

Globalization, Technology Diffusion and Gender Disparity: Social Impacts of ICTs

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Chapter 10

Gender Symbolism and Technology Uptake: A Literature Review

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ABSTRACT

The need to promote adoption of technology in general and Information and Communication Technologies, computers, and the internet in specific terms has increasingly become of interest. Observation is that while some potential users take on the innovation with much ease, others remain less enthusiastic, and some do not uptake at all. In addition, there are differences noted between male and female users. The reasons influencing the differences are not yet well explained but could be as a result of gender symbolism. The objective of this chapter is to review literature on gender symbolism and cite explanations supporting the influence of GS on differences in uptake.

INTRODUCTION

Several studies document that males not only have better access to computers and the internet than the females (Komerik, 2005) but also enjoy long hours online and also seem to be more enthusiastic about the use of computers and the internet (Agbonlahor, 2005; Brous, 2005; Hafkin & Tag-

gart, 2001; Huyer & Sikoska, 2003; Madanda, Kabonesa, & Bantebya-Kyomuhendo, 2007). In addition, differences are observed in the areas of interest among what the male and females do with the computer and the internet (BBC, 2007; Komerik, 2005; Nsibirano, 2006) although the findings are not conclusive enough to point out how differences in meaning formation and attachment to the technology could provide explanations for the disparities.

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Gender Symbolism and Technology Uptake

In the study of the influence of gender symbolism (GS) and disparities on ICT uptake, analysis is made of the concept of “Gender Symbolism”. By definition, according to Harding, in (Cockburn & Ormrod, 1993) GS is the process by which meanings are assigned to everything in the world. Out of GS, the two very important variables that stand out are: meanings and values. In every day speech, and actions too the term “meaning” is used. However, each time it is used, it takes on different meaning. Ogden & Richards, (1923) identified 16 different meanings, which depend on the person using the term. Hence Berlos’ conclusion that meaning is in people. Each person or group of people, depending on their experiences create and define meaning(s) in their own specific and meaningful terms.

Several studies and scholars have explored the use of meaning. Among them are: Marketing studies, Agricultural technology adoption studies (Diederer, Meijl, Wolters, & Bijak, 2003), communication studies and literature--to show deeper analytical interpretations otherwise not given and in nursing care studies -- where the medical workers sought to understand the meaning to life of patients, whose life experiences had been interrupted by negative or threatening experiences like chronic or terminal illnesses and so required assistance in their readjustment and refocusing of the meaning of life (Skaggs & Barron, 2006). These studies found out that: Meaning is subjective (Heath, 2003), necessary in social processes and central to pursuing a life characterized as purposeful and goal directed. It is meaning that gives direction for one’s life as it directs and defines action(s) (Barbalet, 1999; Skaggs & Barron, 2006). The absence of meaning in an activity or circumstance leads to an experience of boredom (Barbalet, 1999; Skaggs & Barron, 2006). However, noted was the fact that meaning is not static but flexible (Heath, 2003). Meaning can be interrupted (Skaggs & Barron, 2006), re defined or even changed by experiences, through ones relations’ in society. Meanings do

not arise in solitude. So in the interrogation of meaning and gender symbolism, interaction or the relationship of individuals with the Innovation, in more specific terms with the computers and the internet in this case is very important. It is out of such interactions that some technology adopters have been seen to regress from use or adoption, although not many studies have investigated why there is withdrawal from use.

On the other hand values are objective, give structure and an element of rigidity to a person’s character. It is from the subjective meanings that social values are formed. It is values that help determine actions and behavior. Further, values can transform relationships. However, values could also change depending on the changes in a given society (Heath, 2003).

In reality, individuals mix meaning and value. The line separating the two is so thin that even the definition of either is not easy to comprehend. None the less, meanings have first to be formed, more often through interaction and relationship then the values will be formed, that then support actions of the said individuals. When existing values are affected by new developments, they could change and so give rise to new meanings being taken up by individuals. All in all, in a study examining the influence of GS on disparities in uptake, an individual and his or her interaction(s) in society (with technology) is very important as it enables the focus to be placed on experience, which experience brings out the details of actions and the resulting meanings and values. It is this perspective that did not come out well in the previous studies, which were also mainly quantitative. In addition earlier studies that interrogated meaning did not look at students and the use of ICT and were not done in an African setting.

Echoing the words of Miles and Huberman (1994) efforts to excavate meaning are best pursued through qualitative analysis. Therefore, this present paper seeks to underline the influence of gender Symbolism on the definition of meaning, and how differences in meaning definition could

explain the existing differences in use from a qualitative perspective. Differences abound among meanings formed and defined by male and female users of technology. These “different meaning” could be behind the disparities in uptake. Unfortunately, these are only assumptions. From the reviewed literature, there is no documented explanation to this effect.

Meaning and Value in Gender Symbolism: Theoretical Debates

Gender Symbolism (GS) as earlier discussed, is the process by which meaning is assigned to everything in the world (Cockburn & Ormrod, 1993). Therefore GS is a lens through which those studying adoption choices can see meanings driving the actions or non action of the people involved (Ogden & Richards, 1923). Meaning(s) have the following qualities; they are flexible and are in the present. It is further said that Meanings arise from the ego/self and are influenced by community interaction. Those actions or experiences that happen in solitude like meditations, where people are in isolation usually do not change meanings, but instead work within the existing meanings.

Measuring or the appraisal of meaning can be done through examining experiences with the technology and within a set community relationship. Experience is very enlightening especially because it is through experiences that meanings are formed. Experiences that affect or influence meanings are those that happen in relationships. Individual meanings are made in interaction within society. It is meanings that transform the individual, in this case making one a user or non user (Heath, 2003).

On the other hand, values are; objective, give structure and an element of rigidity to a persons character and determine ones behavior. It is also the values that transform relationships. Values are used as defense against anxiety.

From this account, one gets the idea that once the meanings are formed, through interactions, then they will more often than not contribute value(s) which will mature into conduct in favor of or against a certain action. For the present study therefore, the understanding of both meanings of students and the values assigned to computer and internet use is significant if we are to understand determinants of the differences in uptake. This perspective has so far not been addressed by earlier studies reviewed.

Discourse (Marianne & Parpart, 1995), language (Heath, 2003) and actions are the places where the origins of meanings can be traced. What is interesting is that actions, from an interactionist perspective, only make sense to those involved in the action. Context has a strong bearing on Meanings. Therefore, an understanding of actions –of how and for what computers and the internet are used or not used for by students in their context, requires an interpretation of the meanings that the actors (users, in this case the students) give to their activities as well as the values. It is also worth remembering that meanings are not fixed entities. They depend on the context of the interaction. It is in the interaction that negotiation is done. A good example of this explanation was given by (Haralambos & Holborn, 2000, pp.,14) about lighting a candle. There are different perspectives from which meanings can be isolated, of course depending on the context and perspectives of those involved. For example: the interactionist perspective or the post modernist perspective, as will further be detailed below.

The Interactionist Perspective

This perspective presents the idea of symbolic interactionsim to explain social actions in terms of meanings that individuals give to actions. Symbolic interactionsim as discussed by George Herbert Mead (1863-1931) the founder, attests

that human thought, experience and conduct (behavior, action) are essentially social. Owing their nature to the fact that human interact in symbols (Haralambos & Holborn, 2000). Mead states that a symbol does not simply stand for an object or event; it defines them in a particular way and indicates a response to them. Julia further underscores this perspective in her statement that humans are symbol using creatures (Wood, 2005). Thus the symbol “chair” not only represents a class of objects and defines them as similar; it also indicates a line of action: that is, the action of sitting. To this, one could add the symbol of a knife. A knife indicates the action of cutting. This action is different for a kitchen knife as opposed to a panga; depending on the context it is found. And in addition, depending on who looks at the two objects, the action or behavior could be different. For example, a female looking at a panga will have a different meaning from that developed by the male. This is prescribed by the difference in gender, yet a female in a home setting could have a different meaning attached to a knife or a panga from that formed by one in a forest who needs to make way in the path or one who is attacked by a potential rapist. It would not be surprising to find another person in a more relaxed environment using the same knife to peel and eat a mango. What is common to all the above scenarios is that the resultant meanings have been developed over time through their interactions and differences in experiences, hence gender symbolism.

Similarly, the action of two adults of opposite sex when seen in a room and lighting a candle could be interpreted as one involving lovers or otherwise, depending on who sees them and their perspective. A chair, as an object could convey different meaning. It could be interpreted as a collection of timber or a material which symbolizes the action of sitting. Although wood can be used in cooking as a source of energy, this chair will not be used in cooking. This is because, the experience in the interaction of a certain individual within this

“society” has created a meaning of sitting attached to the chair and not one of cooking. So meanings are created, developed, modified and changed with in the actual process of interaction. Interactions are concerned with definitions of situation and self. It is in these interactions that actions derive meanings and in-turn meanings direct actions.

The Post Modernist’ Perspective

The Post modernist’ perspective, on the other hand, add difference to its perspective. Many different views exist; with non superior. Depending on the perspective one opts to observe a particular scenario, the action could be interpreted differently. Therefore, interactions are important as it is from these interactions that meanings are derived. Because of differences in perspective, the derived meanings are specific to a particular “association”.

What the post modernists seem to say is that we are all different. Therefore our meanings are bound to be different. This means that derived meaning could also be different depending on the differences in the nature of the interaction and the parties involved in the interaction. In addition, differences in meanings could change.

From the preceding discussion it should also be noted that when seeking to understand meaning, symbols must also be isolated because it is to the symbols that particular meanings are assigned. These symbols could be objects or materials - knife, chair, panga, or actions – lighting a candle and events. Whenever meaning is assigned to the symbols, it is done by exclude other possible meanings. For example, much as “chair” can be made of metal, plastic, wood, the symbol chair excludes other meanings- one cannot use a chair to cook or lash a child because the meaning of the symbol “chair” directs the action of sitting not cooking or lashing. This is an indication that it is through symbols that humans are provided with means to interact meaningfully with the natural and social environment.

Gender Symbolism and ICT Uptake

To the above discussion, the current study will apply the use of meaning in the situation of technological uptake. In this case, the term ICT uptake will be used synonymously to mean or refer to - in more specific terms computers and the internet.

ICT uptake has been studied before. Earlier studies have taken the form of understanding the decision to take or not to take on an innovation (Rogers, 2008), challenges and benefits of up-taking. Other studies took on the quest to analyze successful implementation of innovations. A good example is the Instructional designers who have had keen interest in design of innovations. One such example has been the study that come up with five phases in the instructional design process: - Analysis, Design, Development, Implementation and Evaluation (ADDIE Model).

However, this was later discredited for offering little guidance for the development of instructional product (Ensminger, Surry, Porter, & Wright, 2004). Tessmer (1991) emphasized the need to study the learning environment as a means of increasing the utilization of innovations. Two factors: instructional environment and support environment were identified as crucial in analyzing environment to understand utilization. This analysis, much as it looked into issues of who uses the innovation, how and where, it did not address issues of meaning and values of the users. This is what the upcoming study will try to address in as far as meanings influence disparities in ICT utilization.

In the same tone, considering students uptake of computers and the internet, an understanding of their meanings has been missing. It is not known to the best of my knowledge how the observed differences in use of computers and the internet has been brought about. This calls for a better understanding of “what symbol” a computer and the internet is to students, what meanings are formed, in which way they are formed and how they could be sufficient to explain the resulting differences

in behavior and hence explaining uptake. This is the significance of GS in the present study.

In discussing issues of Uptake of ICT from the angle of gender symbolism one realizes that it is a complex process. It takes more than the earlier statements and conclusions that gave rise to categories of “early adopters, late adopters and laggards” (Diederer, Meijl, Wolters, & Bijak, 2003; Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004; Rogers, 2008). These earlier categories did not appreciate the actions of the individual in the interaction process with the new innovation (Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004). Certainly there is more to just being an early adopter or a laggard. What makes others stand in fear of uncertain “danger” while others enthusiastically take on the innovation? It is in this paper implied that understanding and appreciation of gender symbolism will unravel the complexity in uptake.

Considering uptake of technology in general and computer and internet in particular, it is worth noting as discussed by Greenhalgh et. Al (2004) that people are not passive recipients of innovations. Whenever one has to take a decision to uptake or not to, this as a process is born through: first the innovation being made available, its experimentation and evaluation follows in the process of interaction. Then, out of this interaction with the availed innovation, one could find or fail to find meaning in the innovation. As a result that person could then develop feelings – positive or negative, about the innovation. Whatever feelings one creates out of the interaction with the technological innovation, what follows is a series of efforts to challenge or worry about or complain about the innovation, work around them, gain experience with them, modify them to fit particular tasks and try to improve on or re-design them. At worst rejection could result. These feeling, born out of the experience are the meanings and ultimately the values. And the whole process happens differently to all depending on the context.

Unlike earlier studies that have studied the use of ICT but which have not applied the use of gender symbolism and stand point theory, this study is likely to generate a new, wide and varied response due to the fact that there are varied experiences for each of the students. However, there in lies the richness of the study findings. In reality, disparities are what we live with. This is likely to be a strength of the study.

There has been a lot of enthusiasm about the advantages that come with the uptake of ICT, specifically computers and the internet for university students. For example it has been reported and documented that the internet can provide ready access to educational material, information (Selwyn, 2008), accelerate university students learning and knowledge building, enhance teaching (Hinson, 2006) and democratize access to educational resources, support interactivity and collaboration (Selwyn, 2007). In addition, Institutions of Higher Learning- universities have positioned the internet as a ready means of delivering content (Selwyn, 2007, 2008).

Because of this, many universities, both international and local have pushed for the integration of computers and the internet in the teaching and learning of students (Agbonlahor, 2005; steel & Hudson, 2001). Universities are using the internet to deliver content and even to assess students. More and more resources are being channeled to providing students with information in form of on-line books, journals and e- learning (Selwyn, 2007). In the same mind-set, studies have been conducted to understand reasons for students use or non use of computers and the internet (Corneliusson, 2005; Komerik, 2005) as well as academic staff experiences with application of ICT in the teaching and learning processes in institutions of higher learning (Agbonlahor, 2005; Hannan, English, & Silver, 1999; Hinson, 2006; steel & Hudson, 2001)

Major study findings reviewed have stated that reasons for students' use or non use of ICTs have included issues of time, cost of ownership

(Madanda, Kabonesa, & Bantebya-Kyomuhendo, 2007; Selwyn, 2007), skills, attitudes of ease of use and usefulness (Agbonlahor, 2005). While reasons for academic staff use or non use have included issues such as copyright laws, un happiness with the available softwares, time, work load, motivation and lack of institutional support (Selwyn, 2007).

The above cited studies did not explore the influence students' meanings or situated experiences have on ICT uptake. As such, a more specific exposé on university students' uptake of computers and the internet is missing.

The present study, by using stand point theory and interrogating the process of meaning formation, diversity and attachment to ICT use will avail a more detailed understanding of the status of university students ICT uptake. This is a significant contribution that will be delivered by the study 'application of the theory of gender symbolism and stand point theory. It will further address a knowledge gap that needs to be covered for effective inclusion and strategic reduction of the second level digital divide. This is still missing from the existing literature.

On the whole, studies that have sought to target university students as the key in the successful integration of ICTs, and the quest to understand their experiences with the uptake of ICTs are few (Selwyn, 2007), limited in scope and they have studied students in specific subject areas like dental, education, accounting and business studies (Selwyn, 2007). In addition, they were conducted in universities in the first world. Certainly, the findings are different from those pertaining to African universities and Uganda in particular.

None of the studies conducted have tried to understand university students experiences in the uptake of ICTs from the perspective of the students meanings and standpoint. The current study there fore will address this research gap and contribute to a better understanding of the experiences of university students from their stand point.

In conclusion this paper discusses that there could be a relationship between how and what meanings and values are created, defined and assigned to the use of computers and internet and the differences observed in uptake. As if to agree with findings from earlier research, there is need to find out from the students as players in their communities, what meanings, the symbol of a computer and the internet displays and how it has dictated the resultant uptake.

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