EFFECT OF E-MAIL USE ON OTHER COMMUNICATION MEDIA AMONG ADMINISTRATORS IN MALAYSIA AND THE UNITED KINGDOM: A COMPARATIVE STUDY

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ABSTRACT

The Internet has become the nerve of global communication and became a growing popularity and ubiquity of personal computers and Internet services and part of everyday existence at workplace, home and cybercafés environments. This study examines the effect of Internet (confine to E-mail) use as opposed to other communication media among women's administrative staff in Malaysia and the United Kingdom. The two universities selected in this study are Universiti Teknikal Malaysia Melaka (henceforth UTeM), Malaysia and University of Brighton (henceforth UB), United Kingdom. This study is motivated by the desire to explore women's Internet experiences concerning their use of Internet (E-mail). That is to say, its aim is to investigate effect of E-mail use as opposed to other communication media. The focus of the investigation is the use of E-mail patterns. Data was collected from a semi-structured interview and it was carried out among ten women of who are administrative staffs. The study revealed substantial differences on E-mail use between participants in the two countries.

Keywords*: internet, e-mail, women, university settings, Malaysia, United Kingdom*

INTRODUCTION

Today, incorporating Information and Communication Technologies (ICTs), particularly the Internet, has become an important issue in both economically developed and rapidly developing countries. The Internet has become the nerve of global communication and became a growing popularity and ubiquity of personal computers and Internet services (Thurlow, 2004) and part of everyday existence at workplace, home and cybercafés environments. As the Internet evolves, its users and uses grow and diversify globally. Today, Internet is being used by a sizeable number of people and became embedded part of their lives. Haythornthwaite and Wellman (2001) pointed out that Internet has become clear as a very important thing, but not a special thing. In fact it is being used more by more people, in more countries, in more

different ways.

The Internet is an essentially global network that can be used in various ways and for different objectives. Internet as a tool of communication provides enormous opportunities for learners to interact effectively and efficiently with their learning activities, peers and their instructors. It also provides a conducive atmosphere for administrative officers to share information, and interact among themselves to effectively do their jobs.

Across some studies the differences in use as pointed out by NTIA points is due to factors such as '…gender, age, race, ethnicity, education, income, geographic location, English language ability…' (Chen, Boase & Wellman, 2001, p.76). Furthermore, Kennedy *et al.*, (2003) findings concurs to that of NTIA when he identified that gender, socio economic status, race, age as key factors that contribute differentials in access to the E-mail' (p.73). However, Haythornthwaite and Wellman (2001) pointed out that 'the largest and most significant differences in access and use are related to years of experience [and] those who have been online longer spend more time online each day, and more likely to be online an any particular day. They are the ones who engage in the most kinds of online activities' (p.17). There is substantial differences exist between who uses the E-mail and how long they have been using it. Hence, Haythorntwaite and Wellman (2001) suggested that '…it is time for more differentiated analyses of the E-mail that take into account how it has increasingly become embedded in everyday life' (p.7)

The primary aim of this study is to gain understanding of concepts of and explore the differential patterns of e-mail use between women from the administrators group, working in universities in Malaysia and United Kingdom. It also focused on the usage of e-mail in relation to other communication media (face-to-face communication, letter writing, telephone, fax and memo. In order to address the objectives of the study, the following research questions were formulated.

RQ1: What, if any, are the differences in e-mail use patterns between working women in Malaysia and United Kingdom?

RQ2: What are the factors affecting their subjective enjoyment of e-mail use?

RQ3: What, if any, the effect of e-mail uses over other facets of communication media at workplace?

LITERATURE REVIEW

Integrating ICTs especially the Internet into educational arenas and institutions' administration whether in developed or developing countries has gained attention and momentum of educators and practitioners alike. Internet is defined as 'a dynamic electronic network that permits computers connected anywhere on that network to exchange information' (Brook, Nolan & Gallagher, 2001, p.13).

The use of technology to deliver message in administrative processes has changed and transformed the demonstrative jobs and their effectiveness. The Internet usage in educational setting has imbued the quality of works and expanded the scopes and rapidity non-academic staff to effectively interact among them to promote the quality of the work. Internet has dramatically changed methods of interaction and providing alternative learning styles and learning in creative ways (Isman & Dabaj, 2004). Liu, Macmillan and Timmons (1998) asserted that integrating technology into a learning process as a complex instructional system in which student learning is effected by lecturers, students, administrative and technical staff, computer hardware and software resources and computer laboratory and classroom settings.

Researchers in psychology have also been concerned with the use of Internet, but with a particular focus on the social impact of the E-mail on users' well being and social networks. Recently, scholarly research on the how's and what's of the Internet as it relates to people's lives has and how Internet being integrated in everyday activities had also received some attention and addressed.

Internet and Gender

A survey of about 10,000 world wide web (WWW) users found that almost two thirds of the Internet users were male (61%), while females accounted for only one third (39%) (Sherman, End, Kraan, Martin, & Gardner, 1998). Although, the proportion of the Internet usage is dramatically increasing among women as it was reported by Heimrath and Goulding (2001), the evidence of gender imbalance is salient which indicated that Internet use is gender laden and gender bias. Heimrath and Goulding (2001) reported another poll similar to Sherman's one. According to a 1999 poll by the market research company (NOP), the percentage of the Internet users across gender remained constant at 60 to 40 for male and female respectively. However, the percentage of women online has quadrupled over the past three years while the percentage of men has tripled and among 15-25 year old Internet users' females outnumber males (Heimrath & Goulding, 2001).

Furthermore, Heimrath and Goulding (2001) link women little use of computer to social conditioning and cultural understanding, which consequently significantly contributed to women perceive of computer as something more than machine. The women have been reported to be disadvantaged in many ways and many areas connect with computer and Internet based on nothing than prejudicing against them. According to De Nicola (1996) quoted from Heimrath and Goulding (2001), parents, teachers and even software engineers were purposely discriminating against women when is related to the computer and the Internet. They give women subtle clues that computer is not for them. He reported that parents buy computers twice as often for boys as for girls which inevitably plays role in boys upper hand in gaining experiences over their female counterparts. Many researchers (Own, & Pain, 1993; Fond & Miller; Shade, 1998 Bimber, 2000; Heimrath & Goulding, 2001; Eileen,) contended that male values have been institutionalized in the technology through its manufacturing, embedding a cultural association with masculine identity in the technology itself. According to Eileen, Owen and Pain (1993), the technology is gendered by design.

Although, Internet has been viewed as global technology in which information is shared globally, there is substantial empirical studies suggesting that attitudes and usage of Internet is different across-cultural and gender. Since the origin of the Internet is an American, it is argued that it is echoed America culture and ideology. According to Chen, Mashhadi, Ang, and Harkrider (1999); Collis, (1999); and Joo (1999) information and communication technology is racially white, western, male artefacts and that the Internet itself overtly embodies American cultural qualities in terms of its language and technical users' values. Collis (1999) argued that culture is a critical factor in influencing people's accepting and use of Internet recourses. Collis and Williams (1987) and Bronsnan and Lee (1998) also suggested that students' attitudes toward computers or the Internet and their usage were found to be related to certain cultural and background characteristics. It was believed that differences between males and females in using of and attitudes towards ICT originated from gender role socialization. Gender identity is formed through a process by which societal norms and attitudes are internalized. The process begins within context of family life but parents, schools and peers reinforce existing gender role expectations.

Issues in the Digital Divide

What is Digital Divide (DD)? According to Tuomi (2000) digital divide is fundamentally about socioeconomic differences and similarities.

Yet it is also framed in terms of access to technology. The current discussion on DD often focuses on technology. It argues that access to computers and E-mail is becoming a key to the full membership in the future society. Although E-mail is important, it '…may potentially create more equality, its access and use varies by strata' (Losh, 2004, p. 153). Much of the literature documenting DD refers to the differences between the haves and the have not's regarding access to E-mail and limits its scope to the binary classification of technology use by only considering whether someone does and does not use the E-mail. Losh (2004) describes DD as the gaps in IT access and use across individuals who occupy different situations. The expansion of the term DD to '…global digital divide points to differences in E-mail access and use between countries as well as within countries' (Chen, Boase & Wellman, 2001. p.77).

Digital differences among individuals in an organizations or countries or between countries are mainly due to the adoption decision process adopted by them. Rogers (2003) has argued that the adoption of interactive communication technologies such as IT system is not comparable to older communication technologies such as television for several reasons. In general, communication technology innovations follow an S-curve of adoption, wherein each new technology is adopted by a very few at first, then much of the population as it reaches a high rate of penetration, and slowly by the few remaining late adopters. However, newer forms of communication technology, such as IT and the Internet, may create a series of dependent S-curves due to their rapidly evolving nature and cumulative digital skills required to put them to effective use. According to Rogers, the rapid evolution of technology may serve to increase existing information gaps. In essence, those who have been using the Internet are developing an increasingly sophisticated set of information seeking and processing skills, and gaps between these advanced users and the late adopters who possess only basic skill are likely to expand. Thus, instead of a single S-curve of adoption there are successive S-curves based upon skills, not just access to equipment.

Ultimately, 'The DD may be wider and deeper within developing countries than within developed countries; wider in the sense that few people actively use the E-mail and deeper in the sense that the consequences for not being online may be greater when moving beyond a subsistence level' (Chen, Boase & Wellman, 2001, p. 80). Although efforts are being made to increase opportunities for E-mail access by making it available at locations such as public libraries, cyber cafes, and the decreasing cost of access may be responsible for narrowing the

access gaps. However, skill and comfort gaps persist. This leads to the conclusion that the digital difference really is not a problem; rather it is a natural progression of the market and will resolve itself in a given time.

Motivations for and barriers to Internet's uptake

Motivations for Internet's uptake much depend on many factors. If people have a meaningful motive for going online, they will come. However, this is not the same as saying, 'Build it, and they will come', though for a few curious individuals that will be sufficient. Across many studies, the findings to the motives of Internet's uptake are in agreement. Interpersonal communication and information search are the two primary motives underlie the Internet's uptake in work and non-work contexts. Katz and Rice (2002) mention that the resources available on the Internet's will be used by the people who are interested in them and their purpose may not always be the same uplifting purpose advertised by Internet's sponsors or various social or user groups. It was identified however that: '…the primary motives for using the Internet's are interpersonal communication and information search (Charney & Greenberg, Jackson *et al.*, as cited in Farfaglia *et al.*, 2005).

Findings from past studies suggest that Internet is used for interaction or communication (sending and receiving e-mails), socio personal development (finding information related to study, work, interest etc.) are the most common reasons cited for the Internet's uptake. Apart from that common reasons, Teo (2001) who conducted a study among the respondents in Singapore, discovered that perceived ease of use, perceived enjoyment and perceived usefulness are the major reasons for the respondents' Internet's uptake. However, in recent years, the importance of 'information highway' and asserting 'informational capitalism' society in most countries by the governments, the utilization of the Internet's will no longer be a question of free choice but rather that regular use becomes a necessity for a competitive organization (Savolainen, 2000). He points out that cultural and social factor motivate people to start using the Internet's and conclude that the predominating values of society may also affect, even though indirectly.

Specifically to the barriers faced by women; University of Wollongong Survey (1995) discovered that the biggest barriers to women going online are lack of time and money. These findings seem consistent and predominantly apparent in studies conducted in developing countries. In an international survey of women's groups and individuals (APC; Farewell *et.al.*, as quoted in Scott, Semmens & Willoughby, 1999),

the most frequently cited barriers to women's ICTs access were lack of training and the cost of equipment. The respondents mentioned problems related to equipment accessibility, lack of time, information overload, language constraints, lack of privacy and security, fear of backlash or harassment, skill deficiencies and alienation as barriers in their Internet's uptake.

A cross cultural finding on E-mail's barriers among the Egypt and UB were elicited. Tucker, Younis and Shallaby (2002) found several barriers of using E-mail in Egypt and UB. Firstly, the high cost of E-mail dialup access. The average cost of Internet dialup access is around $20 per month in Cairo and access cost can be two or three times higher outside Cairo. Secondly, the initial cost of computer hardware and software, put the Internet well outside the reach of the general public, especially in rural areas and outside major cities. Thirdly, outside the scientific and technical community in Egypt, there is a serious lack of computer literacy. Apart from these, limited awareness of modern technology, few skilled professionals, and a scarcity of local information content all serve as barriers preventing the widespread acceptance of the Internet. Despite the advances in software, language and culture barriers are still important and provide one of the major obstacles in developing applications or technology. Conversely, there are not many technical barriers preventing people from gaining access to the Internet in the United Kingdom.

In Malaysia context, Syeda Tasmina (2001) conducts a survey among academic and administrators' use of Internet and one of the main findings discovered that cyber pornography is the main reason why women in Malaysia are not going online. Syeda Tasmania further explains that Malaysian women in her study feel that the indecent material in E-mail is the main obstacle for adopting the Internet . Apart from that, other barriers cited in the study are lack of knowledge (37 per cent), not socialized with high technology (15 per cent), do not have enough computer skill to use the E-mail (11 per cent) and no interest to use Internet (4 percent). Hence, it is seen that women's attitude derived from lack of knowledge, skill or perceived technicality still poses a barrier to adopt the technology. However, some researchers argue that barriers are cultural and social and that it is not technological.

THEORETICAL FRAMEWORK

Roger's theory is widely used theoretical framework in the area of technology diffusion and adaptation. According to Edgar (1995) the

theory is the most appropriate for investing the adaptation of technology in higher education and educational environments. Frequently, Roger used technology and innovation interchangeably. He stated that "a technology is a design for instrumental action that reduces the uncertainty in the cause-effect relationship involved in achieving a desired outcome" (Roger, 2003, p.13). Interestingly, Roger defined in his book Diffusion of Innovation the diffusion process as one 'which is the spread of a new idea from its source of invention and creation to its ultimate users and adopters'. He obviously distinguished between the adoption and the diffusion processes based on individual or group interaction with the technology. According to him, the diffusion process occurs within society, as a group process, whereas, the adoption process is pertains to an individual. Within this context, "adoption" refers to the stage in which a technology is selected for use by an individual or an organization. Hence, Roger claimed that ICTs adoption is the mental process through which an individual passes from first hearing about an innovation to final stage of adoption. Roger also divided that adoption process into five stages. These are (1) awareness, (2) interest (3) evaluation (4) trial, and (5) adoption. It's obvious that these stages are orderly arranged because adoption is difficult to be without awareness, interest, evaluation and trial. The magnitude of adoption is therefore largely depending on the stages before adoption (awareness, interest, evaluation and trial). Although Roger stressed that rejection of innovation (a decision not to adopt an innovation) may occur during any stage of the adoption process, little discontinuance (rejection that occurs after adoption of the innovation) occur after the adoption as a result of supersede of a superior innovation replacing a previously adopted idea. The theory was chosen because firstly the notion of Internet use by working women involves use of personal computers at workplace for a wide range of activities (work and non-work tasks) but also the use of other communication media at workplace. Secondly, this theoretical framework emphasizes the diffusion of the Internet from adoption, to use, to effect or impact in an integrative way.

METHODOLOGY

The present research qualifies as a descriptive and exploratory phenomenology. The method used here was a qualitative semi-structured interview approach and observations. No qualitative studies up to this point have been conducted on the differential effect on E-mail use among women in Malaysia and United Kingdom, different tasks which they carried out on E-mail, how and why, factors affecting an enjoyable E-mail experience feelings, perceptions and usage of E-mail.

One of the rationales for the qualitative approach in the present study is the significance of understanding, describing and explaining complex social phenomena that take place. The qualitative method chosen was deemed appropriate in allowing the participants to think, talk about, and talk out their thoughts and feelings on a given subject. Given the exploratory nature of this research asking the participants directly about their E-mail uses appeared the clearest route to gain this important information. Thus, semi-structured interview is employed. The study adopts the observation and semi structured interview as a mean of data gathering for the study. The interview guide was used to retrieve participants' experience using e-mail. The participants were asked to describe their e-mail use and other modes of communication at workplace.

Methodological approach

Carrying out interviews among women in University of Brighton, United Kingdom and researcher's home university in Malaysia was a golden opportunity for me to gather different viewpoints and assumptions held by women of Internet users staying at extremes ends of the globe. During the interviews, it was found that the participants were generous in imparting their experience and sharing their views and opinions about Internet usage. It was also observed that face-to-face interviews allows the interviewer and interviewee to communicate informally and to provide ample room for both to clear doubts pertaining to the issues discussed, more meaningfully. The rich information gathered (including some off-the-record statements) could not possibly have been collected if the study had been carried out through other methods.

Through the interviewees, interviewer could listen to the participants themselves, and to gain an awareness of their perspectives on the use of email and web at workplace specifically in the university settings. It was thought that the best possible way to find out the women's views and perspectives on email and web use was by talking to them and listening to what they had to say about it personally. In doing so, I had a greater opportunity to probe essential follow-up questions which could not be done using other research methods. Conducting interviews among the working women was a golden opportunity for the researcher to gather different experience and viewpoints held by the women involved in the email and web usage. Identification of concerns and understanding issues related to the utilization of email and web usage can only be sought through the interviews conducted.

During the interviews, it was found that the twenty participants were

generous in sharing their views and opinions about the email and web usage. It was also observed that face to face interviews allowed the interviewer and interviewee to communicate informally, and to provide ample room for both to clear doubts pertaining to the issues discussed, more meaningfully. The rich information gathered (including some off-the-record statements) could not possibly have been collected if the study had been carried out through other methods. Although, interview is considered to be the main method used to carry out this study, the qualitative research approach is holistic in nature in which interview could not be separated from researcher's observation of phenomenon under study. Thus, observation is complimentary to the interview.

Validity and Reliability

In response to the questions underlying the issue of validity, reliability, and generalisability that researchers confront, by interviewing a number of participants, one can connect their experiences and check the comments of one respondent against those of others. The goal of the process is to understand how respondents understand and make meaning of their experience. If the interview structure works to allow them to make sense to themselves as well as to the interviewer, then it has gone a long way towards validity (Siedman, 1991). According to Vygotsky (1987), the very process of putting experience into language is a meaning-making process. The discussion on the appropriateness of interviews in the previous section confirmed the selection of research method. The exploratory qualitative research method, through interview was chosen for the study in order to gain views on the use of Internet by working women. Since a comparison of women's use of Internet at work place in western and Asian country is very much a newly study, it was essential that information gathered from other sources could support and validate the information elicited from respondents in the interviews.

Participants

Twenty working women were selected from the selected university namely Universiti Teknikal Malaysia Melaka (henceforth UTeM) located in Melaka, Malaysia and University of Brighton (henceforth UB) located in England, United Kingdom. Why are the participants selected are those working in the university? This is because, women from Universities as they have the privilege of being provided a personal computer with an E-mail access (Johari Talib, 2009) and 'the university is one of the environments that quickly adopted the Internet' (Codoban, 2005). Moreover, the women have been focused in this study

especially for Malaysia situation due to the fact that more than 60% of the civil servants in Malaysia are women. This participation of women in workforce in Malaysia is mainly due to economy expansion and industrialization that Malaysia witness few decades ago.

This technique of recruiting participants is referred to in the literature as 'purposeful sampling'.   Purposeful sampling, in contrast to probabilistic sampling, is 'selecting information-rich participants for study…' (Patton, 1990, p.169) when one wants to understand something about those cases without needing or desiring to generalize to all such cases. Thus the purposive sampling of women working in computer network organisations such as the university was selected to become the participants of this study. A total of twenty working women took part in the present study ten each from UTeM and UB respectively. More precisely the two main groups of participants selected for this study were the administrators   from Malaysia (UTeM) and United Kingdom (UB). Twenty participants, of who were administrators were interviewed. The main study was carried out towards the end of 2005.

FINDINGS AND DISCUSSIONS

The immediate objective is to uncover accounts of when, how and why and for what purpose e-mail is being used by working women in geographically and culturally diverse sites. A second objective is to study the effects of e-mail use over other facets of the workplace communication. The ultimate aim is to interpret these reports in order to uncover patterns that may point to factors such as job status, age and cultural differences.

The results are organised under three different themes pertaining to e-mail use, built up from raw data according to their underlying similarities. The themes are as follows:

- Differential e-mail usage patterns
- Affective issue around the use of e-mail
- Impact of e-mail use over other facets of the workplace communication

Participants' Profile

The participants of this study consisted of ten administrative women working in two selected higher institutions and their ages ranged

between 20 and 55 years old. Comparison between two categories of participants suggested that the participants from KUTKM tend to be younger than UB participants. The age differences among the different participants across the group have effect on their experiences and perhaps the ways both groups interact with the e-mail and what they are using e-mail for.

The travail observation of the administrative staff academic qualification suggested that there were no big differences between both groups. A participant from each group earned BA degree or equivalent, while four of Malaysia administrative and one of UB participant obtained their GSCE or equivalent. Furthermore, three of UB participant obtained A level or equivalent.

Patterns of E-mail use among administrators

The findings show that majority of both UTeM and UB participants have up to eight years of experiences of using the E-mail. Generally, UB participants' have long period experience in using e-mail than UTeM participants'. Karen for example indicated that she have only five years of experience in using e-mail and perhaps extensively lower compared to some of Malaysia participants. She clearly stated that:

> *I have been using e-mails hhmm 5 years ago and the web has not been very long and I don't use much of it. I access the e-mail from office and I don't go anywhere else to access e-mail. I don't have computer at home.*
>
> *(Karen, Subject coordinator, UB)*

However, not all UB administrators have long period experience in using e-mail and WWW but rather there are some of them who have been using e-mail shorter than some of UTeM administrator participants. This is not simply means that there is no KUTKM participants who have been using e-mail for long time. The dialogical interview uncovered that some Malaysia participants have as longer experiences as UB participants. For example Aminah, an assistant registrar from UTeM started using e-mail since her undergraduate studies and continues until she works.

> *Since my undergraduate days… more than ten years la.. hmm e-mail too.*
>
> *(Aminah, an Assistant Registrar, UTeM)*

The possibility could be the diffusion and adoption of the E-mail began earlier in UB than in UTeM. Moreover, the availability of the e-mail infrastructures and previous history of the e-mail usage (experience) seemed contributed significantly to the adoption of the e-mail and its usage.

Interestingly, UB and UTeM participants owned different number of e-mail accounts. Almost all UB administrator participants who were interviewed reported that they keep to only one e-mail account and the account is the one provided by the university. Nevertheless, I discovered that Malaysia administrators participants do not satisfied with only one e-mail account at is the issue with UB participants but rather have in some cases up to three e-mail accounts and at least two accounts. Specifically, Malaysia participants revealed during the conversation that they have different accounts e-mails for different purposes, explained that they have the university e-mail account and either or the Yahoo, Google and Hotmail accounts.

Probing into the justification of having more than one e-mail account among the UTeM participants they mentioned that by having more than one they can instantly differentiate between personal and work e-mails. The circulation of their e-mails accounts go accordingly to the circles of recipients. The university e-mail account is meant for work purpose and being circulated among their colleagues and superiors' whist the Yahoo, Hotmail or Google accounts is circulated to friends and family members.

Mary a programme assistant contended that she only has one e-mail account which she is using for work-related assignment or personal issues such as getting in touch with friends or relatives. However, she constantly arranges the income message accordingly. For example she has a separated file for office related issues, another for friends and the third one is for relatives and so on. She said that:

> *I have only one e-mail account that is the university account. I send e-mails from my workplace and I don't access it from any where else… and I don't have computer at home. The e-mails that come into my box will be organized. I have special folders for these for example personal folders where I keep e-mail from my son and friends. I use to communicate via e-mail with my 24 year old son –my second son but this does not happen with my eldest son who is thirty years old. I communicate with him via phone. Then I have this school office's folder where the related e-mails are kept. These e-mails will first go to the main computer at the receptionist table, then later it will be*

> *disseminated to the respective personnel in this school office for their attention. Later I will organize it and keep it in the respective folder for records. Here we keep the records electrically but .. but I do keep some hard copies for back up purpose.*
> *(Mary, Programme Assistant,UB)*

The plausible reasons for the different style adopted in by UTeM and UB participants in segregating between work and personal e-mails is viewed as having the different online experiences and skills acquired. Although both kind of participants segregate between work related e-mail and personal e-mail, however, UB participants do the segregation within one e-mail account, whereas Malaysia participants do separate between work and personal e-mails through creating new e-mails account(s) such as yahoo, Google, or hotmail, depends on personal preferences.

The volume of e-mails received by the participants in a typical working day is depicted depend largely on the user orientation and perception towards the e-mail. Evidently, the result indicates that a bigger volume of e-mails is received by UB participants. The number of e-mails received on a typical working day ranges between 11 to 50 e-mails. None of five UB administrator participants received less than 20 work related e-mails per day whilst only one Malaysia administrator participant receive up to twenty e-mail per day, the other were far below twenty e-mail per day. As reported, the bigger volume of e-mails received by the UB participants is basically due to their practise that is they claimed that they worked through e-mails. Lucy a research administrator said that:

> *I worked via e-mails…much of my work is done via e-mails. If I don't attend to e-mails they may be saying that I am not doing work*
> *(Lucy, Research Administrator, UB)*

Another participant, Mary mentioned:

> *They sent me work related e-mails. They used that medium (referring to e-mails) …so I replied using the same medium…*
> *(Mary, Programme Assistant, UB)*

The holistic picture of the phenomenon can also be obvious through marry following quotation. Because UB administrator completely relied on e-mail for their work due to its effectiveness and efficiency and due to the nature of their job as was claimed. UB participants unlike Malaysia participants receive e-mail from every handle such as

superiors, colleagues and potential candidates of their institution on issues related to their work.

Interestingly, UB administrative staff of effective of e-mail in delivery message might to some extent contribute to the volume and length of e-mail usage. Lucy indicated the reason of constantly using the e-mail in this following statement:

> *I use e-mail because it is very convenient, it cuts out time, easy to write than to talk over the phone and they can pick up the e-mail as soon as I can. Besides that it is like a document which u can refer and retain. Unlike the telephone what is said is easily forgotten. I don't want to disturb my colleagues with the noise of the phone.*
>
> *(Lucy, Research Administrator, UB)*

On the other hand, Malaysia administrator staff received a lesser volume of e-mails as compared to their counterparts in UB. The highest volume which they received is between five to ten e-mails. The rest out the UTeM participants who received less than 5 e-mails per day mentioned that:

> *2-3 e-mails only…because only certain people will have my e-mail …They are my cousins…No work related e-mails …I too have very limited time to access e-mail. I am busy with preparing lecture notes and lecture presentations.*
>
> *(Hidayah, Assistant Registrar, UB)*

Furthermore, the analysis of the interview also indicated that the contents of the e-mails received by the participants are of various in nature/function and across the senders. Comparatively, the contents of the e-mails received by the UTeM participants (if the e-mails are work related) are; to inform or to update on events. For instance, e-mails on circular letters, marriage, death, appointments of staff, social activities.

> *I don't need to reply any of the e-mails received…it is mere informing on certain matters…like meetings, announcements, changes of dates…*
>
> *(Juriah, Assistant Registrar, UTeM)*

UTeM participants are asked on how do they receive and disseminate work related information. They reported that it was done mostly through letters. More crucial matters are alerted by telephone or face-to-face communication. It was also make known that Malaysia institution

staff would prefer telephone call, memo and face to face communication than e-mail to disseminate the information. The culture pervade in Malaysia high institutions is that the information is circulate through letter, telephone call or face to face communication. According to Aisah a personal assistant:

> *No, never I do receive e-mails from superiors. Besides that, I also use the phone. My superiors resort to phone and face to face communication.*
>
> *(Aisah, Personal Assistant, UTeM)*

Mahirah also echoed Aisah view. She admitted that rarely does she communicate with boss or superior through e-mail but rather she booked appointment with him for face- to- face communication.

> *Ha … my dean I prefer face to face communication. I did send to my Dean, sometimes just informing him, but sometimes it exceeded his quota thus e-mail bounced back.*
>
> *(Mahirah, Personal Assistant, UTeM)*

Hence, it is seems from the quotations that superiors also do not e-mail oriented but rather prefer to communicate with their subordinate through the phone call and face to face communication. However, the UB participants reported that (if the e-mails are work related) the e-mails received come in various functions such as; to updates, to furnish information, to inform, to enquire, to attach some work related documents or modules, to exchange ideas, to make suggestions and to propose some solutions with regard to some not too complex situations. Evidently, among the UB participants, it is seen that the work related e-mails covers a range of purposes. Results also show that UB participants have larger group of e-mails senders as compared to UTeM participants; UB participants communicated via e-mails with these groups of peoples for work or non work reasons and UTeM participants have smaller group of e-mails senders as compared to UB participants.

As earlier indicated UB administrative staff frequently receives e-mail from family members, friends, colleagues from different university, current students, teaching colleagues, university administrators, superiors, conference/seminar organizers, firm/companies and mailing list.. On the other hand, Malaysia administrative staff uses e-mail only to contact family members, friends and colleagues from the same university. These findings illustrated that the utilization of e-mail among Malaysia administrative staff of higher institutions are very limited. On

that note, Annabelle, Manager of SCU, Marry, a programme assistant and Gilbert, a senior resources assistant self reported that:

> *I received and sent e-mails to my team, my line managers, Head of school, administrators and academics from other departments in this university… from outside organization, companies about queries about student's placements, students, course leaders…*
>
> *(Annabella, Manager SCU, UTeM)*

> *I spent about two to three hours per day on e-mails. I receive a lot of e-mails - 150 e-mails per day. These e-mails are from the prospective students who want to study in Brighton University. Also, it comes from current students, colleagues, now…I work for two course leaders and one line manager (my superior). I sent out e-mails as much as I received but, sometimes I don't need to reply them as it mere informs on certain matters – like the university's e-mail*
>
> *(Mary, Program Assistant,UTeM)*

UTeM participants have smaller circles of e-mails senders as compared to UB participants as depicted in Table 4.8 reported the following. Didi, who works as an Assistant Administrator, mentioned that she communicated with much selected people via e-mail whom are her cousins.

> *Hmm very few people …Only certain people will have that e-mail address of mine…They are my sister who stays in France and my cousins…*
>
> *(Didi, Assistant Administrator, UTeM)*

Other UTeM participants reported that her e-mails senders are merely her colleagues.

> *The senders are my colleague and my previous friends from UNIMAS in Sarawak and that's about all.*
>
> *(Juriah, Assistant Registrar, UTeM)*

> *Hmm…friends within KUTKM; sometimes I get e-mail I mean e-mail to inform everyone in the university - a copy from the Registrar and the rest my members lah… Superiors – Dean no!! Deputy Dean yes…sometimes he tells what need to be done, how to be done. The highest is the Deputy Dean who sends e-mail.*
>
> *(Aminah, Assistant Registrar, UTeM)*

As it was clear from the above quotation, UTeM participants rarely received e-mail from their superiors or they do not receive any e-mails from them (for instance the dean of the faculty). Evidently the following excerpts explained the situation.

> *…I do send e-mails to my superiors like my dean but I do not receive e-mail from him…After all to me it is rude to inform my superiors via e-mail. If there is anything to be informed, I shall see him personally... ya ya… face-to face communication….*
> *(Nadiah, Assistant Administrator, UTeM)*

> *Mostly among Colleague in UTeM; normally I don't receive e-mails from friends. No, never do I receive e-mails from superiors.*
> *(Aisyah, Personal Assistant,UTeM)*

Other factors which constitutes to the smaller group of e-mail senders among MAL participants could possibly be explained by the typical mode of communication adopted at the workplace and the diffusion of other communication media such as the telephone (land line), mobile phone, memos, fax, and face-to-face communication.

Also, besides that the UB participants reported a regular checking habit on their e-mails as compared to their KUTKM counterparts. The patterns depicted by the UB participants are, they checked their e-mails in the morning, during coffee break, after lunch break, before returning home in the evening and some checked their e-mails throughout the day's work.   In some of the UB participants own words:

> *Monitoring it all the time… if it beeps – I'll check it immediately coz I don't like to have a big queue.*
> *(Lucy, Research Administrator, UB)*

> *I would say that it is done regularly……morning, afternoon and evening…*
> *(Marilyn, Senior Resource Assistant, UB)*

On the other hand, UTeM participants had reported a combination of regular and irregular patterns of checking their e-mails. Majority UTeM participants checked their e-mails in the morning whilst some other UTeM participants reported that they do not have a regular pattern of accessing e-mails. UTeM participants reported that they checked their e-mail any time within 08.00 – 17.00 in a typical working day. It was also found that some also checked their e-mails in the specified situations such as whenever they are free, when they have nothing to do, when

they are expecting an e-mail and after they are being informed of an incoming e-mail either by telephone (land line or short message via mobile phone).

Excerpts from UTeM participants who reported that they only checked their e-mail any time within 0800 till 1700 in a typical working day are as follows:

> *The first thing in the morning, no…during lunch hour and before I go back. But if I am expecting an e-mail, I will check frequently.*
> *(Mahirah, Assistant, UTeM)*

> *Usually I check twice a day (during office day) in the morning and the evening; unless somebody called and ask me whether I have read the e-mail. If not only twice a day lah I check…*
> *(Nadiah, Assistant Administrator, UTeM)*

> *Apart from that, I also check the e-mail in the evening or whenever I am free. I send e-mails to cousin and friends lah…better e-mail than phone lah…E-mail aaa…when we want to say something we might forget but if I do it over the e-mail.*
> *(Farah, Assistant Administrator, UTeM)*

> *It depends…when I have so much work…you know.. typing some letters or documents, I don't have the time to read or reply e-mails… Sometimes I left it for a week….I am busy…sometime the boss wants me to do this, to do that… and they want it fast…*
> *(Habsah, Personal Assistant, UTeM)*

From these excerpts, implicitly, that UTeM participants will not checked their e-mail when they are too busy; fully occupied with other tasks/ priorities, not expecting an e-mail and are not being informed or alerted of an incoming e-mail.

The reasons associated to the irregular patterns of assessing e-mails as reported by many KUTKM participants are factors such as frequently attending meetings, attending seminars or workshops, heavy work load, away from the office, and the 'log in' time is too slow, the work and organisational culture, the implementation of the system adopted, technical support of e-mail use, the personal attitude and the technical problem associated with its access.

Factors affecting the subjective enjoyment of e-mail use UB administrators unequivocally claimed that they normally do not

encounter any technical problem(s) that might lead to frustration (s) during their internet usage. The only frustration they encountered with e-mail is when receiving spam e-mails. However, Malaysia administrative staff experienced high and greater number of frustration. Some of these frustrations originated from recipients' attitudes towards e-mail, and others are internet technical problem such as connection problem. Didi, an assistant registrar experienced her frustration by saying:

> *I sent e-mails to all the staff …a few will come to me and said that 'nobody informed   me that there's a meeting' or 'I don't receive any letters telling me about the   meetings…I strongly feel it is more of one's attitude…*
>
> *(Didi, Assistant Registrar, UTeM)*

Farah, an Assistant Administrator also illustrated recipients' attitudes by saying:

> *Some claimed that they are too busy, don't even have the time to access e-mail, or   they are away from their office and as such they are not informed or updated on work   matters.   They   are merely defending themselves…*
>
> *(Farah, Assistant Administrator, UTeM)*

> *The e-mails that I sent were bounced!! What does it mean??...the person's attitude....they leave their e-mail box unattended…*
>
> *(Habshah, Personal Assistant, UTeM)*

Apart from that, respondents also complained of the speed of Internet connection, blocking certain WWW such as chatting WWW as sources of frustration for them. According to UTeM participant internet speed connection and blocking the chat rooms are obstacles in using the internet.

> *The faculty has on server so if they detect the staff chatting on unimportant matters – they will block this facility. Chatting I necessary, it helps my work.*
>
> *Aminah, Assistant Registrar,UTeM)*

> *Not much problem when accessing the Internet, only when we can't access the   Internet. The server is down usually like once or twice a month and sometimes it hangs.*
>
> *(Aisyah, personal Assistant,UTeM)*

> *Internet, aaa…no, it didn't disconnect me, in fact I am connected virtually! Problems – net working problem, server down; this is a real problem, electricity slip…the frequency is about twice a month. UTeM block chatting facilities like yahoo messenger coz they felt that it deviates one concentration on his/her work. To me this is unwise, It doesn't mean the work is not done you know….*
>
> <div align="right">*(Farah, Assistant Administrator,UTeM)*</div>

What could be interpreted from these findings is; it is not apparent at the moment that Malaysia participants have integrated e-mail in the working practices as compared to UK participants work practices. They still perceived that other mode of communications such as telephone, letters, fax and words of mouth could be resorted to, to inform on work or personal matters.

Computer-Mediated and Non-Computer-Mediated Communication
The last issue that was being investigated was the frequency of use on non-computer-mediated communication (telephone, letters, fax and memo) as opposed to e-mail at workplace. Participants reported of their most preferred media used to the least preferred communication media at workplace. It was found that the extent in which e-mails being used at the workplace, it gives impact on the frequency of use on non-computer-mediated communication (such as letters, telephone, fax, memo) at workplace. In UB participants own word.

> *less ringing now, quieter…*
>
> <div align="right">*(Lucy, Research Administrator, UTeM)*</div>

> *…I used memo occasionally…more for internal type of communication or when I attached some hard copies, I usually fix a memo on it… yeah…*
>
> <div align="right">*(Gilbert, Senior Resource Assistant,UTeM)*</div>

However in UTeM, the circumstances in which non-computer-mediated communication (telephone, letters, fax and memo) are being used are explained below:

> *..telephone…very useful, always ringing……telephone is sometime used to remind someone to read the e-mail sent…*
>
> <div align="right">*(Didi, Assistant Administrator, UTeM)*</div>

> *…telephone, the most important mode of communication over here coz it is so easy… just pick it up…*
>
> <div align="right">*(Farah, Assistant Administrator, UTeM)*</div>

> *…in fact I use all the communication media, telephone is the most frequent lah…no telephone…handicapped!!! Sometimes, I do my work just on the phone….very important lah….*
>
> <div align="right">

(Mahirah, Assistant Registrar, UTeM)
</div>

> *Letters is highly look upon as having the most reliable and trusted formal document*
>
> <div align="right">

(Didi, Assistant Administrator, UTeM)
</div>

CONCLUSION

Hence, to conclude; the patterns of e-mail usage between UTeM and UB are different in volume and magnitude. The results demonstrated that the level and intensity of usage in both and personal tasks among the participants between the two countries differ. Malaysians had shorter histories of e-mail use and use it less, particularly in work. In the UK, e-mail in particular is tightly integrated into everyday work life at all levels.

Pertaining to the affective issues around the use of e-mail; the UB administrators at the time of study were broadly positive about e-mail, which worked well in their context. Spam was the only problematic issue. At UTeM there were more negative comments. There was irritation from the Malaysian administrators due to lack of critical mass users in the workplace. This means that e-mail use is frustrating, as there is uncertain that an e-mail once sent will in fact be read and acted upon. They have not integrated e-mail into their working practices extensively as compared to UK participants.

Computer-Mediated and Non-Computer mediated Communication
There were significant differences in media choice, with UTeM participants reporting that letters on the one hand and synchronous communication face-to-face conversation and telephone on the other were generally preferred to e-mail. This was particularly the case when communication between superiors and subordinates was concerned.

The results viewed from the perspective of Rogers' Innovation Diffusion Model, using the characteristics of triablty, observability, complexity, relative advantage and compability. The model worked well to describe the factors leading to e-mail adoption and non-adoption. In order to explain the difference in take up, we then looked at the results through the prism of Hofstede's cultural dimension, finding that the dimensions

of individualism/collectivism and high/low power   distance were particularly pertinent and thus conforming the informal hypothesis that the cultural underpinnings of a group play a significant role on its decisions about adoption of innovation.

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