framework for understanding culture and its relationship to information behaviour: Taiwanese aborigines' information behaviour. *Information research*, 12(2),11.
- Zhang, Y., He, D. and Sang, Y. (2013). Facebook as a platform for health information and communication: a case study of a diabetes group. *Journal of medical systems*, 37(3), 1-12.