Article

The Impact of Sociocultural Factors on Students' ICT Information-Seeking Practices: Postgraduate Students' Perceptions at a Zimbabwean University

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Abstract

The aim of this study was to examine the impact of cultural differences on students' information-seeking, management and evaluation practices in an online information and communication technology (ICT) environment. The study was conducted at a Zimbabwean university on postgraduate students (male and female) (*N*=156), employing the questionnaire technique as data collection instrument. While there is a dearth of empirical studies on the use of ICT in Zimbabwe, the extant literature in this field shows a significant difference between the success and failure in the use of ICT sources for learning purposes among students in developing and developed countries. This study is premised on the proposition that "information seeking" is socioculturally bounded and the successful use of online information sources is significantly linked to the students' perceptions of particular ICT platforms and how they are configured to facilitate specific information search outcomes. After the data collection process, the computer analysis software programme, Statistical Package for the Social Sciences (SPSS), was employed to obtain the cross-tabulations and chi-squared statistical tests. The main findings of the study show a statistically significant difference in students' information-seeking practices. The study identified the importance of students' cultural contexts in the successful use of ICT and concludes that cultural differences influence online information-seeking practices among students. The study recommends that the impact of cultural differences be considered when students are introduced to the use of ICT as an information-seeking tool and suggests that future studies, both qualitative and quantitative, be pursued to improve students' information-seeking practices to enhance their success.

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Introduction

In this age of digital information and technological communication, higher education students require information-seeking competencies in order to cope with the demands of rapidly changing learning styles and the growth in knowledge production across the globe (Adomi and Kpangban 2010). I find it prudent to borrow the following words of the two authors, Adomi and Kpangban (2010, 213), and agree that "the ability to access and use information is no longer a luxury, but a necessity for development." According to Selwyn, Potter, and Cranmer (2009), access to information via online or Web-based platforms is not a luxury any more, but a basic human right and it has become an essential requirement for the acquisition of knowledge and research. Information and communication technology (ICT) devices and platforms have become accessible and employable to satisfy the needs of information-seeking students with the click of a button (Brakel and Chisenga 2003). An ICT environment can typically be described as consisting of the state of being connected to the Internet or wireless networks, radios, satellite, televisions, cell phones, and other communication gadgets and mediums. ICT created an innovative educational environment with a technological architecture, commonly referred to as "e-learning." E-learning has been defined as the use of information and communication technologies in diverse processes of teaching and learning to support and enhance educational performance (Brakel and Chisenga 2003).

E-learning platforms have increasingly become essential platforms for the access of information and acquisition of knowledge for learning purposes in the higher education sector (Bhuasiri et al. 2012). Empirical evidence suggests that there is a positive relationship between students' use of online interaction and the desired learning outcomes (Chen, Lambert, and Guidry 2010). However, research has not always confirmed a positive correlation between ICT and students' performance. On the contrary, there has been concerns by educators worldwide about the high attrition rates emanating from the use of online learning platforms (Chen and Jang 2010). Several studies have been conducted on students' attitudes towards online learning versus student–teacher contact or face-to-face learning, albeit without convincing conclusions (Paechter and Maier 2010). Some studies found that students preferred direct teacher–student contact or face-to-face learning for purposes of acquiring conceptual knowledge in the subject matter, while online learning was preferred for the purposes of acquiring self-regulated learning skills. These studies concluded that the differences in students' preferences emanated from the socioculturally bounded nature of seeking information (Paechter and Maier 2010). It stands to reason that the innovation of ICT as the basis of the teaching and learning environment should not be taken for granted as desirable if compared to the more familiar and traditional classroom environment, which has become entrenched as part of the educational culture, especially in

developing societies. Pedagogically, the transition from traditional, face-to-face learning to ICT learning should be a conscientious process of differentiation between what is familiar and unfamiliar in the new learning environment.

As a technological innovation, the Internet has changed and influenced the way in which people of all walks of life seek, manage and evaluate online information (Rowlands et al. 2008). O'Reilly (2005) intimates that there is an ongoing paradigm shift in the realms of the Internet to advanced Web developments that will provide more dynamic information sources and interactive content, which will potentially change people's information-seeking behaviour in the future. The Internet is currently a phenomenal and veritable cargo of resources for Web-based or online information seeking and services (Rowlands et al. 2008). There is, however, a need to conduct studies on the sociocultural implications for students' information-seeking practices and how students perceive the ICT environment as a learning experience. Put differently, if ICT is becoming a dominant medium in terms of information seeking, how best can students from diverse cultural backgrounds employ ICT as an information-seeking tool. This study sought to contribute to the field to grasp a better understanding of the problem.

The aim of this study was to assess postgraduate students' sociocultural differences and the impact of these differences on students' ICT information-seeking, management and evaluation practices.

To elaborate the existing knowledge about the sociocultural differences and their impact on ICT information-seeking practices, this study addresses the following three questions:

1. What are the sociocultural differences and their impact on students' ICT information-seeking practices, management and evaluation?

2. Are there any statistically significant differences in the perceptions of the male and female respondents on sociocultural differences and their impact on students' ICT information-seeking practices?

3. Is there a relationship between sociocultural differences and students' ICT information-seeking practices, management and evaluation?

Literature Review and Theoretical Framework

Theoretical Framework

Research on human beings' information needs and information-seeking practices as part of their information-seeking behaviour is not a new phenomenon (Du Preez 2007). Vast empirical research has been conducted resulting in the postulation of several theories and frameworks that enunciate human behaviour and practices in seeking information. Most of the theories deal with the aspect of how the information needs arise, how the arisen needs are addressed and how the information is ultimately used (Du Preez 2007). Courtright

(2007) intimates that some of these theories and frameworks could be regarded as being broad and general, while others may be specific and concise. In this study, the researchers' proposition on the concept of information-seeking practices and behaviour derives from the theoretical framework of the study by McKenzie (2003) and from the ideas on information-seeking practices presented by Savolainen (2006). McKenzie (2003) classified information-seeking practices into four distinct modes: "active seeking," "encountering/non-direct monitoring," "collaborative information seeking" and "by proxy" as part of the information management and evaluation programmes.

Active Seeking

Active seeking is commonly the most directed type of information-seeking practice and behaviour and has caught the attention of such scholars as Dervin (2003) and Kuhlthau (1991). This mode includes practices such as specifically seeking out a previously identified and now known source, conducting a systematic, known-items search, asking pre-planned questions, and using active questioning strategies (e.g., list making). This category is associated with Wilson's (1996) "active search" and Choo, Detlor, and Turnbull's (1999) "formal search." Traditionally, the active seeking practice is viewed as the most typical mode of information-seeking behaviour by human beings in general. Regardless of whether active seeking and searching is considered as a staged process (Kuhlthau 1991), regarded as a set of generic characteristics (Ellis 1989), or viewed as a mode of information practice (McKenzie 2003), the general picture of the constitutive activities of this mode is quite similar and not particularly surprising. The key activities in this mode include identifying, selecting, locating and accessing information sources and channels. Researchers have described these activities in different ways such as active seeking, chaining, directed search and ongoing search.

Encountering/Non-Direct Monitoring

Encountering refers to situations in which a person comes across information on the Internet by chance. Foster and Ford (2003) allude to this form of information-seeking practice and behaviour as occurring not necessarily for the purpose of achieving specific tasks, solving specific problems, pursuing information needs or for immediate use. Researchers term this practice serendipitous information seeking, which may happen when browsing or reading just for leisure, and coming across some information that was not originally sought for (Foster and Ford 2003). In the same vein, Spink and Cole (2001) intimate that it is not necessarily in every case and situation that human beings seek information for a specific purpose; in everyday life, there is much information seeking that focuses on humans making sense of their environments and which involves more non-academic, less formal information-seeking behaviours and practices. Lessons have also been drawn from scholars such as Fisher, Durrance, and Hinton (2004), Hyldegård (2006), and McKenzie (2003) that persons seeking information actually do not always go out personally to search for information. Sometimes they use others to seek information on their behalf and this is explained below. Furthermore, information encountering has been

respectively recognised by various groups of people, such as Icelandic health information seekers (Fisher, Durrance, and Hinton 2004), Australian elderly people (Williamson et al. 2006), and scholars (Foster and Ford 2003) who prefer using both purposive information seeking and incidental information acquisition as a modes of information seeking.

Proxy Information Seeking

Fisher, Durrance, and Hinton (2004) mention that there are occasions when information is sought not only incidentally, in a serendipitous manner, without anyone expressing the need for that information, but also in proxy information seeking when someone seeks information on behalf of someone else. Taking the issue of proxy further, McKenzie (2003) refers to proxy as occasions when people make contact with or interact with information sources through the initiative of another agent, either the information source or some other gatekeeper or intermediary. Hyldegård (2006) describes the gatekeeper phenomenon by indicating that the gatekeeper takes the responsibility to look for information and forward it to colleagues in his/her team, and in this way the information recipient and the gatekeeper collaborate to find information. White, Ye and Guccione (2009) argue that the gatekeeper may restrict and permit access to information, and advocate a facilitator who eliminates the restrictive nature of the gatekeeper, permits access to information, and also actively helps in finding needed information.

Collaborative Information Seeking

Fourie (2006) maintains that collaborative information seeking occurs when one is not alone in the process of seeking information, but rather works through interaction with colleagues and peers. This appears to be common in situations of joint projects, authorship, teamwork, etc. According to Foster (2006), collaborative information seeking and retrieval is the study of the systems and practices that enable individuals to collaborate during the seeking, searching and retrieval of information. Although Foster's review is mainly on studies on collaborative information seeking in academia, industry, medicine and military settings, he alludes to the concept of information sharing as an umbrella concept that covers a wide range of collaboration behaviours, from sharing accidentally encountered information to collaborative query formulation and retrieval (Foster 2006).

In this research, the researchers apply two of the four information-seeking practices for examination as the study's constructs, namely, "active seeking" and "encountering." Active seeking refers to a situation where students search for information on the Internet with particular questions in mind. Encountering refers to a situation where students come across information on the Internet by chance.

Web-Based Information Seeking and Sociocultural Implications

Web-Based Information Seeking

Lemire et al. (2008) argue that the Internet is one of the most popular information-seeking sources in the information environment. There are various features affecting online or Web-

based information-seeking trajectories such as sex/gender, beliefs, values, level of education and many more (Tian and Robinson 2009). Earlier studies have shown that sociocultural issues affected online or Web-based information-seeking practices, their management and evaluation (Kakai et al. 2003; Peña-Purcell 2008).

By its nature the selected Zimbabwean university enrols postgraduate students with different sociocultural backgrounds coming from other nations such as South Africa, Botswana, Zambia, Swaziland, Namibia, Madagascar, just to mention a few, as compared to and as well as the majority Zimbabwean postgraduate students. It is therefore critical to take note of this distinction in sociocultural differences for the purposes of this study (Ishida 2011). These differences emanate from the social background environments from which the students come and the significance of these as determinants of self-differences, which emerge and manifest as self-efficient behaviour (Heine, Kitayama, and Lehman 2001). This collateral approach to sociocultural behaviour emphasises the collective welfare of the group and consensus among its members (Caudill 2004), whether the group constitutes family members or work colleagues (Minami 2013). Perhaps these group characteristics and features are inherent among the students in a Zimbabwean university, which result in a tendency for the group to express personal feelings through action, and not words (Caudill 2004). Most of these characteristics and features are prevalent among the ethnic groups of Zimbabwean origin as well (Kakai et al. 2008).

The rates of Internet usage seem to be similar among most African countries (Kimura 2008). According to Kimura (2008), there is more than 85 per cent Internet usage in Zimbabwe and South Africa alone, and the proportion of regular Internet patronage is common among the age groups of 15 to 29 years in both countries, with this population stratum almost reaching 100 per cent of Internet usage. This scenario differs with what obtains in countries such as Finland for example (Statistics Finland 2007). In countries like Japan, Canada, USA, and China for example, about 78 per cent of their citizens use the Internet and their Internet patronage by the younger population, aged 13 to 29 years, is approaching the 95 per cent Internet usage levels (Japan Ministry of Internal Affairs and Communications 2008). However, there are glaring sociocultural differences in the usage of the Internet. The Japanese, for example, tend to use the Internet anonymously, mainly for connecting with real-life strangers and use the Internet primarily at home for private purposes, while Africans seem to be more prone to making themselves known to other users and seem to have no reasons not to trust other users (Kimura 2008). The postgraduate students of the selected Zimbabwean university are premised in this study to react differently as a result of cultural differences to the user-interface characteristics, in line with the findings of previous studies (Kimura 2008; Wadden, Butryn, Wilson 2007; Williamson et al. 2006).

There is a strong argument that in the developed world Internet-based programmes, platforms, and tools available for the general public to access information help people to acquire vast sources of important information, especially when structurally designed to

offer personalised information on a wider variety of personal issues (Jones et al. 2008; Saperstein, Atkinson, and Gold 2016). Further, the argument proposes that the developed countries' Internet programmes and tools allow users to exercise behavioural strategies on a frequent basis (Saperstein et al. 2016; Williamson et al. 2006).

Despite the successes of the online or Internet information-seeking and access platforms in most countries, both developed and developing, in terms of their management and evaluation programmes, there are still mixed feelings about the findings on the efficacy of Internet usage as a medium or tool for information seeking and access satisfaction (Wadden, Butryn, Wilson 2007). The current era, like those before, is marred by clashes of cultural barriers in Internet information seeking. These range from minor disputes to all-out wars; discord continues despite (or perhaps at times because of) the ability for almost instant discourse and rapid access to information from anywhere in the world (Bennett and Glasgow 2009). The proliferation of ICTs facilitates the easy interaction on a daily basis of large numbers of people of different cultures in the global world, and has created a new information environment in which to find and use information as and when it is required. With the instantaneous global communication means at the disposal of people from all walks of life comes the inevitable challenge that people from different cultures would, from time to time, misinterpret the meanings, motivations, and intentions of others in the online community. Because of ICT, searching for information often and easily crosses borders and transcends different cultures—users in the global village can find and use information from anywhere, either as groups or as individuals. As a result, understanding the differences and similarities in information-seeking practices and behaviour across cultures would help to foster international collaboration and understanding, especially when applied through better and more informed user-interface (UI) designs (Bennett and Glasgow 2009; Wadden, Butryn, Wilson 2007).

Sociocultural Factors

In general, sociocultural factors can be viewed as the norms, values, customs, taboos, roles, languages, symbols, moral and religious beliefs, perceptions, and preferences that are acquired over time by people as members of society (Giddens 2006; Prinz 2011). The literature suggests that sociocultural factors have dual implications for human beings in that they facilitate and constrain human information-seeking behaviour (Rains 2008). In the former role, sociocultural factors enable people to interact and live together. In the latter role, they appear as barriers delimiting the range of choices available to people at the individual and community levels (Giddens 2006; Norman and Skinner 2006).

The literature presents a typology that identifies six main types of sociocultural impediments to Web-based information seeking: impediments due to language problems, impediments related to social stigma and cultural taboos, small-world related impediments, institutional impediments, organisational impediments, and impediments due to the lack of social and economic capital (Rains 2008). Sociocultural impediments are man-made constructs originating from social norms and cultural values. They have mainly an adverse

impact on information seeking by restricting access to information sources and giving rise to negative emotions (Giddens 2006; Norman and Skinner 2006).

Information Environments and Practices

In this study, the researchers premise that the Internet is an information-seeking and access channel for various types of information sources, from which the information users such as the students at a learning institution can select suitable sources according to their information needs and preference (Wadden, Butryn, Wilson 2007). We do not seek to explore the individual information-seeking sources' horizons (Savolainen and Kari 2004; Sonnenwald 1999). Thus, we use the term "information environment," which we approach from two viewpoints. First, we examine the information environment as existing among other sources of information and second, we take a closer look at the information-seeking sources on the Internet.

This study examines sociocultural differences and their implications for the information-seeking practices and behaviour of the postgraduate students at a university in Zimbabwe from the viewpoint of information seeking and access (Wilson 2006). We consider information seeking and access as part of the students' everyday life in an information environment such as a university (Savolainen 2006; 2008; Spink and Cole 2001) and information-seeking practices and behaviour as a sub-concept of information seeking. The researchers' proposition on the concept of information-seeking practices derives from the theoretical framework of the study by McKenzie (2003) and the ideas of information-seeking practices presented by Savolainen (2006). The theoretical framework of this study is illustrated above.

The researchers believe that this kind of approach to information-seeking practices was appropriate for this study. Several models on Web-based information-seeking practices and behaviour support this proposition and assumption by premising that the Internet is not often used as an information-seeking source by formal information seekers as information seeking is naturally an unconditioned seeking behaviour (Huang et al. 2007). For example, the model by Huang et al. (2007) was developed from analysing the everyday users' usage of the Internet. The results in the development of the model indicated that the more the users consume information from the Internet, the more likely they are to explore more conditional viewing and informal information searching.

According to Foster and Ford (2012), though information-seeking behaviour models usually fail to acknowledge information-seeking encountering, there is a possibility that some people do exploit it and may control it to some or to a great extent (Choo, Detlor, and Turnbull 1998; Foster and Ford 2012), as they prefer acquiring information mostly in this manner (Erdelez 1996; 1999). For most Internet users, the Internet provides a rich environment for information-seeking and encountering opportunities (Erdelez 1999).

Research Methodology

The study sought to answer the following research questions:

1. What are the sociocultural differences and their impact on students' ICT information-seeking practices, management and evaluation?

2. Are there any statistically significant differences in the perceptions of the male and female respondents in terms of sociocultural differences and their impact on students' ICT information-seeking practices?

3. Is there a relationship between sociocultural differences and students' ICT information-seeking practices, management and evaluation?

The researchers employed a quantitative research design and methodology and used a questionnaire as a structured survey instrument to collect data from a convenience sample that consisted of 156 postgraduate students at a selected university in Zimbabwe. The target sample group was selected on the basis that this group of students had easy access to the Internet from the university and were used to seeking for information on the Internet platform. The sample was constituted by all the MBA (Master of Business Administration) students and the PGDBA (Postgraduate Diploma in Business Administration) students in the Faculty of Business.

The survey instrument consisted of questions that solicited the respondents' biographic and demographic information regarding their ages, sex, and assessment on their Internet skills and the average time they spend on the Internet per week. The information sources used and preferences with regard to these were indicated by the amount of Internet usage, and all information was elicited with closed-ended questions. The instrument was structured to measure the demographic characteristics of the respondents in section A, the sociocultural implications of information seeking in section B, information environments in section C, and information-seeking practices in section D.

The Web-based or online information seeking was measured by the frequency of active seeking for information and/or accidental encountering of information by the postgraduate students. Following this, respondents were asked if they sought for information or encountered information on the various course programme topics as they explored the Internet. For information on the Web-based or online information-seeking source environment, the students were asked about the types of search engine sites they visit and other related online services they use.

Data Analysis and Presentation

Data analysis was done using SPSS. The analysis calculated distributions, produced dependency analysis using cross-tabulations and chi-squared tests and, at some point, the

Fisher's exact test was used between background variables and other variables separately. An e-information literacy variable was constructed as a mean variable from the attitude and behaviour related questions regarding e-information literacy and this was analysed using the Mann-Whitney dependency analysis. The results were regarded statistically significant at the level $p = .005$ or lower as a decision criterion throughout the data analysis.

Demographics

Figure 1 shows the demographic characteristics in terms of the gender of the respondents.

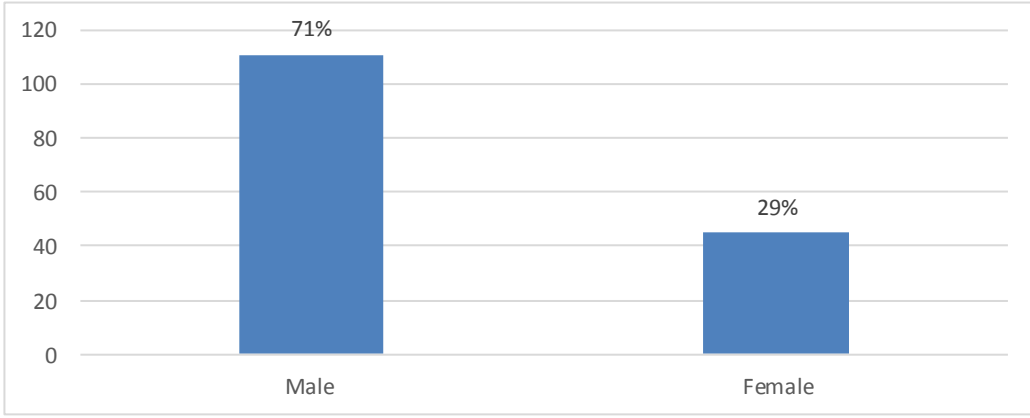

Figure 1: Gender of respondents

Data was collected from the population sample of 156 postgraduate students, with a 100 per cent response rate. From the 156 respondents, 111, constituting 71 per cent, were male and 45, constituting 29 per cent, were female.

Figure 2 shows the demographic distribution in terms of the age of the respondents.

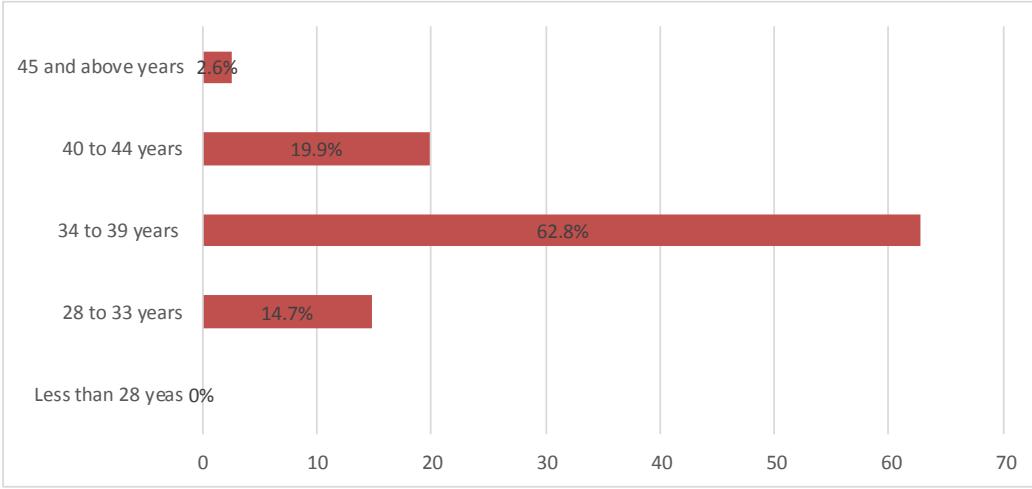

Figure 2: Age of the respondents

The respondents were between 28 and 45 years of age. The majority of the respondents, constituting 62.8 per cent, were between the ages of 34 and 39 years, followed by 19.9 per cent between the ages of 40 and 44 years, 14.7 per cent between the ages of 28 and 33 years, and 2.6 per cent were 45 years and above.

Differences in the Perceptions of the Respondents in Terms of Gender

An examination was conducted to measure if there were any differences in the perceptions of the respondents in terms of their gender. The results are shown Table 1 below.

Table 1: Chi-square test

Gender	*Value*	*df*	*Asymp. Sign. (2-sided)*	*Exact Sig. (2-sided)*	*Exact Sig. (1-sided)*
Perception * gender: Pearson chi-square	1.056[b]	1	.304		
Continuity correlation[a]	1.441	1	.000		
Likelihood ratio	1.626	1	.000		
Fisher's exact test				.000	.000
Linear-by-linear association	1.361	1	.000		
N of valid cases	156				

Source: own elaboration

a. Computed only for a 2x2 table.

b. Zero cells (.0%) have an expected count of less than five. The minimum expected count is 42.

The results indicated that there were no statistically significant differences between the perceptions of the male and female respondents (X^2 (1) = 1.056, p = 0.304). As a result, the conclusion is that the sample was similar in gender and also reasonably similar in terms of the ages of the respondents. However, there were statistically significant differences in the perceptions of the respondents in assessment of their Internet skills and cultural sensitivity in terms of gender and nationality as shown below.

Self-Assessment of Sociocultural Sensitivity (%) and ICT and Internet Skills (%) of the University's Postgraduate Students (Respondents)

Culturally, individuals can react quite differently to information seeking or user-interface characteristics such as colours and icons (Duncker 2002). In other words, user-interface characteristics acceptable to one cultural group can be unacceptable or even taboo to another cultural group. The understanding of interface characteristics may also vary between cultural groups. As a result, information-seeking practices and behaviour can also be affected by cultural sensitivity, and interfaces may need to be designed to mitigate these inevitable differences. Thus, the characteristics of the students' cultures may help to explain these noted differences.

Sensitivity to Sociocultural Factors

The respondents' sensitivity to sociocultural factors were compared and examined, and the results are indicated in Table 2 below.

Table 2: Chi-square tests

		Value	*df*	*Asymptotic Significance (2-sided)*
Sensitivity to sociocultural factors: Female	Pearson chi-square	14.002[a]	2	.000
	Likelihood ratio	13.011	2	.000
	Linear-by-linear association	14.101	1	.000
	N of valid cases	45		
Male	Pearson chi-square	1.166[b]	2	.231
	Likelihood ratio	1.184	2	.223
	Linear-by-linear association	1.153	1	.437
	N of valid cases	111		

a. Zero cells (.0%) have an expected count of less than five. The minimum expected count is 6.16.
b. Seven hundred and twelve (712) cells (.0%) have an expected count of less than five. The minimum expected count is 7.17.

Despite the assessments of the respondents by gender and age being quite similar, as reflected by most of the respondents suggesting that their ICT and Internet skills were either average or good, the male respondents in the sample indicated that their sensitivity to sociocultural factors were statistically and significantly lower than that of their female counterparts (X^2 (3) = 1.166, p = 0.231). Female respondents showed a disposition of being more sensitive to sociocultural factors, especially those females who came from outside Zimbabwe (X^2 (3) = 14.0, p = 0.000), such as the cultural factors of insufficient proficiency in the dominant language in the country, that is limited vocabulary in the English language.

ICT and Internet Skills Levels

Information and communication technology (ICT) skills enable people across cultures to develop Internet skills for information seeking. ICT and Internet skills have helped to make the world smaller and more accessible information wise, but technological improvements do not automatically result in greater harmony. The current era, like those before, is marred by clashes of cultures. It has always been important to understand how cultures can effectively live and work together, but recent advances in ICT have brought forward new opportunities to study and understand information sharing between people from different cultures as well.

The respondents' ICT and Internet skills levels were compared and examined. The results are depicted in Table 3 below.

Table 3: Chi-square tests

		Value	*df*	*Asymptotic Significance (2-sided)*
ICT and Internet skills *gender: Female	Pearson chi-square	102.660[a]	2	.001
	Likelihood ratio	98.011	2	.000
	Linear-by-linear association	103.101	1	.000
	N of valid cases	45		
Male	Pearson chi-square	5.167[b]	2	.523
	Likelihood ratio	5.164	2	.513
	Linear-by-linear association	5.156	1	.457
	N of valid cases	111		

a. Zero cells (.0%) have an expected count of less than five. The minimum expected count is 6.16.
b. Zero cells (.0%) have an expected count of less than five. The minimum expected count is 7.17.

All the female respondents in general, regardless of nationality, reflected their ICT and Internet skills levels as poorer than those of their male counterparts (X^2 (3) = 102.66, p = 0.001). Male respondents depicted good ICT and Internet skills (X^2 (3) = 5.167, p = 0. 523). The majority of the male respondents reflected their Internet skills levels as being fairly good, while the majority of the female respondents assessed theirs as being fairly satisfactory. Over and above, 25 per cent of the male respondents reflected their Internet skills levels as being excellent, and coincidentally the same proportion of the female respondents reflected theirs as being marginal.

Information Environments

The proliferation of ICTs has led to a large increase in the number of people of varied cultures interacting daily and a new environment in which to find and use information is emerging. The information environments were compared and examined on a general level and in terms of Internet usage. The results show that there are socioculturally interesting and statistically significant differences in the general information environments as perceived by the male and the female postgraduate students, as indicated below.

Internet as Information Source (%) for the University's Postgraduate Students

Table 4: Chi-square tests

Internet usage		*Value*	*df*	*Asymptotic Significance (2-sided)*
Internet * gender: Female	Pearson chi-square	23.632[a]	2	.034
	Likelihood ratio	18.461	2	.032
	Linear-by-linear association	13.201	1	.033
	N of valid cases	45		
Male	Pearson chi-square	10.851[b]	2	.001
	Likelihood ratio	9.374	2	.001
	Linear-by-linear association	8.153	1	.003
	N of valid cases	111		

a. Zero cells (.0%) have an expected count of less than five. The minimum expected count is 6.16.
b. Seven hundred and twelve (712) cells (.0%) have an expected count of less than five. The minimum expected count is 7.17.

Regarding the use of the information environment sources, most perception differences were shown in the categories "a lot" or "not at all" of the questionnaire. For example, the results show that female postgraduate students acquired most of their information from sources other than the Internet (X^2 (3) = 23.63, p = 0.034), while the male postgraduate students acquired most of their information from the Internet (X^2 (3) = 10.851, p = 0.001). The rates of Internet usage by the students for information seeking reflect a somewhat higher level than those of the reported earlier studies in other African countries. The results show that choices regarding general information-seeking environments differ depending on the gender of the postgraduate students. The female students seem to prefer acquiring information through close interpersonal relationships and from the printed media, while their male counterparts prefer acquiring information from professionals and the electronic media, such as the Internet.

The Web-based information-seeking environments were assessed by examining the use of different types of information-seeking sources, that is, the type of source of information and information-related interactive services as shown below.

Table 5: Chi-square tests

		Value	*Df*	*Asymptotic Significance (2-sided)*
Sites * Search engines: Female	Pearson chi-square	21.282[a]	2	.031
	Likelihood ratio	13.011	2	.032
	Linear-by-linear association	14.101	1	.023
	N of valid cases	45		
Male	Pearson chi-square	17.691[b]	2	.001
	Likelihood ratio	6.874	2	.003
	Linear-by-linear association	1.153	1	.037
	N of valid cases	111		

a. Zero cells (.0%) have an expected count of less than five. The minimum expected count is 6.16.
b. Zero cells (.0%) have an expected count of less than five. The minimum expected count is 7.17.

The results indicate that all types of information sites were utilised more by the male postgraduate students; however, the preferences with regard to the use of these information sources are similar in both genders. Search engines were the most popular and chats the least popular types of information-seeking sources with both genders. It is worth noting that there is a statistically significant difference in the use of search engines and sites in terms of male students of different origins (X^2 (1) = 17.69, p = 0.001). While female students also seemed to prefer using search engines, their feedback yielded a less statistically significant result than that of their male counterparts (X^2 (1) = 21.28, p = 0.031). The most commonly used search engine was Google. Some students used AOL, Ask.com, Baidu, Bing and Yahoo as well.

The male students indicated that they also use other types of information sites in the open-ended questions of the questionnaire. These revealed that there is a tendency by the male students to acquire information from commercial sources as well, such as corporations' websites. It is interesting to note that Wikipedia was also mentioned by most of these male students. Female students did not provide any alternative or additional sources of information. The online or Web-based information-seeking environment was also assessed and examined through the students' usage of more interactive information-seeking sources, such as Web-based or online e-journals and e-books.

In summary, the findings show that there was not as much difference in the perceptions of the male and female respondents concerning online or Web-based information-seeking environments compared to the significant differences in perceptions concerning the general/offline information-seeking environments. The students' information-seeking behaviour and practices were assessed, as shown below.

Active Seeking and Encountering of Online or Web-Based Information

Information seeking is the first step in information exchange and knowledge transfer. The online or Web-based information-seeking practices of the students were determined by assessing if the students sort for information actively or by chance as they encounter the information on the Web.

Encountering and Active Seeking of Information (%) by the University's Postgraduate Students

Table 6: Chi-square tests

		Value	*df*	*Asymptotic Significance (2-sided)*
Practice type * gender: Active seeking	Pearson chi-square	4.050[a]	2	.047
	Likelihood ratio	4.033	2	.052
	Linear-by-linear association	3.436	1	.043
	N of valid cases	43		
Encountering	Pearson chi-square	14.690[b]	2	.002
	Likelihood ratio	14.200	2	.003
	Linear-by-linear association	13.257	1	.007
	N of valid cases	113		

a. Zero cells (.0%) have an expected count of less than five. The minimum expected count is six.
b. Zero cells (.0%) have an expected count of less than five. The minimum expected count is 7.01.

The results indicated that there is a difference in the uptake of information-seeking practices and behaviour by the students examined in this study. The rate of active information-seeking practices online was quite evenly distributed across the nationalities of the respondents and their genders. The results also indicate that overall students did not actively seek information, with female respondents contributing more to the skewness of the statistical results (X^2 (5) = 4.05, p = 0.547). What this means is that information was actively sought a few times a year. However, online or Web-based information was encountered more often than it was actively sought for (X^2 (5) = 14.690, p = 0. 002). In other words, students do encounter information on the Web, but deliberately seek for it only when they have assignments to do. In other words, they serendipitously encounter information from unexpected places, by observing or overhearing information in unexpected settings or by chatting to acquaintances.

Although the rate of active information seeking is similar in terms of gender, the difference in the category "not at all" is easily noticeable. Although the chi-square test was not performed for this variable, it is evident that male students acquire more Web-based information by active information-seeking practices than their female counterparts. They actively seek contact with an identified source of information on a specific information

platform and ask pre-planned questions from a prepared listing. The distributions on the primary sources of information seeking also show that male students tend to seek information more from the Internet.

Discussion on the Findings

In this study, we examined the impact of sociocultural factors on students' ICT information-seeking practices. Overall, the study's findings demonstrated the bounded homogeneity of the respondents, as they were all postgraduate students at a Zimbabwean university. As a result, there were no statistically significant differences between the perceptions of the male and female respondents in terms of their ages. More specifically, the study found that female students were more sensitive to cultural factors such as an insufficient proficiency in the dominant language of a country, i.e. a limited vocabulary in the English language. Most commonly, impediments like this result in a sense of being an outsider, a lack of social support, and mistrust of others.

The results on the assessment of the postgraduate students' ICT and Internet skills levels revealed that female students, regardless of their nationality, had poorer ICT and Internet skills than their male counterparts. These results apparently differed from the results reported in earlier studies conducted on ICT and Internet skills between female and male students (Saito and Kimura 2008). It has always been important to understand how cultures can effectively live and work together, but recent advances in ICT have brought forward new opportunities to study and understand information sharing between people from different cultures as well (Askola and Huotari 2009; Martikainen et al. 2004; Minami 2013; Statistics Finland 2007).

The results show that there are interesting sociocultural differences in the general information environment preferences and sources used by the male and female postgraduate students. Female postgraduate students preferred acquiring most of their information from other sources than the Internet. In other words, the general information-seeking environment choices differ depending on the gender of the postgraduate students. The female students seem to prefer acquiring information through close interpersonal relationships and from the printed media, professionals, and the library. On the other hand, their male counterparts preferred acquiring information through professionals and the electronic media, such as the Internet. The proliferation of ICTs has led to a large increase in the number of people of varied cultures interacting daily and new environments in which to find and use information are emerging. With instantaneous global communication comes the inevitability that people from different cultures will, from time to time, misinterpret the meanings, motivations, and intentions of others in the online community.

Search engines were the most popular and chats the least popular types of information-seeking sources with all the genders. Sociocultural differences concerning Web-based information-seeking environments were evident in the variety of information-seeking sources used and students' awareness of the information-seeking services available on

organisational websites. It was reported that the males used organisations' and business corporations' websites and other available search engine platforms more frequently, and significantly they also made more use of other services such as discussion forums—while female students restricted themselves to search engine platforms and discussion forums. Responses on the trustworthiness of information-seeking sources also show that the female postgraduate students trusted information that was obtained from the university library books and from class lectures more than did their male counterparts.

The results indicate that the information practices examined in the study—active information seeking and encountering information seeking—did not statistically differ significantly between the female and male students. Despite all this, the information-seeking practices such as those used to search for information online did vary. Male students actively sought for information and encountered the information on the Web more often than their female counterparts, and this was supported by the results that male students obtain information more often from the Internet. That is, the male students actively sought Web-based information more than the female students and the relatively high frequency in encountering information on the Web by both genders shows that information is well provided and easily accessible on the Web. Sociocultural differences were revealed and they tended to emerge in the general information-seeking environments and some topical concept areas of business management and information. However, in general there were no statistically significant differences identified in the usage of the two types of information-seeking practices that were examined in this comparative study. Of note is that earlier studies that similarly compared Japanese, British and Finnish employees indicated that the Japanese employees' assessment of their sociocultural traits and the impact of these on their information-seeking behaviour was lower than those of the Finnish and the British employees (Martikainen et al. 2004).

Conclusion and Recommendations

The impact of sociocultural factors on students' ICT information-seeking practices is a significant contextual issue that influences the students' choices of information sources from the information environment. The findings of this study revealed that there are differences in the choices of both online and offline information-seeking environments, sources, as well as the information-seeking behaviours and practices of active information seeking and encountering information seeking by postgraduate students in a Zimbabwean university. At the general level, there were statistically significant differences that indicated that female students tend to use more intrapersonal sources and the physical print media, while their male counterparts were not risk averse to explore and exploit the Web-based information-seeking sources. The study concludes that characteristics of the male and the female students' sociocultural inclinations may help to explain and demystify the puzzle of these differences. Female students tend to be inclined towards more personal-centred information-seeking sources. They display a kind of a conservative disposition towards the use of Web-based information-seeking sources, and interestingly they resort to the use of the Internet for the purposes of dealing with serious matters such as writing assignments.

By contrast, male students seem to be always inclined to explore Web-based information-seeking sources and services for most of their information needs. The study revealed that search engines and sites were the most common information sources used by the postgraduate students. However, the rate and level of use of search engines and sites by female students were lower than was the case with their male counterparts.

While the study revealed that in general information was not always actively sought for by the postgraduate students, male students more regularly sought for information from the Web than their female counterparts did. In other words, information is encountered and sought for the purposes of writing assignments.

The study recommends future empirical studies to demystify and unpack in more detail the effects of sociocultural issues on Web-based information-seeking behaviour and practices and to improve the reliability of these results by applying more elaborate research methodologies such as the grounded theory. The study also recommends further future in-depth research to explore the correlation between sociocultural factors and their impact on students' ICT searching practices.

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