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Mitigating Disasters, Empowering Women and Educating Learners

Welcome to the sixth issue of the Working Paper Series on ICT for Development!

On November 8, 2013, typhoon Haiyan made landfall in Central Philippines devastating villages, towns and cities, killing at least 6,268 people and injuring countless others in the process. It was one of the strongest tropical cyclones ever documented worldwide and was the deadliest Philippine typhoon on record. As late as January 2014, dead bodies are still being found. Given such a horrific experience, scholars in the country turned their attention towards finding ways to mitigate such disasters through the use of ICTs. Several of these were presented during the third National Communication Research Conference held at the University of the Philippines – Diliman, Quezon City on February 7 and 8, 2014. And, the Working Paper Series on ICT for Development is proud to feature two of these in the current issue.

In the first paper titled “Utilization of Social Networking Sites of Government Agencies for Disaster Preparedness and Management,” Custodio, Cabañero, Zubeldia and Cortado looked at how various disaster management-related government agencies in the Philippines utilized Facebook and Twitter. They content analyzed 5,430 posts and 862 tweets of these agencies from September 2012 to August 2013 and September 18-24, 2013, respectively. Results revealed that these agencies have utilized Facebook and Twitter to easily connect with the netizens and disseminate information about rainfall advisories, flood, typhoon and traffic updates although replies to subscribers’ concerns were not seen as an important feedback mechanism. The use of English language, jargons, scientific terms, URL, PDF files, images with illegible texts and without captions, their late updates and failure to reply were the problems encountered.

In the second paper, “Meron o Wala: A Study on the Usefulness of Twitter during Typhoon as Perceived by the Students of the Selected Intramuros-based Schools,” Paladin, Ramos and Capulong-Reyes investigated the usefulness of Twitter to students studying in the Intramuros (Manila) area during typhoons. A total of 124 students were selected through a non-probability-purposive sampling. Students basically are motivated to use Twitter during typhoons to communicate with their family and friends. They use their mobile phones for logging into their accounts. Twitter is the students’ first source of information regarding typhoons and the top information sought by students is the announcement about class suspensions.

The next two papers are all about women empowerment in Bangladesh through

the use of ICTs. In a patriarchal society, women are often discouraged to engage in economic activities and own economic assets. With ICTs, women somehow manage to navigate around socio-cultural barriers relating to mobility and balancing work and household responsibilities. In the third paper, "Clothing Business Via Facebook: Position of Women in e-Business," Hossain and Sultana got inspiration from Haque, who published a similar research in the past issue of this journal. They observed that there are lots of fashion pages on Facebook and that these pages have become display windows for customers. Facebook page owners, who are female entrepreneurs, need not invest additional funds for such displays. Such an arrangement is beneficial for these entrepreneurs (who have limited access to capital) given anti-women and complicated bank loan procedures.

In the fourth paper titled "Empowering Women through Online Bakery Stores in Bangladesh: Barriers and Effective Strategies for Growth and Development," Haque (this time with Quader) turned her attention towards female bakery owners. Using the life history approach, they studied how five online bakery storeowners use social networking sites to exchange information, promote their products and increase their customer base. They found out that these women are able to earn as well as re-invest money back into their businesses, while successfully striking a balance between their work and family lives. As a result, these women are now empowered and self-dependent.

The next two papers deal with education; how to utilize ICTs for teaching English language and human rights. The fifth paper titled "Use of ICT in Teaching English Language at the Tertiary Level," authored by Nasreen Sultana, investigated how ICTs can enhance English language teaching in Bangladeshi universities – conducting a survey among 100 students and interviewing 22 teachers in the process. Sultana argued that generation Z students can be better motivated to study English if teachers were to use digital tools. The next paper titled "Realising the Potential of ICT for Human Rights Promotion in Tanzania," written by Emmanuel, Sanga and Magalla, underscored the need for human rights education in the Kilosa District of Tanzania. In doing so, they looked into the initiatives in human rights education over the Internet and the barriers in accessing ICT tools of the citizens.

The last paper demonstrates the use of ICT for education, financing and marketing among farmers in India. Entitled "Virtually connecting village-market-institution: A 360° agricultural extension approach to the application of ICTs in the globalised market economy," Panda (the author) proposed a 360 degree agricultural extension model in India where ICTs would be used by farmers for production activities, accessing financing and connecting with markets. He concluded that ICTs must be the assets of the communities rather than individual properties to overcome the vicious fold of the dark side of market economy.

From these articles, we hope for a better understanding of the benefits of ICTs – whether these are for mitigating disasters in the Philippines, empowering women

entrepreneurs, teaching the English language in Bangladesh, educating marginalized folk on human rights in Tanzania or providing farmers in India with access to information to enhance agricultural production, financing and marketing. We hope that you enjoy this issue.

On behalf of the entire editorial board,

A handwritten signature in black ink, appearing to read "Jude Genilo". The signature is fluid and cursive, with the first name "Jude" and last name "Genilo" clearly distinguishable.

Prof. Jude William Genilo

Editor

Utilization of Social Networking Sites of Government Agencies for Disaster Preparedness and Management

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Abstract

It is a study on how the National Disaster Risk Reduction and Management Council (NDRRMC); Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA); and Metropolitan Manila Development Authority (MMDA) utilized Facebook and Twitter, how their posts and tweets were classified, what replies they had to comments/suggestions from their subscribers and the problems they encountered in preparing for and managing disasters. This qualitative research employed content analysis and interview. A total of 5,430 posts and 862 tweets of these agencies were analyzed from the periods September 2012-August 2013 and September 18-24, 2013, respectively. Questions were formulated and experts were interviewed as well. The results revealed that these agencies have utilized Facebook and Twitter to easily connect with “netizens” and disseminate information about rainfall advisories, flood, typhoon and traffic updates although replies to subscribers’ concerns were not seen as an important feedback mechanism. The use of English, jargons, scientific terms, URLs, PDF files, images with illegible texts and without captions, their late updates and failure to reply were the problems encountered.

Keywords

social networking sites, government agencies, disaster preparedness and management

Introduction

The Republic of Philippines, because of its location on the Pacific Ring of Fire, is more prone to earthquakes, storms, and other natural calamities. On the other hand, there are also man-made calamities such as flooding due to illegal logging, improper waste management, and lack of respect to the ecosystem.

Disasters, be them natural or man-made, happen frequently nowadays, causing major destruction and loss to the citizens. That is why social media has now become an effective communication tool for the government agencies, responsible for disaster preparedness and management, to reach the public.

Many Filipinos are now connected and active in the Internet world. Nowadays, social networking sites are like a necessity that people cannot live without.

During disasters, netizens are more active in posting, sharing and tweeting their current situations. They also post or tweet for help from the authorities, thus making Facebook and Twitter their means of communication. Because of social networking sites, the public can now directly ask the agencies about their concerns and get responses. The information is then shared rapidly by the users with their Twitter followers and Facebook friends.

The researchers conducted the study to know how government agencies such as the National Disaster Risk Reduction and Management Council (NDRRMC); the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA); and the Metropolitan Manila Development Authority (MMDA) utilize Facebook and Twitter for disaster preparedness and management. They pursued the study after having noticed that government agencies had been using social networking sites for disseminating information. They observed that netizens participated actively in posting and tweeting information when there were calamities. They wanted to analyze how the government agencies communicated with the public through social networking sites.

The researchers observed the Facebook and Twitter accounts of NDRRMC, PAGASA and MMDA. Since these are national in scope, the Philippines is the setting of the study.

The ABC TV Network (2012) recognizes the value of social media in gathering and disseminating emergency information quickly and to a vast potential audience. To that end, they are continuously refining strategies for emergency coverage on social media that includes (but is not limited to) live breaking events and press conferences, crowd sourcing and clarifying misinformation.

The said TV network believes that the social networking sites are useful in disseminating news to the netizens.

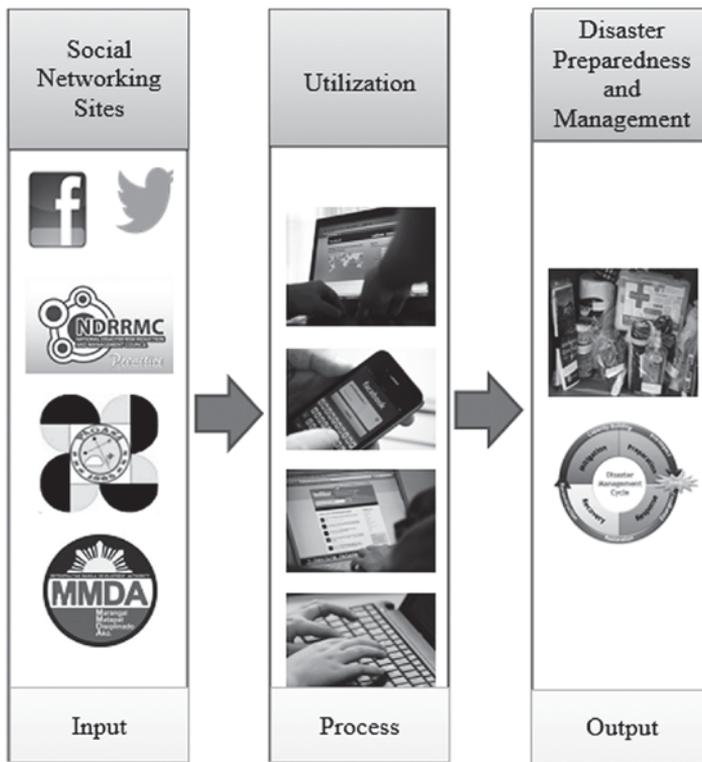


Figure 1: Conceptual Framework of the Study

Dufty (2012) said social media had already demonstrated their use in the emergency management field but had potentials in two other fields, and thus helped build community disaster resilience. This was because social media could easily form communities of practice across the three resilience-building fields before, during and after.

It is related to the study because government agencies are now utilizing social networking sites to better serve people when there are disasters. They do not just plan and prepare for those natural calamities but also change the ways to spread predictions and observations they get.

Gunelius (2011) stated in his article that federal agencies use social media to connect with the public. Hurricane Irene was referred to as the turning point where Twitter and Facebook became vital communication tools before, during, and after national emergencies. During Hurricane Irene, more than 3,000 tweets were published per second.

In Gunelius' article, Facebook and Twitter were identified as important communication tools between the public and government agencies. This tells us that these social networking sites can be essential communication media before, during and after disasters, calamities and emergencies.

According to Cabiles (2012), although the Philippines has been reported as one of the top five nations with the largest number of Facebook (FB) users, and despite the grave threats of disasters and calamities annually, the involvement of social media in disaster preparation has been rather moderate or perhaps, even disastrous. The article stated that social media can also be a disastrous medium during disaster preparation because of miscommunication. In relation to the study, the researchers should consider that there are incidents of misinformation in utilizing social networking sites.

Smith (2012) found in her study that the way in which Americans now relate to and communicate through social networking sites has direct and immediate implications in the fields of emergency preparedness and disaster response, public health, and communication (p. 9).

In America, social networking sites are one of the primary media of communication during emergency preparation and disaster response.

Stirratt (2011) states in her study that because of the microblogging feature, Twitter is one of the more common social network sites that have been beneficial because it allows short messages, limiting users to 140 characters per tweet. Twitter, blogs, and other forms of social media enable collaborations to occur quickly in times of crisis.

Twitter only allows 140 characters per tweet, thus making the message concise and complete, and useful in time of crisis. Its short messaging feature is helpful in getting the attention of the followers. All these information help the researchers analyze why government agencies choose to use Twitter in disseminating information about disaster preparedness and management.

According to Aton (2002, p. 1), "media on-line helps disseminate information, news, controversies, and facts. Through this, everybody can access to a wide variety of topics. The existence of the new technology uplifts the condition of the society."

Online media is a good avenue for giving information that can be freely accessed by people anytime and anywhere, virtually about any kind of topic. It also helps in the development of the society because through this, government agencies can disseminate information about disaster preparedness and management. The information can reach a wide number of people easily.

The research is anchored on the Adaptive Structuration Theory by DeSanctis and Poole.

The Adaptive Structuration Theory is a study on the interaction of groups and organizations with information technology. Groups and organizations using information technology for their works dynamically create perceptions about the role and utility of the technology, and how it can be applied to their activities. These perceptions influence the way technology is used and hence mediate its impact on group outcomes. In conclusion, AST's appropriation process might be a good model for analyzing the utilization and penetration of new media technologies

in the society. (University of Twente, 2013)

The researchers used this theory because the government agencies interact with people using information technology, namely the social networking sites. Since this study aims to identify how social networking sites are utilized by the government agencies for disseminating information about disaster preparedness and management, its importance is imperative.

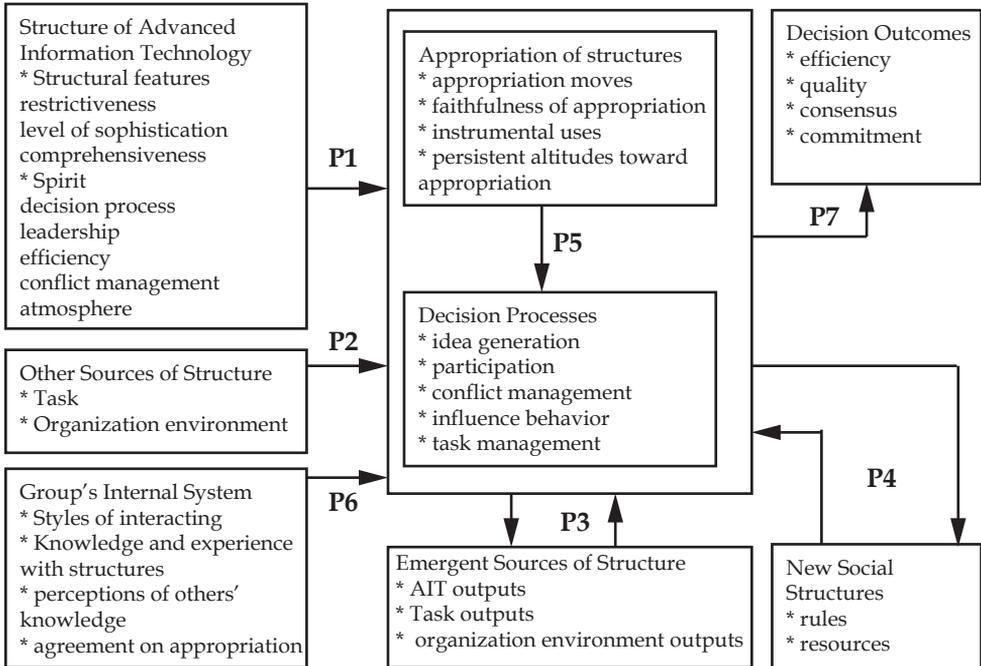


Figure 2: Paradigm of the Adaptive Structuration Theory

In this light, the study aims to find out how government agencies utilize social networking sites for disaster preparedness and management.

Specifically, the study sought answers to the following questions:

1. How did these government agencies utilize social networking sites for disaster preparedness and management?
2. How can the Facebook statuses and tweets of the government agencies be classified?
3. What were the answers, replies or reactions of these government agencies to the comments or suggestions from the likers and followers?
4. What problems did the likers and followers encounter in utilizing social networking sites for disaster preparedness and management?

Methodology

The study is a qualitative research that used content analysis and interviews. According to Patton (2002), qualitative research attempts to understand the unique interactions in a particular situation, not necessarily to predict what might occur, but rather to have an in-depth understanding of the characteristics of the situation and the meanings as conceived by the participants. It also presents truthfully the findings to others who are interested.

One of the methods used in qualitative research is content analysis. As Palmquist (n.d.) states, content analysis is a research tool focused on the actual content and internal features of media. It is used to determine the presence of certain words, concepts, themes, phrases, characters, or sentences within texts or sets of texts such as books, book chapters, essays, interviews, discussions, newspaper headlines and articles, historical documents, speeches, conversations, advertising, theater, informal conversation, or any occurrence of communicative language. It is used to identify the intentions, focus or communication trends of an individual, group or institution.

The researchers also used interview as a tool in gathering data for the study. An interview is a meeting or a conversation in which a writer or reporter or researcher asks questions to one or more persons from whom a material is sought for a newspaper story, television broadcast or research. A conversation with a person or asking a person some questions is usually conducted for a print, television or radio broadcast and research. (Anonymous, n.d.; Careers4graduates, n.d.)



Figure 3: Screenshot of the Facebook page of NDRRMC

The researchers liked the official Facebook pages and followed the official Twitter accounts of NDRRMC, PAGASA and MMDA in order to get updated information about disaster preparedness and management. The official Facebook page and Twitter account of NDRRMC can be accessed through <https://www.facebook.com/NDRRMC> and https://twitter.com/NDRRMC_OpCen. The official Facebook page and Twitter account of PAGASA can be

retrieved through https://www.facebook.com/PAGASA.DOST.GOV.PH?ref=br_tf and https://twitter.com/dost_pagasa, while the official Facebook page and Twitter account of MMDA can be viewed through <https://www.facebook.com/MMDAPH> and <https://twitter.com/MMDA>. By doing this, the researchers determined how these government agencies utilized social networking sites for disseminating information about disaster preparedness



Figure 4: Screenshot of the Twitter account of NDRRMC



Figure 5: Screenshot of the Facebook page of PAGASA



Figure 6: Screenshot of the Twitter account of PAGASA



Figure 7: Screenshot of the Facebook page of MMDA



Figure 8: Screenshot of the Twitter account of MMDA

and management. They also found out the classifications of the government agencies' Facebook statuses and tweets and how these government agencies respond and react to them. They recorded and analyzed the Facebook statuses since September 2012 until August 17, 2013 and tweets on September 18, 2013 until September 24, 2013.

They formulated interview guide questions that answered the first objective of the statement of the problem – how did these government agencies utilize social networking sites for disaster preparedness and management?

They interviewed the NDRRMC's Chief of the Information Communication Technology Section and PAGASA's forecaster on August 15, 2013. They conducted their interview with MMDA's Public Relations Officer on August 16, 2013.

Results and Discussion

Based on the results of the content analysis and interviews, the following findings are hereby presented and summarized.

1. Utilization of Social Networking Sites of Government Agencies

NDRRMC, PAGASA and MMDA decided to utilize social networking sites such as Facebook and Twitter to easily connect with netizens since many people are now into social networking sites. According to NDRRMC, it utilizes Facebook and Twitter to enhance the national public warning system of the Philippine government. The top management of PAGASA taps these social networking sites for easy access to information and to connect with those who have exposure to the Internet. MMDA used its Facebook and Twitter for disseminating information on traffic advisories and flood updates. It also informs people ahead of time about the better routes they can take to avoid heavy traffic.

The three agencies chose Facebook and Twitter for an easier and faster way of disseminating information about disaster preparedness and management. Furthermore, these agencies reach a wide audience through Facebook and Twitter. One netizen shares the information from the agencies with his friends and followers and these friends and followers can still share the same information with another set of friends and followers even though they are not direct likers and followers of the agencies. Here, it can be seen how Facebook and Twitter play big roles in the dissemination of information about disaster preparedness and management.

The main purpose of Facebook pages and Twitter accounts of NDRRMC, PAGASA and MMDA is to disseminate information. However, they differ in the kind of information they disseminate. Just like the official website of NDRRMC, the main purpose of its Facebook and Twitter account is to disseminate warning and advisories on impending disasters or if there are threats available in those areas. Moreover, it also uses those official accounts to disseminate situational reports on what is happening on the ground during the onslaught of the disaster. On the other hand, the main purpose of Facebook page and Twitter account of PAGASA is to reach as many people as possible while the Facebook page and Twitter account of MMDA are used to advise people about traffic situation in Metro Manila and give flood updates. In times of heavy rain and flood, it informs the commuters and motorists regarding how deep the flood is and what roads are passable.

Government agencies post and tweet real time updates through Facebook and Twitter. They keep the netizens informed from time to time to mitigate the disaster.

Basically, the people from NDRRMC Operation Center are the people in-charge of uploading contents on to the Facebook and Twitter accounts. In PAGASA, it is a collaboration of all the people involved in warning information system. This team is composed of weather forecasters who input information on Facebook and Twitter. For MMDA, there are three shifts and in each shift, two people are assigned for disseminating information via Facebook and Twitter.

The people in-charge of disseminating information from these three agencies are experts who make sure that everything they will post or tweet are based on facts. The agencies form teams that focus on information dissemination through Facebook and Twitter to avoid misinformation. But the members of these teams cannot give 100% into this because they have other duties to carry out in their respective agencies.

NDRRMC uses a typical format that consists of filename, date of occurrence and a URL. Since PAGASA is a science organization, it cannot post or tweet information using simple words; so it has come up with workable templates. Now, the agency is developing its own format that can easily be understood. MMDA posts pictures, particularly of the actions taken by any department under the said government agency. In posting advisories, they post text as it is. They also state the time and location of a single information.

Some links posted by NDRRMC connect to its official website and some are memoranda and reports in portable document formats (PDF). According to NDRRMC, pdf is considered more factual because it shows the signed reports and updates. The PAGASA wants to develop a format that uses simple words so that more people can comprehend the posts and tweets. The MMDA usually posts and tweets traffic advisories during heavy traffic as advisories for light traffic are less essential.

The main consideration of these three agencies is to give information and warning to the people. Once they get the information, they post and tweet it right away so that people can be alert. They also consider the relevance and accuracy of the information and make sure that the information is approved for dissemination.

Since NDRRMC, PAGASA and MMDA are government agencies, their posts and tweets are thoroughly verified before they are posted and tweeted. These tweets and posts serve as references for the public to learn about new information and warnings which make them aware of the current occurrences.

The information goes through certain stages before it is posted on Facebook and Twitter accounts of the government agencies. For NDRRMC, the information from the agencies, responsible for giving the emergency alerts such as PAGASA for tropical cyclone, will first be gathered by the operations center. The information gathered will be an official report that will be converted into an NDRRMC advisory and updated for NDRRMC situational report. It should be approved first by the administrator or the Chief of the NDRRM Service before it will be posted on its Facebook and Twitter accounts. In PAGASA, the team in-charge decides first what information will be posted or tweeted. The information will be posted and tweeted once they decide that it is ready for dissemination. So, there is really no hierarchy of decisions. In their cases, they do not need to get clearance from higher authorities. In MMDA, the information goes through the appropriate department concerned. For example, traffic-related posts go through the traffic discipline office before they are posted and tweeted. Once it is verified, the information is posted and tweeted.

The frequency of posting and tweeting by government agencies depends on the magnitude of the situation. The NDRRMC tweets and posts as frequently as possible. When there is a tropical cyclone or a typhoon, PAGASA keeps updating every 10 to 15 minutes about the position of the storm, warning signals and the projected position of the typhoon over a 24-hour span. MMDA posts statuses on Facebook from 8am to 5pm that is during government hours; but when it comes to Twitter, it does it 24/7.

NDRRMC only monitors the comments on when Malacañang or the top management asks for reports on these comments. Malacañang or Malacañang Palace is the official residence and principal workplace of the President of the Philippines. When it comes to replying to those comments, they are still establishing the standard operating procedures on how they will monitor and reply to these comments. One of their teams has already archived the tweets and posts. They try to see what will the reply and the feedback of the public be. When they started in 2010, they really tried to communicate with the followers and likers. They tried to answer as many questions as possible, but at that time, they had less than 10,000 followers and likers. However, after a year, it rose into 50,000 and shortly to a hundred thousand. Now that they really find it hard to answer thousands of queries, they have decided not to reply to the public queries. The MMDA released a statement telling their Facebook likers and Twitter followers to send their reports, complaints or suggestions through personal messages because they could not actually monitor the comments made by users on their posts. They observed that there were regular bashers or people who would post negative comments; so they decided that others should send their reports, suggestions or comments through personal messages. They only answer inquiries asked in personal messages.

The three agencies found Facebook and Twitter as great media for information dissemination, especially, for disaster preparedness and management, because a lot of people use Facebook and Twitter. The information that the three agencies post and tweet on these social networking sites go to a wide range of people. The PAGASA chose to utilize Facebook and Twitter because disseminating the information through these media takes only seconds. People are informed quickly about the updated statuses and tweets. For MMDA, its followers and likers are informed beforehand about the traffic situation in the metro. However, these government agencies have also found some disadvantages of using Facebook and Twitter. One of these is handling negative comments. MMDA and PAGASA encountered comments that threatened them and some unwanted replies. According to NDRRMC, some of its followers and likers made fun of the information that they had shared on the social networking sites. These followers and likers changed the thought of the information making it look unreliable. The friends of these followers and likers get the incorrect information and that creates problems. Furthermore, if a certain follower or liker does not have an Internet connection at home, then he or she will not be readily updated about the current statuses and tweets of these government agencies.

NDRRMC uses pdf format in their posts because these are official reports signed by the NDRRMC administrator or deputy administrator or the Chief of NDRRM Service which they scanned, posted and tweeted.

MMDA does not usually respond to comments and replies of the Facebook likers and Twitter followers because of negative comments and replies, while PAGASA does not usually respond to the comments and replies of the Facebook likers and Twitter followers because they find it hard to answer so many questions; so they only give information.

2. Classification of government agencies' Facebook statuses and tweets

The NDRRMC's classified Facebook statuses were posted between September 2012 and August 17, 2013; while the classified tweets were posted between September 18 and 24, 2013.

Table 1: Classification of NDRRMC's Facebook posts and Tweets

National Disaster Risk Reduction Management Council		
Classifications	No. of posts on Facebook	No. of tweets on Twitter
Armed conflicts	10	2
Earthquake alerts	48	-
Effects of disasters	38	5
Emergencies	10	-
Epidemics	1	-
Extreme temperatures	4	-
Fire	48	1
Flood updates	314	14
Gale warning	202	10
Harassment	46	-
Industrial accident	11	1
Landslide	38	-
Preparedness measure	3	3
Reports of missing people	202	-
Special occasion alerts	7	-
Transportation accidents	46	-
Tsunamis	2	-
Typhoon updates	280	17
Volcanic alerts	148	4
Weather advisory	16	-
Whirlwinds	3	-
TOTAL	1,477	57

Out of 1,477 Facebook posts of NDRRMC, 314 were about flood updates. It had 57 tweets and 17 of them were about typhoon updates.

NDRRMC posts mostly statuses of flood updates and tweets typhoon updates because typhoons and floods are the disasters that commonly occur in the Philippines.

The PAGASA's classified Facebook statuses were posted from December 2012 to August 17, 2013, while the classified tweets were tweeted from September 18 to 24 of 2013.

Out of 98 Facebook posts, 52 were about rainfall advisories. It had 286 tweets and 169 of them were about rainfall advisories.

Since the Philippines is a tropical country, rains and storms are expected. PAGASA is a government agency responsible for monitoring typhoons inside and outside the Philippine area of responsibility (PAR). That is why most of their posts and tweets are about rainfall advisories.

Table 2: Classification of PAGASA's Facebook posts and Tweets

Philippine Atmospheric Geophysical Astronomical Services Administration		
Classifications	No. of posts on Facebook	No. of tweets on Twitter
Basin flood and reservoirs advisories	-	4
Class suspension updates	-	1
Gale warning	7	3
Rainfall advisories	52	169
Photos	6	2
Promotions	3	-
Safety reminder	1	-
Thunderstorm alert	11	57
Typhoon updates	18	50
TOTAL	98	286

The MMDA's classified Facebook statuses were posted from September 2012 to August 17, 2013, while the classified tweets were tweeted from September 18 to 24 of 2013.

Out of 3,865 Facebook posts of MMDA, 2,768 were about traffic updates. It had 519 tweets and 395 of them were about traffic updates.

The MMDA posts mostly statuses and tweets on traffic updates because it is the government agency that handles traffic management in Metro Manila.

Table 3: Classification of MMDA's Facebook posts and Tweets

Metropolitan Manila Development Authority		
Classifications	No. of posts on Facebook	No. of tweets on Twitter
Awards	1	-
Bomb Alert	4	-
Class and Work Suspension	16	-
Earthquake Alert	1	-
Fire Alert	27	1
Flood Alert	252	75
Holidays	4	-
Law	53	-
LRT/MRT	3	-
MMDA Employees	36	-
MMDA Rescue Team/Rescue Operations (Red Cross/Street Dwellers)	21	-
Number Coding	99	17
Oil Spill	1	-
Promotions	60	18
Public Complaints	8	-
Rallies	9	-
Reblocking	43	2
Road Closure	59	-
Road Repair/Side Walk Rehabilitation/Drainage/DPWH/Bridge Construction	55	-
Road Signs	7	-
Safety Reminders	41	1
Social Responsibility	1	-
Traffic Navigator (Tech Issues)	9	1
Traffic Updates	2768	395
Vehicular Accident	210	11
Water Level of the River and La Mesa Dam	37	-
Weather (PAG-ASA)	40	-
TOTAL	3,865	519

3. Answers, replies or reactions of these government agencies to the comments or suggestions of the likers and followers

NDRRMC never replied to the comments and suggestions of its likers and followers because it utilizes Facebook and Twitter not to reply to the comments and suggestions but only to disseminate information about disaster preparedness and management.

PAGASA used to reply to the comments and suggestions from its likers and followers. However, it stopped doing that after gaining many Facebook likers and Twitter followers. PAGASA could not entertain the growing number of comments and suggestions anymore.

MMDA only replies to the important comments and suggestions from its Facebook likers. If the comment is rude, the agency does not reply to it. The agency thinks that it is just a waste of time if it fights against the likers who post negative comments, suggestions and reactions. MMDA replies mostly to its Twitter followers' tweets. Likewise, the agency does not tweet back if the tweet contains negative thoughts.

4. Problems likers and followers encounter in utilizing social networking sites for disaster preparedness and management

The researchers perceived that the use of English in the government agencies' posts and tweets can be a problem. Not all netizens can read and understand English. It can be a reason why they have not reached the netizens who are not proficient in English. Since these government agencies serve the Filipino people, they should use Filipino in order to communicate with them.

The researchers observed that there were complaints regarding NDRRMC's social networking sites from its likers and followers on how they post and tweet information. Its posts and tweets contain uniform resource locator (URL). Because of this, likers and followers must first click the URL for accessing the PDF files. Then, the PDF file displays the official reports and updates. The netizens will then read the report or the update. This process takes a lot of time. Netizens use social networking sites to acquire information fast. They prefer to read summarized posts and tweets. For this, there will be a greater chance for them not clicking the link and read the information provided in the PDF files.

The researchers also noticed that unlike the other two government agencies PAGASA and MMDA, NDRRMC does not post or tweet information with images. Most people are more interested in reading information that is accompanied by images. From their points of view, NDRRMC's page and twitter account are dull because of the absence of images. Although, it is a government agency and it disseminates very important and serious information, it should not be a reason for its page not looking pleasing and interesting to the netizens.

The researchers noticed that sometimes the links posted by the PAGASA were defective. This means that if the link is clicked, the only thing visible on screen is "webpage not available." This makes it difficult for the subscribers to see further

announcements and updates in that link.

The researchers found that there were subscribers who did not clearly understand the terms, specifically, the jargons used by PAGASA, and some of the subscribers did not understand fully the language used, especially English, and this made it hard for subscribers to get the message that PAGASA wanted to convey.

The researchers noticed that there were satellite images posted by the PAGASA without any caption or explanation. Since PAGASA is focused mainly on weather updates, people may think that there is another weather disturbance if it posts just a photo, and this sometimes may cause people to panic, particularly, those who were affected by past typhoons.

The researchers also found that MMDA Facebook likers especially those who have eye sight problems, could not clearly see the texts written on a particular picture. In order for them to see what the message on the picture is all about, they have to download the picture and zoom it in. Since this takes time, some of the netizens do not want to download the picture. Hence, there could be situations that they would not be well-informed of the situation.

The researchers noticed that MMDA did not reply to every comment from the Facebook likers. Most queries from the netizens on MMDA's Facebook page remained unanswered. Some of them felt that MMDA did not give time for their questions. Netizens find Facebook as the best and fastest source of information. If this continues, the netizens may not depend on Facebook when it comes to traffic updates. The researchers observed that some Twitter followers of MMDA were informed late about coding updates. They thought that the number coding was lifted in a particular area but it turned out that it was not. Although, the tweet was posted three hours ago and there was a follow-up tweet made by the MMDA, some of the followers were not informed about the follow-up tweet. MMDA should be 100% sure in putting every information up on Twitter.

Conclusions

After a thorough analysis and interpretation of data, the following conclusions are reached:

1. NDRRMC, PAGASA and MMDA utilize Facebook and Twitter to easily connect with the public and to disseminate information about disaster preparedness and management in a faster way. The people in-charge of Facebook pages and Twitter accounts of these government agencies are experts in their own fields and each agency uses different formats for posting and tweeting. The information posted and tweeted by the agencies goes through different sources and authorities. The agencies make sure that as new information is gathered, it is posted and tweeted right away to warn the public. Facebook and Twitter are very helpful tools for the agencies in promoting disaster preparedness and management. However they also encounter problems such as bashers, threatening comments and unwanted advertisements.

2. NDRRMC mostly posts statuses on flood updates and tweets typhoon updates because typhoons and floods are the most common natural disasters in the Philippines. Since the Philippines is a tropical country, rains and storms are expected. PAGASA is a government agency responsible for monitoring typhoons inside and outside the Philippine area of responsibility (PAR). That is why most of their posts and tweets are about rainfall advisories. MMDA posts mostly statuses and tweets on traffic updates because it is the government agency that handles traffic management in Metro Manila.

3. NDRRMC never replies to the comments and suggestions of its likers and followers on Facebook and Twitter. PAGASA used to reply to comments and suggestions on Facebook and Twitter. MMDA does not reply and tweet back if the comments and suggestions from Facebook likers and Twitter followers contain negative thoughts.

4. The use of English in government agencies' posts and tweets can be a problem. There are problems in the way NDRRMC posts and tweets information by not summarizing the updates. Instead, it uses URLs and PDF files. Unlike the other two government agencies, it does not use images. Some links posted and tweeted by PAGASA are either defective or cannot be found. Its use of scientific terms can also be a problem since some people are not familiar with these terms. Some satellite images it posts have no caption or explanation. There are texts written in images posted by MMDA that cannot be clearly seen especially by those who have poor eye sight. It also has few posts and tweets that contain wrong information. The three government agencies also fail to answer some queries of their likers and followers.

Recommendations

Based on the findings and conclusions presented, the following recommendations were coined:

1. The government agencies should use the Filipino language in their posts and tweets and avoid using jargons, since not all netizens are proficient in English.
2. The government agencies should also try to reply and answer the important inquiries of their likers and followers.
3. For easier comprehension, NDRRMC should summarize the posts and tweets and use picture formats (jpeg/img) instead of posting links and PDF files.
4. PAGASA should always see to it that the links posted are functioning and redirects the subscribers to the webpage. If it is not possible to minimize the use of jargons, they should be defined in the post. There should also be posts in Filipino so that subscribers can easily understand them without consulting dictionary or Internet. The photographs uploaded should always captioned.
5. MMDA should enlarge the fonts of the photos they post on Facebook. When posting links, it should also give a brief summary of what it is all about. It should

also make sure that the information it posts and tweets are accurate.

6. Future researchers should conduct further studies to improve the current study.

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“Meron o Wala”: A Study on the Usefulness of Twitter during Typhoon as Perceived by Selected Intramuros-based Schools

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Abstract

Uses and Gratifications theory explains that a person uses a particular kind of media because of the satisfaction a person can get from it. Applied in social media, the current research aims to understand the usefulness of Twitter to the students during Typhoon. A total of 124 students from the Intramuros-based schools were selected through a non-probability-purposive sampling. A descriptive analysis was used to measure the answers to a 47-item questionnaire. They are motivated to use Twitter during typhoon to communicate with their family and friends. The current research found that students use Twitter more when there is a typhoon. Students use their mobile phones in logging in to their accounts. The current research also found that Twitter is the students' first source of information regarding typhoons and the top information sought by students on Twitter is the announcement of class suspension.

Keywords

Twitter, disaster communication, motivation, satisfaction

1.0 Introduction

Social media has been widely utilized by many individuals because it has an information dissemination function. It is growing at an exponential rate with its increasing number of users. Because of the demands of everyday life, social media has become people's first source of information with the emergence of social media platforms such as Facebook, Twitter, Youtube, Flickr and FourSquare. Thanks to advancements in technology and invention of gadgets for people's convenience, smartphones, ipads and the likes are used for easier and faster access to information from different sites that display traffic updates, news, and other public announcements (Semple, 2009).

Information and Communication Technology (ICT) facilitates several ways of effective disaster management. It plays a very significant role in instigating and developing ways of social learning and encourages change in the context of policymaking and setting directions (Pineda, 2009). Social media plays a significant role at times of calamities and disasters (Goldfine, 2011). Disaster communication has been seen to be disseminated via social media. It deals with the spreading of disaster information of governments, emergency management organizations, media and also disaster responders to the public. Some of the reasons why people use social media during disasters are: for convenience, social norms, personal recommendations, seeking timely and unfiltered information, determining the magnitude of disasters, checking with family and friends, self-mobilization, maintaining a sense of community feeling, and seeking emotional support and healing (Fraustino, Liu, & Jin, 2012).

When Hurricane Katrina struck the Gulf Coast of Louisiana and Mississippi, public's call for information increased (Treaster, et. al, 2005). Media provided information regarding emergency relief operations initiated by those living in the hurricane's projected path. Stanley (2005) said while the hurricane passed over southern Louisiana and Mississippi, media reported the government's disaster relief efforts. In 2009, a majority of American adults said they preferred the Internet as a source of most reliable news and information (Zogby Interactive, 2009).

Twitter is one of the most popular microblogging sites that allows users to share personal information, opinions and statuses within a character limit of 140; these are called "tweets" (Pontin, 2007). Users can also "follow" the tweets of other users (Pogue, 2009). Microblogging is a form of communication where users can disseminate their current situation or "status" through short posts instantly using mobile phones, Email or the web. (Java, et. al. 2007). It has become a medium for communicating not only with friends but also with colleagues, acquaintances, celebrities and interact with organizations, agencies, and even governments (Labor, Galace & Pacardo, 2012). The 2010 flood in Pakistan emerged as one of the top trending topics on Twitter (Murthy & Longwell, 2012) while 5,500 tweets per second were recorded after the 2011 Tsunami in Japan (Crisis Communication Management, 2012).

The Philippines is hit by typhoons every year because of its geographical location

and hence is ranked among the top five countries affected by natural disasters (World Disasters Reports). According to Lagmay and Arcilla (2010), these natural disasters cause thousands of deaths and huge loss of properties in the past years. Flash floods, lahars and landslides were all caused by typhoons and storms. Two of the most notable typhoons to have hit the country in recent years were Ondoy and Sendong, which brought in heavy rains that caused huge loss of lives and properties.

Disaster communication is now said to be evident in social media in addition to the coverage given by traditional media (N. a. 2012). According to Cohen (2009), journalists from a credible news source such as the CNN and the New York Times cite tweets as a source of information in their articles and news coverage. Television networks in the Philippines are now using Twitter to disseminate information faster. Two of the biggest networks in the country are ABS-CBN and GMA and their Twitter accounts are @ANCALERTS or @ ABSCBNNews and @gmanews respectively.

Even the government organizations and local governments are using social media to address announcements to the public. State weather bureau Philippine Atmospheric Geophysical Astronomical Services Administration (PAGASA) issues colored signals that signify the different levels of rain warnings. Yellow warning means 7.5-15mm rain or heavy rain observed in one hour and are expected to continue in the next two hours. Flooding is possible in some areas where people are expected to "monitor the weather conditions." The Orange warning means that 15-30mm rain or intense rain is observed in one hour and is expected to continue over the next two hours; flood is imminent and people should be "prepared for possible evacuation." The Red warning shows that more than 30mm of rain has been observed in one hour and it is expected to continue over the next two hours. Serious flooding is expected in the low-lying areas and people's response should be "evacuation." PAGASA has a Twitter account (@dost_pagasa) which allows it to tweet regularly and update followers on everyday weather conditions.

The brevity of tweets encourages a sense of immediacy (Crook, 2013). During times of disasters, there should be timely emergency readiness and response information from mediated and non-mediated channels (Vanderford, 2007). Accuracy is fundamental for the credibility of a media organization. People need access to accurate information and clear and specific instructions (Tanner, et. al. 2009). According to Smith and Birch (2012), no two social media platforms are alike. They influence a variety of demographics and they are supposed to provide new and exclusive contents.

This study will focus on the usefulness of Twitter during typhoons. It aims to know what account/s people are relying on for getting announcements on typhoon updates and how this/these account/s satisfy students. The study defines "usefulness" as students seeing and relying on Twitter as the only source of up to date information about typhoon announcements.

Context of the current research and hypotheses

The academic community is one of the most vulnerable sectors affected by natural disruptions such as typhoons and other extreme weather events. School administrators, professors, students, teaching and non-teaching staffs understand these environmental threats in a variety of ways (Salva & Banaguas, 2012).

Using the Filipino terms *Meron* and *Wala*, especially for announcing whether there is a class suspension has been a tradition. *Meron* is synonymous to the English word *may*. Using *may* followed by the noun *pasok* meaning “there is a class,” is pleasant. *Wala* means nothing; therefore *wala* followed by *pasok* means “there is no class.” The function of hashtag in Twitter is significant – #*maypasok* and #*walangpasok* are used to easily summarize the message of an announcement. These two short and simple terms grab the attention of students. They usually come after the announcement of typhoon updates such as storm signals and areas under flood threat. *Maypasok* and *walangpasok* are two of the most-anticipated announcements from the local governments.

There has been an evident participation of social media during the times of calamities and disasters in the last five years (Lindsay 2011). According to a study on social media during wildfires, social media were used as an outlet by public for voicing what they experienced (Vieweg, et al. 2008). People use social media more actively during the time of calamities (Crisis Communication Management, 2012). Among the different social media platforms, Twitter is the leading service, being more commonly used by individuals to keep themselves updated about news involving disasters (Murthy & Longwell, 2012).

The Uses and Gratification Theory aims to know how people use a particular medium to meet their needs and attain satisfaction (Severin & Tankard, 2001). One assumption is that people tend to choose their own medium depending on the objective they want to achieve. According to Goldfine (2011) and Lindsay (2011), government organizations as well as universities and non-government organizations are now participating in social media to get in touch with people, disseminate information and invite public discussions.

In a 2009 study of the American Red Cross, social media is the fourth most common source of information of disaster communication. People used it for warnings, disaster relief operations and to communicate with their family and friends (Lindsay, 2011). In fact, according to another study, people mostly read online news about weather updates at their specific locations (Greer & Ferguson, 2011). In a study conducted by Maxwell (2012), it came out that most of students, who used twitter during the time of tornado, were most likely those users, who visited twitter at least once a day. Schools created their Twitter accounts to answer the queries of their students to keep them safe from any danger and to ensure their security during times of calamities.

According to Fúgate (2011), one advantage of using social media is that it may “increase the public’s ability to communicate with the government.” The use of

Twitter accounts by the local government authorities is very crucial for quick dissemination of information. Former Manila City Mayor Alfredo Lim used to tweet his announcements regarding typhoon updates and this practice was later adopted by the new mayor Joseph Estrada.

It is also important that the public is responding to the information the government agency disseminates. Ding and Zhang (2010) said social media “tools can help in encouraging the public to participate in breaking down the linear one-way risk communication and make it multichannel.” Dumlao, McLaughin and Tinker (2009) quoted Nathan Huebner in their study to have said: “Social media is obviously about more than how we reach out to the public and educate the public; it’s about the public talking to us. It’s also about the public talking to the public.”

For example, the public published more than 2,000 related tweets during a fatal storm hitting a festival in Belgium during a period of just half of an hour (Perng, et. al. 2012). That number soared to more than 80,000 during the first four hours of the disaster. Individuals responded right away to posts made by university spokesperson in the school’s official Facebook page (Formentin, Bortree & Fraustino, 2012). The top users of social networking sites during this time are the youth and college educated individuals (Smith, 2010). Thus, this study is undertaken to test the following hypotheses:

- H1. Students are motivated to tweet or to participate in Twitter discussions whenever there is a typhoon.
- H2. Students rely more on Twitter than any other social media platforms when it comes to acquiring news about typhoons.
- H3. Students are more satisfied with a Twitter account that is more active in tweeting typhoon updates.

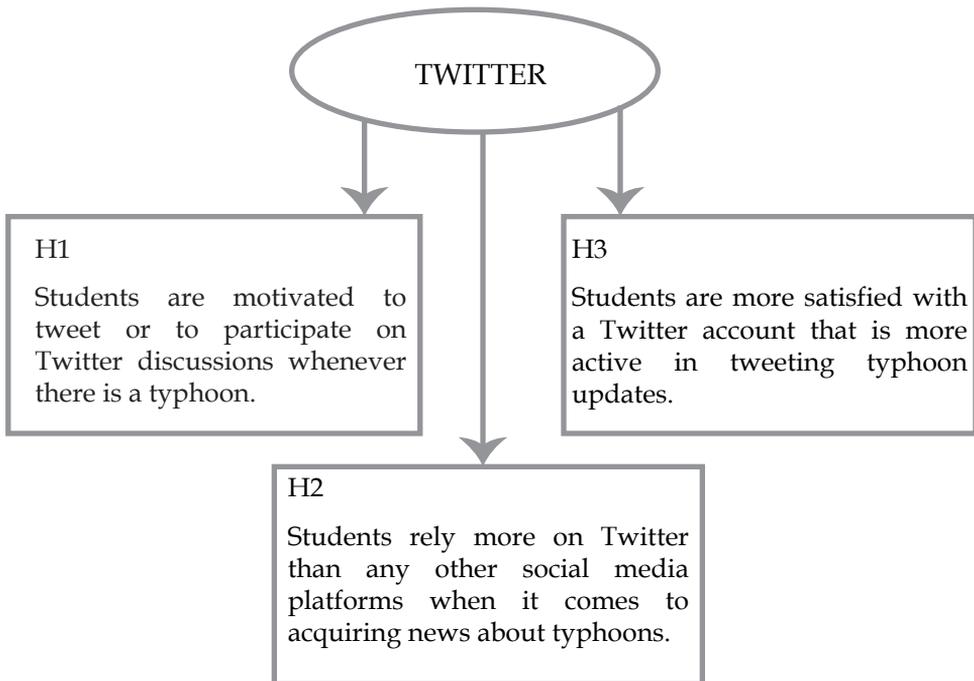
2.0 Research question and objectives

The study aims to answer the question:

How students use Twitter as a medium of communication with other students during typhoon?

1. To know whether students are more active in tweeting and participating in discussions whenever there is a typhoon;
2. To find out whether Twitter is the first source of information for students acquiring news about typhoons; and
3. To find out which Twitter account students are more satisfied with while acquiring typhoon updates.

2. 1 Simulacrum



3.0 Methods

3.1 Research Design

According to Aliaga and Gunderson, quantitative research method is “an explanation of phenomena by collecting numerical data that are analyzed by using mathematically based methods” (N.a. 2000). In particular, statistics are used to calculate the data collected for this study. It includes hypotheses, development of instruments and methods for measurement, and collection and analysis of data. In this study, a survey questionnaire is used to generate categorical data that identifies, scales and ranks survey statements (N. a. 2010).

3.2 Respondents

The study initially had 120 respondents but the researchers were not able to maintain the target of 30 respondents from each school because some questionnaires had incomplete answers. Therefore, there is an uneven distribution of the survey questionnaires. A total of 124 respondents were gathered. The sample population is composed of college students from selected schools in Intramuros (Manila) namely Colegio de San Juan de Letran (CSJL), Lyceum of the Philippines University (LPU), Mapua Institute of Technology and Pamantasan ng Lungsod ng

Maynila (PLM). Thirty-nine respondents answered the survey in CSJL, 28 in LPU, 25 in MTI and 32 in PLM. The questionnaire contains the profile of the respondents presented in the socio-demographics such as their Twitter usernames, age, sex, civil statuses, address and religion.

3.3 Data gathering procedures

The researchers selected the top Twitter accounts that most students rely on during disasters. The data was gathered from August 23 to September 2, 2013. It started when the local government unit decided to resume classes after typhoons Labuyo, Maring and Habagat caused extreme flood and rain. The researchers submitted letters seeking permission to the four schools requesting the students at the collegiate level regardless of their concentrations to answer the survey. A sampling technique of nonprobability-purposive was used for this which means that the respondents needed to have Twitter accounts to answer the questionnaire. In CSJL, LPU and PLM, the researchers administered the survey randomly while in the case of MTI, its Office for Research Promotion and Coordination took the responsibility of getting responses to the survey questionnaires and gave them to the researchers one week after the request was approved.

Here is the list of the seven Twitter accounts that are being studied:

- Manila City Mayor Joseph Estrada (PresidentErap)
- Former Manila city mayor Alfredo Lim (TheMayorLIM)
- GMA News (gmanews)
- ABS-CBN News/ANC Alerts (ABSCBNEWS, ANCAAlerts)
- Philippine Atmospheric Geophysical Astronomical Services Administration (dost_pagasa)
- Metro Manila Development Authority (MMDA)
- The official Twitter accounts of the schools

3.4 Research Instruments

The researchers validated the survey at Espana and Recto in Manila because these places get easily flooded even by just a small amount of rain. Another reason is that the University of Santo Tomas and the Far Eastern University – the two major educational institutions in the area – often get affected by typhoons and are always included in the list of schools to see class suspension during disasters. Random survey was answered by 15 respondents who have Twitter accounts. The study reached effective results and made a minor revision to suffice the need of the study.

The study has seven variables. *Exposure on social media* is an important part of the survey. It is the introductory part of the survey that identifies which social media platforms the respondents visit and determines how they use social media. The

method of scaling measured the *attitude towards Twitter*. It determines how students see Twitter as an interactive social media platform. The study used a four-point scale varying from strongly disagree (1), disagree (2) and agree (3) to strongly agree (4). Originally, the survey contained another option – moderately agree. However, the researchers later omitted that because it is a very safe option and is not dependable when interpreted and analyzed. The consistency of using the first person point of view in this category is a very important concern of the study. Therefore, all the statements in this category should be in one format so that misunderstandings can be prevented. *Practice towards Twitter* answers the course of action in using Twitter and the purpose of using the social media network. The study not only aims to know people’s attitudes towards Twitter but also their *attitude towards it as a medium of disaster communication*. It attests how it functions as a vehicle for disaster communication using a four-point scale.

In times of calamities, emergency response centers altered their messages into timely, credible and accurate warnings meant for the public (Samarajiva, 2005). Various organizations including television, radio and social media are accountable for communicating this information to inform the public about the crisis as well as guide them on how to act or react (Guion, Scammon and Borders, 2007). It is an advantage of the Internet that updated information can be posted fast if not faster than television and radio (Troy, et. al. 2008). Exclusivity is just one of the features that the tri-media (television, radio and print) are competing to other networks. Though in dissemination of information during calamities, exclusivity is not an essential factor but the media must maintain the competition to other resource bodies of information to provide new and distinctive news to the public.

The *Selection of Twitter accounts on typhoon updates* identifies which of the seven accounts students follow to get information on typhoon. It is supported by five significant features that a social media platform should attain. The survey considers *ranking of Twitter accounts during Typhoons* to determine how the students see the seven accounts function for disseminating information. Here are the definitions of the five features of Twitter from the Merriam-Webster Online Dictionary:

Immediacy	the quality or state of being immediate
Timeliness	appropriate or adapted to the times or the occasion
Accuracy	freedom from mistake or error
Credibility	the quality or power of inspiring belief
Exclusivity	the quality or state of being exclusive

4.0 Results

Exposure to social media of students from different campuses in Intramuros, Manila is represented in Figure 1. The respondents were asked what social media platforms they were using. All respondents said they had been using Twitter. That gave Twitter the top spot with 100% exposure (124) followed closely by Facebook with 98.39% (122). Respondents are required to have Twitter accounts to answer

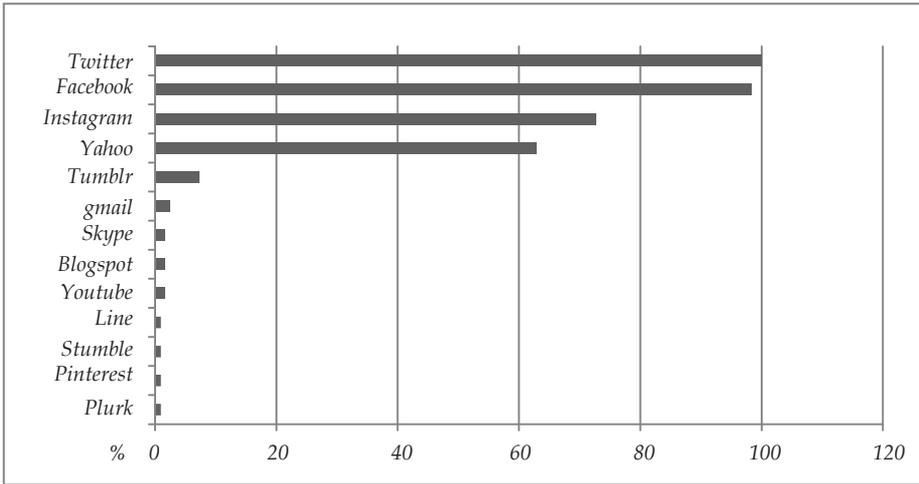


Figure 1: Social Media Exposure

the survey questions because it is essential for measuring the usefulness of Twitter in the current research. A study said the two most used social media “interfaces” are Facebook and Twitter (Davis, et. al 2012). According to SemioCast, a social media monitor, 9.5 million out of Twitter’s 517 million users were from the Philippines giving it the 10th spot on a worldwide scale. According to the analytics and statistics monitoring web page Facebookers, the Philippines is ranked 6th in the world with 17,942,340 Facebook users.

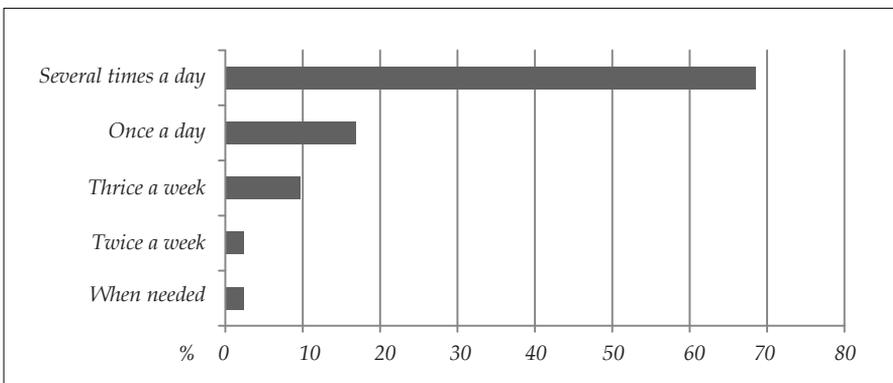


Figure 2: Social Media Usage

Social media usage is shown in Figure 2. With a percentage of 68.85%, a total of 85 respondents answered that they used social media several times a day while 16.93% or 21 answered that they used social media once a day. “Thrice a week” was the answer of 9.67% or 12 while 2.42% or 3 said they used social media “twice a week.” The other 2.42% said they used their accounts just when they needed to

use the Internet. Social media has been a part of the daily routine of students because of the availability of devices. The three out of four schools which the researchers conducted survey at are private schools with have Wi-Fi zones. This technology is not meant to be used only for academic purposes.

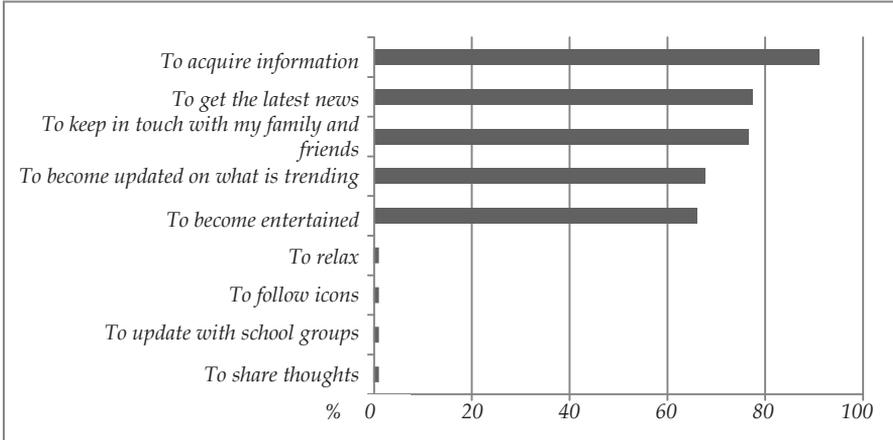


Figure 3: Purpose of Using Social Media

The main reason for having a social media account is to accumulate information. According to a study conducted, Twitter has a dual purpose: it is a social network and a news and information medium. Informational content attracts more followers than “meformer” contents - those who share something about themselves (Hutto, Yari and Gilbert, 2013). As shown in Figure 3, 91.12% or 113 students acquired information 77.41% or 96 used social media for getting news and 76.61% or 95 said they used it to keep in touch with their family and friends. Some respondents, 67.74% or 84 to be specific, wanted to stay updated on what were trending and 66.12% or 82 answered that social media were platforms for entertainment. According to Figure 4, 68.54% or 85 respondents said they got important announcements through Twitter. Facebook came out second by being mentioned by 54.03% or 67 respondents.

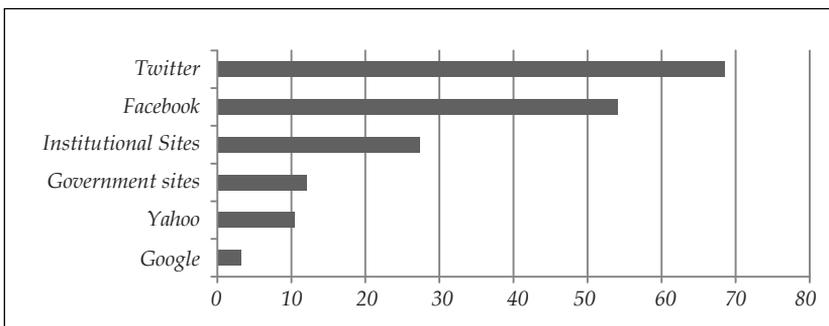


Figure 4: Student's preferred social media for getting Important announcements

Students' attitude towards Twitter is shown in Table 1. With the highest mean of 3.27 among the 13 statements, students strongly agreed that they had found Twitter useful with a standard deviation of 0.65. They agreed that they preferred Twitter over other social media platforms with the mean of 2.65 and standard deviation of 0.91.

Table 1: Attitude towards Twitter

Attitude towards Twitter	Mean	Standard Deviation
1. I find Twitter user-friendly.	3.27	0.65
2. I use Twitter because it is a part of my daily routine.	2.96	0.87
3. I can check my Twitter account anytime.	3.08	0.79
4. I can communicate with my family and friends through Twitter.	2.83	0.85
5. I prefer to use Twitter rather than other social media.	2.65	0.91
6. I am more comfortable in expressing my opinions on Twitter.	3.25	0.73
7. I find Twitter a credible source of information.	3.08	0.74
8. I can get information from Twitter firsthand.	2.99	0.74
9. I become updated in the newest trends through Twitter.	3.12	0.71
10. I follow the Twitter accounts of government organizations and private institutions.	3.14	0.74
11. It is easy to interact with the government through Twitter.	2.80	0.79
12. I re-tweet informative news and reports from those Twitter accounts.	3.13	0.75
13. I benefit from using Twitter.	3.25	0.65

According to the journal "A Longitudinal Study of Follow Predictors on Twitter", there are several attributes particular to the content of users' tweets such as tendency to express positive versus negative sentiment; topical focus, comparison of tweets with 'meformer' content versus informational content; frequency of others retweeting a user's content; reading difficulty and hashtag usage. Based on a previous research, it can be said that there are significant connections between the number of followers of a Twitter user and that user's propensity to express sentiments like happiness and sadness in tweets (Hutto, Yardi and Gilbert, n.d.).

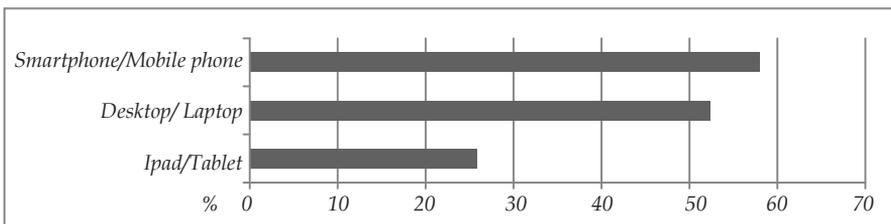


Figure 5: Gadget used for checking Twitter accounts

By logging on using their smartphones or mobile phones, 42.6% or 72 said they had been able to check their Twitter accounts (Figure 5). It is followed by desktop or laptop with 38.46% (65) while 18.93% (32) preferred checking their accounts in iPads or tablets. Several gadgets are now available in the market and one great example of these is the smartphone. As of May 7, 2013, 43% of the total number of Twitter users use their phone to tweet (Twitter Statistics, 2013).

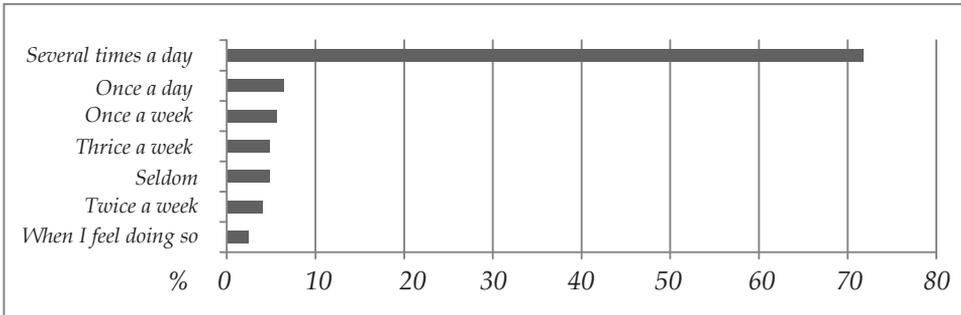


Figure 6: Twitter Usage

The twitter usage of respondents on a regular day is shown in Figure 6. According to the graph, 71.77% (89) said they tweeted several times a day while only 6.45% (8) tweet once a day. Some 5.64% (6) said they tweeted once a week and 4.83% (6) thrice. Others 4.83% (6) answered that they seldom tweeted, 4.03% (5) twice a week and 2.41% (3) said they tweeted only when they felt like.

Most users tweeted between 131-364 times over a three-month period, usually with bursts of no more than eight tweets within a single hour (Hutto, Yardi & Gilbert, n.d.). According to Twitter Statistics, the total number of active registered Twitter users is 554,750,000. The average number of tweets per day is 58 million. Some 40% of the total number of Twitter accounts don't tweet but watch other people tweet. A total of 9,100 tweets happen every second.

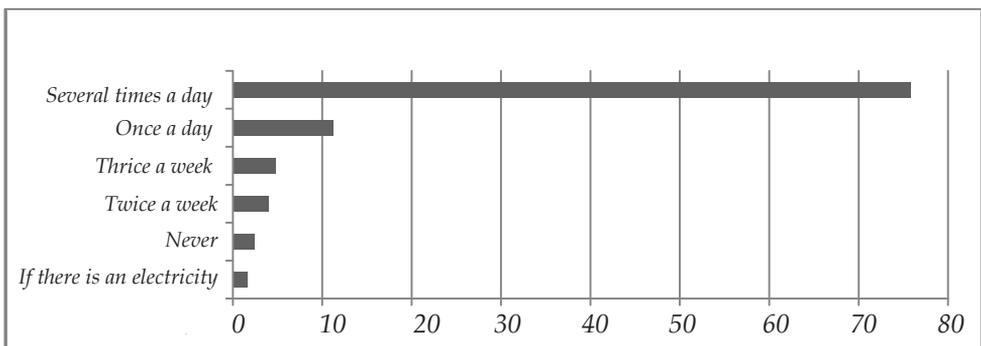


Figure 7: Twitter Usage During Typhoon

Twitter use during typhoon is illustrated in Figure 7 which reveals that 75.8% (94) said they checked their twitter accounts several times a day. Some 11.29% (14) said they checked once a day during typhoon while 4.83% (6) answered thrice a week 4.03% (5) twice a day. 2.41% (3) said they never checked their twitter accounts during typhoon while 1.61% (2) said did only when there was electricity.

During typhoons, twitter usage is inclined towards demands for class suspension. Danger expectancy runs high and parents seek information for the safety of their children. Likewise, students prefer not to attend classes because of the difficulty in traveling from home to school. Intramuros is not prone to floods but the route going to Manila is risky. According to Ropeik (2008), lack of effective communication about risk can cause physical harm as well. He also suggests that highlighting the risks and benefits of certain behaviors such as evacuation, coming to contaminated areas to rescue loved ones, coming to medical facilities depending on the likelihood of exposure. In a separate interview, it was found that the Asian-Americans were the leaders in overall Internet usage (Rainier, 2011).

The information that respondents want to know most is about class suspension. This group accounted for 85.48% (106) of the respondents as is shown in Figure 8, followed by reports on floods 70.96% (88), traffic updates 37.09% (46), and safety of loved ones 35.48% (44). Inquiries included “where to render help” 1.61% (2), how

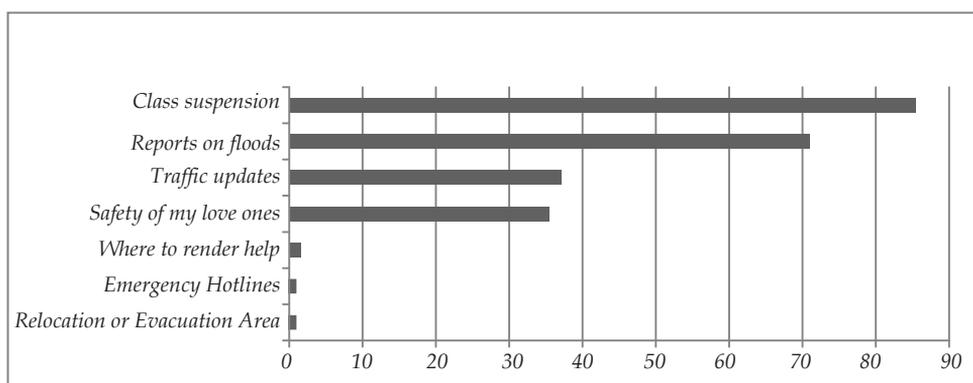


Figure 8: Information students seek on Twitter during typhoons

people react to calamity” 0.81% (1), and “numbers to call” or “emergency hotlines” and “relocation or evacuation areas” 0.81% (1).

Classes were suspended inside and outside Metro Manila with exceptions in August 12-13 last year because of Typhoon Labuyo, internationally named Utor. One week later, classes were suspended again for not more than five days because of the Severe Tropical Storm Maring (Trami) and Habagat. Rappler.com provided a list of schools and areas where classes have been suspended during typhoons Labuyo, Maring and Habagat. Students had an instant vacation because of the week-long class suspension. Due to the aftermath of tropical storm Maring,

Gov.ph came up with a list of classes that have been suspended based on the announcements made online by schools and local government units. It instructed people to use #walangpasokhashtag on Twitter and indicate the link of PAGASA for weather updates.

A representation of the attitude towards Twitter as a medium of disaster communication is shown in Table 2. With a mean of 3.21 and standard deviation of 0.62, students agreed that the tweets from the government and other institutions were extremely important during typhoons. They also said they tweeted personal updates and retweeted announcements during typhoons. However, results also show that students replied in the negative when asked if they only relied on Twitter, with a mean of 2.44 and standard deviation of 0.87.

Table 2: Attitude towards Twitter as a Medium of Disaster Communication

Attitude towards Twitter as a Medium of Disaster Communication	Mean	Standard Deviation
1. I use Twitter every time there is a typhoon because it is my first source of information.	3.02	0.76
2. I am always updated about the situation in the country through Twitter when there is a typhoon.	3.07	0.70
3. I only rely on Twitter for typhoon updates.	2.44	0.87
4. I usually check Twitter to know if there is a class suspension when there is a typhoon.	3.10	0.80
5. I re-tweet announcements regarding class suspensions.	3.16	0.79
6. I participate in the discussions on Twitter.	2.64	0.75
7. I tweet personal updates about typhoons.	2.73	0.81
8. I view photos, video and articles on Twitter regarding typhoons.	2.98	0.71
9. I can communicate with my family and friends through Twitter when there is a typhoon.	2.77	0.76
10. I think Twitter is more updated than any other media.	2.92	0.83
11. I find the tweets of the government and other institutions extremely important.	3.21	0.62
12. I always get the information that I'm looking for on Twitter regarding typhoons.	3.06	0.67
13. I find Twitter effective in disseminating information about typhoon updates.	3.16	0.69

People found their mobile phones and mobile Internet useful for staying connected during floods and electricity failures, according to smart wireless advisor Orlanco Vea. As Kiriyeve et al. (2009) observed, research on the usage of social media and disaster events had been inclining, covering a range of sites including social networking sites, photo repositories, and microblogging sites. Twitter has also been used for disaster relief efforts by major non-governmental organizations (NGOs) including the Red Cross (Tucker 2011).

Figure 9 shows that 70.96% (88) follow ABS-CBN News or ANC Alerts in Twitter while 64.51% (80) follow their school’s official Twitter account. GMA News came in third with accounting for 58.87% (73), followed by former Manila Mayor Alfredo Lim’s account 53.22% (66). PAGASA is followed by 46.77% (58) while MMDA by 33.06% (41). Manila Mayor Joseph Estrada is followed only by 29.83% (37) of the respondents.

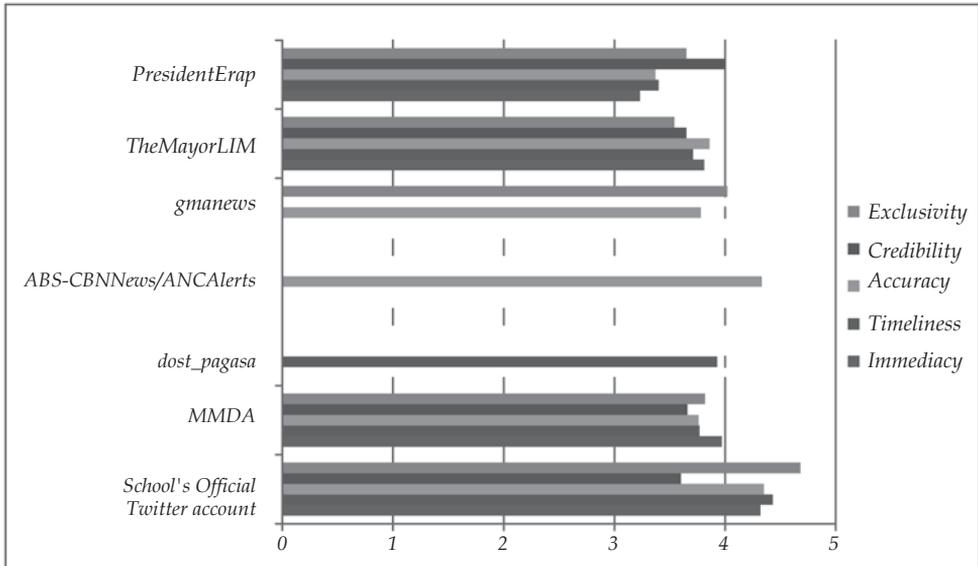


Figure 9 Ranking of Twitter accounts in terms of five variables

In terms of immediacy, the account of ABS-CBN News/ANC Alerts ranks number 1 with a mean of 4.34. The official Twitter accounts of the schools were the most satisfactory account in terms of timeliness with a mean of 4.43, accuracy with a mean of 4.35 and exclusivity with a mean of 4.68. The most credible of all the accounts is GMA News with a mean of 4.44.

Results show that Twitter followers recognize the quickness of report delivery by ABSCBN News. This is made possible by the network’s official news center, wherein the ANC is able to easily update the public on the current issues not only in the country but also those abroad. Students depend on their schools’ official Twitter accounts to avoid confusion in dealing with compliance with announcements. In this regard, local government unit announcements have exemptions specifically wotj regards to class suspension. The respondents are college students; therefore, the local government units are more likely to exclude tertiary level in the list of class suspension. In some cases, the local government units give the school the responsibility to decide on whether to suspend classes. PAGASA is responsible for detecting whether a typhoon is likely to enter the Philippine Area of Responsibility. In terms of immediacy, PAGASA tweets findings about weather forecast which are very important for the students because

it is the main source of information in this regard before it is relayed to other media. GMA News' immediacy is at stake. Its competitor ABS-CBN News/ANC Alerts came in first. It did not even rank in the second spot. The Metro Manila Development Authority is below the level of immediacy. But the respondents find its account active wherein they answer queries about traffic updates from their followers. The account of former Manila city mayor Alfredo Lim ranked above the account of the current mayor. Results show that students trust previous mayor more than the current one. Alfredo Lim's use of Twitter is maximized and is accepted because of his friendly attitude. In addition, Lim suspended classes right away. But compared to the immediacy of the other seven accounts, his account is less likely to be immediate because it is a huge responsibility for the local government unit to decide on cases such as suspending classes.

Official Twitter accounts of schools ranked number one in terms of timeliness because of their responsibility to disseminate announcement to their students. They tweet not only class suspension announcements but also retweets information about traffic updates, especially about alternative routes to be taken because of floods. GMA News and ABSCBN News/ANC Alerts shared the same idea. Timeliness is a factor that television networks are competing for. PAGASA and MMDA ranked consecutively. Respondents found former Mayor Lim's tweets timelier than Mayor Joseph Estrada's.

The official Twitter accounts of the schools are consistent with the number one spot in terms of accuracy. The person in-charge of disseminating information over social media should be careful when making announcements because students easily believe what the school administrations say. Once said, students re-tweet the information and it will be widely circulated. ABSCBN News and GMA News rank consecutively. Respondents found ABSCBN's tweets more accurate than GMA's. The number of followers affects accuracy. Results show that MMDA's tweets are either accurate or inaccurate. PAGASA deals with a lot of issues regarding weather forecast. Its reputation is at stake because of the wrong information that it disseminated especially about the existence of typhoons. But according to the organization, their equipment malfunctioned which the government should consider replacing. The account of Alfredo Lim came in sixth in terms of accuracy. Respondents observed that the account of Mayor Joseph Estrada is always the least satisfactory because his tweets were very limited. His tweets were mostly about his projects and people were looking for something informative that they could benefit from.

Results show that GMA News is the most credible of all. GMA News and Public Affairs promote excellence in broadcasting with their tagline "SerbisyongTotoo." Respondents found their school's official account credible because it released authorized statement from the school administration. One concern for many of those who were involved with crisis communications is that when the disaster strikes, images are posted on Flickr, and words are already flying around in Twitter and Facebook; that, they said, could affect first broadcast (Currie, N.d.).

Because of the very nature of Twitter, it is not possible to let contents be exclusive

because of the practice of re-tweeting. But in this case, school's official Twitter account produces exclusive content from the other accounts due to its academic relevance. The other six accounts are for the public. Indeed, most followers of the school's official account are its students while the other six accounts are followed by people from different walks of life. Exclusivity may sound like distinctiveness but it is a feature that social media is competing for.

In terms of these five considerations, the Twitter accounts of school, GMA News and ABS-CBN News/ANC Alerts are the most effective accounts on which students rely on.

5.0 Discussion

The Uses and Gratifications theory is appropriate for studying social media (Maxwell, et. al. 2012). The current research uses the Uses and Gratifications theory to further understand the motivations and satisfaction students get from twitter during typhoons. For H1, the researchers predict that students are motivated to tweet or participate in twitter discussions whenever there is a typhoon.

According to various researches on social media, people are more active in using different social media when there is a disaster because they seek for more useful information (Bates and Callison, 2008; Sweetser and Metzgar, 2007). According to the second research question, the top reason why students check their Twitter accounts during typhoon is they want to know if there is an announcement regarding class suspension; 51.61% (64) respondents agreed to this. Re-tweeting of announcements about class suspensions was done by 50% (62) of the students. The researchers also asked the respondents whether they viewed photos, videos and articles linked through twitter and it came up with a 62.09% (77) result. Johnson and Young (2009) said information motivation is getting information, giving or receiving advice and sharing information with others.

One reason for public using social media during disasters is to check with family and friends (Fraustino, Liu, and Jin 2012). The current research found that Twitter usage for communicating with friends and family increased by 12.84% during a typhoon compared to a regular day. On a crisis day, 19.35% more discussions take place on Twitter than on regular days.

From a study on twitter motivation where three stages were analyzed, (warning stage, during disaster stage, recovery stage) there is an increase in the number of tweets over the three stages (Maxwell et.al 2012). A total of 58 or 46.77% students said they were motivated to tweet personal updates during typhoon. From the analysis of the research questions, it is understood that students are motivated to tweet or participate in twitter discussions when there is a typhoon. That makes the H1 of the current research acceptable.

The H2 hypothesized that students relied more on twitter than any other social media platform when it comes to acquiring news about typhoons. A scale of 1-4 - from strongly disagree to strongly agree - was used to measure the results of the

responses to the research questions for H2. Among 124 respondents, 60.4% (75) agreed that they always got what they were looking for on Twitter regarding typhoon; this gives an affirmative support to the H2. Some 34.67% (43) agreed and 11.29% (14) strongly agreed that they relied only on Twitter for typhoon updates whereas 40.32% (50) disagreed.

The Uses and Gratifications Theory says that people know the kind of information they want to acquire and thus seek a particular media to meet that need and to be able to aim satisfaction (Katz et al., 1973). The current research shows that the respondents know what they want. When asked why they followed or checked their accounts when there is a typhoon, the respondents said they did so for (1) getting updated on announcements, (2) taking part in dissemination of information, (3) getting involved in social issues, (4) expressing opinions, and (5) participating in discussions.

Twitter is ranked top with 38.55% of the respondents replying positively to the question where they usually got important announcements. A study revealed that the first information about the 2008 earthquake in China came from Twitter (Mills, Chen, Lee, and Ro, 2009). A total of 56.45% (70) respondents agreed while 34.67% (43) strongly agreed that they benefitted from using twitter. This testifies that they achieved satisfaction. Twitter is effective in disseminating information about typhoon updates, said 62.09% (77) of the respondents of the current study. It is also revealed in the results that 50% (62) of the total sample agree and 27.41% (34) strongly agreed that they used twitter when there was a typhoon because it was their first source of information. 62.9% (78) agreed that they were always kept up-to-date about the country's situation by Twitter. 45.16% (56) agreed that Twitter was more updated than any other social media when it came to information about typhoons.

From the analysis of the results from the research questions to measure H2, it is understood that the respondents are highly satisfied with Twitter. However, they did not solely rely on it when it came to acquiring information about typhoons. The researchers still found H2 acceptable since the supporting research questions positively support the hypothesis.

H3 predicted that students were more satisfied with a Twitter account that was more active on tweeting typhoon updates. To prove H3, the respondents were asked to rank seven twitter accounts in terms of five variables: immediacy, timeliness, credibility, accuracy and exclusivity. ABS-CBN, GMA and their school's official Twitter account were the accounts that topped the ranking. These three twitter accounts also topped the result when the respondents were asked their preferred Twitter accounts for seek typhoon updates. Analyzing the answers from the research questions to measure H3, the researchers claim that H3 is acceptable.

6.0 Conclusion

To summarize the current research about the usefulness of Twitter during typhoons, the researchers used a quantitative method through a survey questionnaire and descriptive analysis after the Typhoon Maring and Habagat came in the Philippines in August 18, 2013.

Though results show that expressing opinions and participating in discussions is the last reason for students to use Twitter, results also show that there are more students who tweet several times when there is a typhoon. The top two reasons why students follow the given accounts are to take part in dissemination of information through re-tweeting and share personal updates. They use Twitter by following accounts that can give them updated information on the typhoon. They are motivated to tweet so that they can communicate with their family and friends and know if there is an announcements regarding class suspension. Therefore, it can be said that students are more active in tweeting and participating in Twitter discussions when there is a typhoon.

Twitter is the first source of information for the students during typhoons. Students are satisfied with Twitter because it is more updated than any other social media when it comes to information about typhoons. The top reason why they follow the accounts is getting updated on the announcements.

The top three consistent accounts when the researchers measured immediacy, timeliness, accuracy, credibility and exclusivity are the Twitter accounts of ABS-CBN, GMA and the school twitter account.

The current research did not just study Twitter on the whole as a medium of communication, it also identified the accounts that topped the list of students' preference to check to get information that is immediate, timely, accurate, credible and exclusive. This could help improve the Twitter accounts of the schools in Intramuros, Mainila as a medium of communication during typhoon. However, the limitation of the study is that it only considers a particular disaster which is typhoon because every disaster is different just like every kind of social media.

Future research could also focus more on the use of Twitter accounts of local government units for their effectiveness in disseminating information or updates during typhoon or any kind of disaster through the use of Twitter to further understand its usefulness.

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Clothing Business on Facebook: Status of Women in e-Business

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Abstract

In this study, the researchers have tried to determine the relationship between women's use of ICT and their empowerment with an aim of generating and mobilizing new thoughts and ideas. The researchers have observed that there are a large number of fashion-based pages in social media, Facebook in particular, where women tend to visit to keep themselves updated. The pages are fast becoming places for window shopping with customers now able to choose and order through Facebook without any hazard. And the owners of the pages need not invest money for setting up a shop or pay the rents or for decoration. Analyzing five case studies and interviewing experts, this study found women were still far from being the dominating factor in the overall supply chain because they mostly exist at the bottom of the whole distribution system. Moreover, they cannot take risks because they do not get bank loans because of complex procedures in the patriarchal setting. So, the scope is limited for female entrepreneurs although the level of growth of the fashion pages is high. Moreover, the fact that women still do not get enough opportunity at the policymaking level is also a problem.

Keyword

Feminism, Technofeminism, entrepreneurship, empowerment, mobility, psychological mobility.

Introduction

E-business is gaining in popularity in the big cities of Bangladesh, especially Dhaka. This is not surprising because the Internet is a really convenient medium for shopping because going to the markets in the capital takes a lot of effort because of the traffic. Bikroy.com, OLX.COM and many other websites involved in e-business have become popular for online shopping in recent times. In fact, clothing stores online are doing good business. In Facebook, there are a huge numbers of active pages where customers can choose from and purchase their dresses easily; their trade figures are rapidly booming. As stated before, the major reason behind the flourishing of online business is the popularity of Facebook. A news report published on August 14, 2013 in the Financial Express shows that some 2.80 million people in Bangladesh now use the world's strongest social media. A survey report of Socialbakers, a global social media and digital analytics company, showed that people aged 18-24 years in Bangladesh are the key FB users. Out of a total 2.80 million FB users in Bangladesh, 1.37 million are young men and women (Humayun, 2012). This means that Facebook is the most popular among the young generation and this trend will perhaps be accelerating in the coming years as well. The trend is also probably propelled by the term "Global Village," first used of Marshal McLuhan, a communication specialist, to refer to the world. He insisted that communication patterns changed communication medium, greatly influenced by the existing social structure. E-Bay for example, with its own virtual community of buyers and sellers located in over 30 different countries, is one of the world's best online marketplaces (Laughly, 2008).

Moreover, a growing number of people in Dhaka city are actually looking for easier ways to do shopping because of the wretched traffic congestion in and around the marketplaces.

Dhaka is ranked among the least livable cities in the world, according to a global study by the Economist Intelligence Unit. The study titled "Livability" was conducted considering some particular characteristics of a place such as its crime levels, threat of conflict, quality of medical care, levels of censorship, temperature, schools and transport links, reports UK-base newspaper The Telegraph. On a scale of 100, Dhaka got only 38.7 points, the lowest among the major cities in the world. Dhaka was ranked the second worst city for living last year by the same index (Daily Star, 23 January, 2014).

On top of that, women are said to be the worst sufferers because the city is yet to ensure social safety and security for them, hampering their free movement and empowerment. Empowerment/autonomy in physical movement refers to the freedom of women to move to their necessary places without being escorted (Haque, 2011, p. 24).

Women most often keep themselves busy in household chores. The male dominated society rarely allows them to go out because of the lack of adequate security. The households are the centers of gender-based discrimination (Narayan-Parker, as cited in Laizu et al., 2010) because of the power relation in the

family hierarchy. Domestic power dynamics can be analyzed by an individual's access to and control of different "spaces" such as physical, economic, socio-cultural and political, and non-physical within the domestic level. A new space for women empowerment is technological empowerment, which is as important as the other interrelated spaces. (Lennie, as cited in Laizu, Armargo, Sudweeks, 2010, p. 218). Here, it can be said that the Facebook as part of information, communication and technology, gives women the much required mobility that they need to find the business places in the cyber space and to be empowered.

The United Nations Population Information Network (Popin), the UN Population Division and the Department of Economic and Social Affairs, with support from the UN Population Fund (UNFPA), have formed a set of guidelines on women empowerment, which coins five components: women's sense of self-worth; their right to have and to determine choices; their right to have access to opportunities and resources; their right to have the power to control their own lives, both within and outside the home; and their ability to influence the direction of social change to create a more just social and economic order, nationally and internationally. But women still can influence a little in direction of social and economic change.

In the United Nation's Millennium Development Goals (MDGs), the target is to eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015 (UN Women, 2014). But this is not yet possible in Bangladesh because the society is hugely male dominated and there are certain impeding social, economic and spiritual obstacles. This year's International Women's Day theme is "Equality for Women is Progress for All." In a statement on the occasion of the International Women's Day, 2014, published on the UNDP website, UNDP Administrator Helen Clark said no country would reach its full potential if its female citizens did not enjoy full equality. As the Millennium Development Goals near the 2015 deadline and as discussions on the next global development agenda intensify, there is a strong momentum for achieving development with equity, including by eradicating gender inequality and empowering women and girls (Helen, 2014).

However this research intends to observe the role of Facebook in providing women with at least the psychological mobility for getting empowered. In Facebook, women have been seen to have been connected in e-business, particularly in the clothing sector. It seems women are presently emerging as entrepreneurs with the blessing of information and communication technologies such as the Internet. It is now the demand of the day for them to find out their real positions in online business, especially from the very perspective that women entrepreneurship supports the cause of empowerment and gender equity in the society.

Literature Review

This article initially discusses the present context of the Facebook users and their tendency of doing business through this medium. Then the barriers to online business in Bangladesh will be addressed. The situation of women empowerment in the country and the contribution of women entrepreneurship to it will be also part of the discussions.

Although in Bangladesh women are involved with the production process from the very beginning, they can hardly enjoy the profit because they cannot get involved with the distribution process (Mahmuda, 2012). Distributors, who exist in the middle of buyers and producers, enjoy huge amounts of profit despite not being a part of either production or consumption. They are actually the middlemen in the supply chain of business (Engles, 2005, p. 119). Women cannot reap the advantages of getting themselves involved in the production process because they are kept segregated from the distribution system, manifesting a discriminatory treatment. Md. Morshedul Haque in his article "Women Empowerment or Autonomy: A Comparative View in Bangladesh Context," published in *Bangladesh e-Journal of Sociology*, said most rules and regulations were discriminatory because, based on the biological (sex) differences, every society imposed sets of rules and regulations, responsibilities, and rights for men and women (Haque, 2011, p. 17).

In the Bangladeshi society, women are involved in household chores, which is never recognized as "work" by the male dominated society. Feminist Andrea Tone (as cited in Mahmuda, 2012) agreed that the household is increasingly perceived in opposition to male dominated market as a feminized space, come to be viewed as a site for leisure and consumption rather than labor and production.

Mahmuda Islam in her book titled "The Women Deprived in History," cited from a research that found that where men earned 1 dollar in an hour, women earned as much as 70 cents per hour. Therefore, women were still deprived of the production system in the mainstream markets. This deprivation leads them to find an alternative market and obviously Facebook contributes a lot to this end where women find a space to initiate business. It also gives women a different status in society. Various studies on women's status have shed light on different aspects of empowerment without explicitly labeling it as women's status. The studies indicated at women's overall position in the community. Acharya and Benette (as cited in Haque, 2011, p. 18) highlighted the links between women's economic roles and their control over resources and life options.

The financial role of women in family bolsters their position in society and also helps to establish empowerment. Keller and Mbwewe (as cited in Haque, 2011, p. 18) described women empowerment as "a process whereby women become able to organize themselves to increase their own self-reliance, to assert their independent right to make choices and to control resources which will assist in challenging and eliminating their own subordination."

Women's involvement in technology is lower than that of men. Feminist Judy Wajcman in her article titled "Techno Capitalism Meets Techno Feminism: Women and Technology in a Wireless World" said: "Mastery over technology has long been seen as a key source of power for men, reflected in hierarchies of sexual difference at work and at home. The very definition of technology, in other words, has had a male bias. This emphasis on machines dominated by men conspired in turn to diminish the significance of women's technologies, such as horticulture, cooking and child care, and so reproduced the stereotype of women as technologically ignorant and incapable" (Wajcman, 2006, p. 7). Internet, especially Facebook, helps women overcome the fear of technology and build a network among the buyers by using technology.

But still, there are some debates surrounding the contribution of ICT to women empowerment. In a guidebook on "Developing women's entrepreneurship in green cooperatives in the Asian and Pacific Region" by the United Nation's ESCAP, critics defined women empowerment in the knowledge society denoting that women possessed the capacity, skill and resources to access, manage and produce information for their needs by means of the ICTs. These technologies inherently make possible flexibility of time and place and offering great possibilities to the women in view of multiple roles. However, the digital division within and among countries by gender, age and wealth has given rise to serious debate regarding whether the ICTs broaden the existing inequalities between the "haves" and the "have-nots" of ICT (United Nations, 2007, p. 44).

Although in recent times, debates have been raised about the influence of Facebook, it is also true that a growing number of fashion pages and online clothing stores proves that Facebook is influencing urban women to do business, at least in the virtual space.

Present situation of Facebook user in world and Bangladesh

The growing number of users shows the popularity of Facebook. It is the biggest social media, having reached 1.11 billion users in the world as of May 2, 2013 (Wikipedia, May 11, 2014). Not only is Facebook gaining in popularity rapidly among adults and teenagers, many users are getting addicted to it as well. After 2005, the number of adults using social media in the United States rose from 8% to 72%, according to Forbs.com. Boost mobile also conducted a survey on 500 men and women aged between 16 and 25 living in Australia. Nearly half of the surveyed group admitted of being addicted to social media; 68% confessed checking their social media feeds about 10 times a day (Geron, 2011).

Bangladesh, one of the fastest growing economies in the world, has had an impressive internet penetration growth with the number of users reaching more than 5.50 million until 2011, from only 1,00,000 in 2000. According to the International Telecommunication Union, a total of 4.88 million Internet users are

added in 2011-2012 to only 617,300 users in 2010 in Bangladesh. The country's mobile phone penetration has also jumped to 93.78 million in June 2012 which has facilitated the Internet as well as Facebook users in the country (Humayun, 2012).

In November 2013, Facebook Director of Small Business Dan Lavy said in online news portal Marketing Land that they had 25 million active small business pages (Lavy, 2013) Social media has contributed immensely to the development of e-commerce business. It has also eased the way for consumers to choose and buy products online.

A news report by Forrester research says that Facebook is more suitable for small retailers, niche products or steeply discounted items, while most e-commerce retailers find little benefit from Facebook. Forrester analyst Sucharita Malpuru said most of the benefits that big retailers get from Facebook is still what marketers call "top of the funnel"-branding of their company, not actual purchases (Geron, 2011).

In a study titled "A generic framework for Implementing electronic commerce in developing countries," researchers found some barriers in the way of establishing e-commerce such as lack of education, fragile economic condition, power shortage, unavailable Internet facility and improper standardization of Bangla writing software (Rajon, et.al., 2011).

Facebook creates new trends and styles for users. A huge number of Facebook users follow the fashion pages regularly. The chapter Modernity and Medium Theory in the book Key Themes in Media Theory by Dan Laughy says that technologies are affecting a standardization of habits and opinions (Laughly, 2008).

Purpose of the Study

- Depicting the position of women in e-business
- Evaluating their performance as entrepreneurs and predicting the future of women entrepreneurship in this sector
- Analyzing the relationship between women's e-business tendency and empowerment
- Addressing the key advantages and barriers for women entrepreneurs in e-business
- Pointing out scopes for further study

Research Questions

- What is the position of women entrepreneurs in the virtual marketplace?
- What is the situation of access of women to the ICTs in the patriarchal setting?
- Does psychological mobility help women to be empowered?
- Do they have any future in clothing business on Facebook?

Theoretical Framework

New inventions in Information and Communication and Technology (ICT) are most definitely paving the way for women empowerment. In the existing patriarchal socio-economic settings, men enjoy the maximum output of technologies that women can hardly do.

Radical feminists' view is that gender-power relations are deeply embedded within the tech science. The relations are designed according to the men's interests and needs while women are either forcefully asserted with or not always well served by the technologies. Western sciences and technologies, they argue, are deeply implicated in the project of the domination and control over women and nature. However, a revaluation of cooking, childcare and communication technologies immediately disrupts the cultural stereotype of women as technically incompetent or invisible in technical spheres (Wajcmann, 2009).

In Bangladesh, women's mobility in the native society sometimes comes under the threat social safety and hence lack of psychological support. The title "Kanya Shishu-4," published by the National Girl Child Advocacy Forum in 2008, revealed that a huge number of girl children committed suicide in 2007-08 (Majumder, 2008). According to the aforementioned group of feminists, even in primitive modes of production, power was steered by women. But men became powerful with the growth of technologies (Islam 2012). Also, women cannot acquire their economic and social rights in the male dominated society because they are deprived of property and they feel deprived and unprivileged (Mahmuda, 2008).

In fact, in recent times, even when Bangladesh is growing through a "digital surge" in women's participation in the Internet, especially on Facebook, it is still much lower than that of men - 78% of the Bangladesh Facebook users are male (Humayun, 2012).

Despite of all these issues, the habit of using Internet for business among urban women in Bangladeshi has been growing. Statistics show that these women prefer Facebook to marketplace as medium of business. Therefore, an understanding of women's position as entrepreneurs is pivotal to the perception of their position in market.

Entrepreneur, according to the Oxford Dictionary, is a person who sets up a business or businesses, taking on financial risks in the hope for profit (Oxford Dictionary, 2014).

Business Dictionary however defines entrepreneur as the person who supplies risk capital as a risk taker, and monitors and controls the business activities.

The entrepreneur is usually a sole proprietor, a partner or the one who owns the majority of shares in an incorporated venture.

According to economist Joseph Alois Schumpeter (1883-1950), entrepreneurs are not necessarily motivated by profit but regard it as a standard for measuring achievement or success.

Such definitions will help realize the situation of women in the online market from their entrepreneurship perspectives.

Methodology

For this paper, five cases were studied. Roger D. Wimmer and Joseph R. Dominick say that case studies provide tremendous details of any topic (Wimmer and Dominick, 1999, p. 156). So, the collected data from these cases will be interpreted qualitatively. Supplementary data were sourced by interviewing two key informative persons (KIP). One is Gender, Media and Social-Network specialist Dr. Kaberi Gayen, professor of Mass Communication and Journalism at Dhaka University; and the other is market analyst Hasibul Hasan, assistant professor of Finance at the Jagannath University. Snowball sampling has been used for selecting the interviewees. Donald R. Cooper and Pamela S. Schindler said in their book titled "Business Research Methods, Variations" that snowball sampling had been widely used for studying drug cultures, teenage gang activities, community relations, insider trading and other applications where respondents were difficult to identify and contact (Cooper et al, 2003).

Therefore, snowball sampling will be the most effective in finding entrepreneurs as they are young members of the cyber community and difficult to track down.

In this research, five respondents have been chosen by snowball sampling. One of the respondents is Syeda Aklima Begum, founder and chairman of the fashion site "Fashion Reveal." The reason behind choosing this fashion store is because it is popular among buyers who visit Facebook pages for shopping. After observing fashion pages, the researchers found that this page had been very active in uploading photos and information about dresses. Aklima has made big investments in this business.

Another respondent is Kaji Nahid Sultana from the Shorno Fashion House who is also popular on Facebook. But, as she has a showroom and is part of the mainstream market, she uses her Facebook page to promote the dresses. Two other respondents are Shajnin Snigdha from the online Hawker, and Sana Syedee from the Design and Style. None of them have invested much in online business. They are beginners; the success of other part-time online businessmen influenced them to start this businesses.

The fifth respondent is Nuzhat Zaman Tropa from "Tarkashee," which emerge in the online scenario during particular seasons, especially during the Eid seasons. She invests a good amount of money in those seasons. However, no activity can be observed in her Facebook page over the remainder of the year. Core information about their profiles and pages are also given. We will elaborately describe and analyse those pages later.

Profile of the Respondents

1. Fashion page: Fashion Reveal

Name: Syeda Aklima Begum Lipy, Age: 42, Gender: Female,
Occupation: House Wife, Marital Status: Married

Description: They have put in their address and phone number right at the top of the page. They describe the page as Women's Clothing Store. With the focus on rating system, the page got 4 out of 5 stars (1,109 ratings). We have also learned that their page is liked by a staggering total of 150,415 people as of May 20. A total of 14,083 visitors talked about this. Interestingly, the chat option in their page is always open which means that they always remain connected with the viewers through Facebook. There are also fan pages and event notifications. Every month, they announce the "fan of the month" and invite visitors to various events they arrange at different places in the city on different occasions. For example, they exhibited their dresses during the Eid season at the Drik Gallery in the capital. In their review section, viewers can express their opinions about dresses or pages.

2. Fashion page: Shorno Fashion House

Name: Kaji Nahid Sultana, Age: 30, Gender: Female,
Occupation: Business, Marital Status: unmarried

Description: This page is not attractively arranged. They have just two sections of photos and Likes and very low visible interaction. They promote undergarments in their page and viewers do not feel comfortable talking about this as it is an open page. So, it can be said that they do not use the Facebook page for doing business; instead, they advertise their products using Facebook.

3. Fashion page: Online Hawker

Name: Shajnin Snigdha, Age: 27, Gender: Female,
Occupation: Student, Marital status: unmarried

Description: This page is just to advertise the dresses and there has been very little activity. Only 208 viewers like this page. There is no phone number or any contact detail available in this page. This means that most viewers are personal acquaintances of the owner of the fashion page.

4. Fashion page: Design and Style

Name: Sana Syedee, Age: 25, Gender: Female,
Occupation: Student, Marital status: unmarried

Description: It has a very interesting tagline - Only for shopaholics. It is a popular fashion page with an impressive 29,790 likes. Photographs, products, likes and notes are the four segments of this page. They upload 2-3 photos every day and the dresses in the photos get 20-25 likes and 1-2 comments on an average. They have another segment called "recent posts," where viewers can post their comments about the page.

5. Fashion age: Tarkashee

Name: Nuzhat Zaman Tropa, Age: 23, Gender: Female,

Occupation: Student, Marital status: unmarried

Description: This page gets active only during occasions. However, it has 1,410 likers and 5 “talking about it.” They try to attract viewers with the intro – “Grab the latest Designer’s/Pakistani lawn collection at the best price!” Apart from the address, they have also made their phone number available on the page. There are three sections: photo, likes and how to order. The delivery points are described in the “how to order” section. They also offer home delivery.

Research Findings and Analysis

The findings have mainly emerged out of the interviews conducted on the five owners of the fashion pages. The key informants helped us analyze the findings. We have also tried to analyze the contents put up on the fashion pages by the respondents to understand the seller-buyer interaction and also the strategies that they adopted for influencing buyers.

Pattern of Business

There is a myth that an entrepreneur has to be an inventor (Yesmin, 2012). But it is really not necessary. Three of the respondents informed they had decided to open webpages for business online after learning about the growth trend in this sector.

There are some features that make an entrepreneur such as being an economic agent (Cooper et al., 2003). Entrepreneurs are basically concerned with the production and distribution of services. In our case studies, we have found that the owners of the Facebook clothing stores are not involved in production. They just buy the products from the wholesalers and sometimes from the middlemen. In all of the cases, respondents involved in online business bought clothes from those businessmen, who imported dresses from outside of the country, especially from India and Pakistan. So, it can be said that women here acted as middlemen. But, the owner of Fashion Reveal Syeda Aklima Begum said her store directly imported readymade products from Pakistan and India. Therefore, she is a businessperson positioned in the middle of the supply chain.

One of our experts Hasibul Hasan said some conditions should be fulfilled to be considered an entrepreneur. Size of investment, investment tendency and the size of employment are salient features of entrepreneurship, he said.

But respondents informed that they did not invest much in the beginning of their businesses and most of them do not have any employee.

Risk Factors

The International Labor Organization (ILO) defines entrepreneur as a person with a set of characteristics that typically includes self-confidence, result oriented, risk taking, leadership, originality and future oriented (Yesmin, 2012).

But in most of the cases, the respondents were not ready to take business risks. Kaji Nahid Sultana from Shorno Fashion House said she paid half of the amount to the wholesaler when she collected the dresses and gave full payment after selling all the dresses. In fact, she can return the unsold dresses. Shajnin Snigdha from online Hawker informed that sometimes she took commission from the wholesaler, which was actually a function of a middle-person, not an entrepreneur.

Only two of the respondents, who have their own showrooms, said they could take bank loans. The rest of the respondents said the banks would not give them loans against their online clothing stores. Hence, we can conclude that they are not even eligible to take risks.

A World Bank (WB) report, published in January 2002, titled “Integrating Gender in to the World Bank’s Work: A Strategy for Action,” said the business environment of the society was very much male dominated; therefore, a women felt fear to take risks in this sector (World Bank, 2002).

Facebook gives space for product distribution

One of our experts Dr. Kaberi Gayen explained why the respondents were scared of taking risks. She said although women sometimes are involved in production, they could not make healthy profits because of their little involvement in distribution.

Respondent Shajmin Snigdha said social networking sites such as Facebook gave her the chance to distribute products from her home. She just posted the photos of dresses on the Facebook page and the interested buyers collected the products from her. Aklima from Fashion Reveal said one of her business strategies was home delivery. Although buyers can also contact her and buy the dresses but as most buyers are women, they feel secure to have products delivered to their homes.

Two of the respondents, who own showrooms, maintain their Facebook pages just to promote their shops. Other respondents have also expressed their concerns about properly advertising their products to attract buyers.

Business expert Hasibul Hasan said Facebook was a medium for passing time and online shopping gives the users the opportunity to see the market trends in their leisure hours. It also entertains the users.

Facebook also gives mobility to the owners of the fashion pages. All the respondents said they regularly followed the Indian and Pakistani fashion pages and tried to collect those dresses from the wholesalers. Sometimes they ordered dresses via the wholesalers. They sold their dresses through Facebook at different places. Thus these women are getting the psychological mobility at least.

Reasons for the boom in online clothing business

- Everyday, new fashion or clothing store pages are being opened on Facebook. One respondent Sana Syedee of Design and Style said her friend inspired her to start the online clothing store relying on the fact that she had a lot of friends.

- She collects dresses from the small boutique shops in her surroundings. Most of the owners of the boutique shops are personally known to her. She does not pay them before selling the dresses. She is actually working as a middleperson who helps mainstream business women promote their dresses in the virtual world and create a network with buyers. Literally every locality in Dhaka has at least a few boutique shops, which actually are using the social media for advertising their products. This is one of the main reasons behind the boom in online clothing stores on Facebook.
- The researchers have found that some fashion pages remain active for only a certain period in the year. Nuzhat Zaman Tropha, owner of Tarkashee informed that during festive seasons such as Eid and Pahela Baisakh, many fashion pages do business on Facebook to meet the escalated demand. They deactivate their pages after the festivals are over. This speaks for that fact that the dresses sold through these online shops have demand. Tropha says people nowadays want to purchase trendy dresses during festivals, especially the national ones such as the Pahela Baisakh (the first day of the Bangla calendar) and the Independence Day. But in recent years, the markets have been overcrowded before the festivals. On Facebook, people find trendy dresses in just a matter of a few minutes. As a result, people, who want to avoid the hassle of window shopping, like to shop on Facebook.
- Most respondents do this kind of part-time business and their family supports them because anyone can do this from home without any hazard. They do not have to invest much money and do not have to meet the risk of making the dresses. They just act as middlepersons in the supply chain creating a link between the producers and the buyers. With the shooting inflation in the country and considering the living cost in Dhaka, most fashion page owners consider this an additional source of income.

Future of the online clothing stores in Bangladesh

Respondents Kazi Nahida Sultana and Sajmin Snigdha are of the opinion that hundreds of fashion pages are doing business on Facebook. With demands for the products available in these stores increasing, competition is fast becoming fierce. So, they think that the future of online clothing store is not so promising. However, Aklima, the owner of a fashion page, said the opposite. She thinks in future her fashion page will reach international standards because her page is already very popular.

After analyzing the findings from the case studies, we can conclude that those who have strong family and educational backgrounds can invest more money and are more creative than others. Tropha has passed O-level and is now a part-time teacher at the Academia school in Dhanmondi. She also has an educated family. So, it is easy for her to take risk and invest more than the others. She also has a good network that helps her sell her dresses easily and smoothly. Aklima, meanwhile, has a big business because she had invested more than what the others had done at the start of her business. So, she has a big and exceptional collection of dresses.

These things make them hopeful about the future of online business on Facebook as they have already secured a stable position in the competitive scenario.

Position of the owners of the online cloth store in the supply chain

According to this study, women in business clinch the fourth position in the marketing supply chain. They are the retailers as shown in the figure below. In all the cases, we have found that they act as middlepersons between the wholesalers and the buyers.



Figure 1: Supply Chain

Explaining the contents available on the fashion pages

All the fashion pages attract customers by uploading photos of dresses. Sometimes models are also included in the photos. Showcasing dresses by putting them on prominent actresses or models often gets more hits than other photos. The owners said mentioning the price and type in the photo caption helped the buyers in making decisions. Links shared with buyers and their feedbacks and comments speak for the interactivity of the social media sites. Let us now discuss the photos, links, comments and other text of respondent's posted within 24 hours on some of these studied pages.

Fashion Reveal

Photos

- * This page uses a photograph of Bollywood star Prety Zinta in a blue dress as the cover photo. Another Bollywood star Sonali Bendre features in a second focus photo of the page.
- * Some 25 different photos of different dresses have been uploaded here over a 24-hour period. Five Bollywood stars and models feature in those photos.
- * They are all catalogue photos which mean that the owner of Fashion Reveal got them along with the dresses she bought from India. They do not have to arrange any photo shoot for this promotion.

Compared to other photos, visitors notice the dress worn by the Bollywood stars. This can be said because they get more likes than the other photos. For example, the first photo of Sonali Bendre got 71 likes while the other three photos of other models, uploaded at the same time, got only 17, 14 and 19 likes respectively although the prices of the latter dresses were cheaper than those worn by Sonali.

Links

On these photos are shared on this page. No other link has been shared during that 24-hour period.

Comments/Feedback

Only 10 comments or feedbacks have been posted on the page during the mentioned period. Eight of those comments were compliments for the dresses and one “wants to know the price” another “want to know if the dress is available or not.” After observing the feedback, it can be said that the viewers checked out the dresses and preferred to call the seller directly rather than leaving comments on the page. So, the level of activity on the page is quite low.

Text

* Details about the dresses and information about the way of purchasing them accompany the uploaded photo. They also follow some strategies for selling their dresses such as free home delivery anywhere in Bangladesh.

* There are also mentions about arrangements to pay by Bkash/bank transfer/DBBL Mobile Banking and “no hidden charge/service charge.” In the ordering system, the page says that “we will deliver the product to your home totally free of cost.” This “free of cost” delivery offer definitely makes the buyers interested.

* Other notable lines included in the details include “Have an easy shopping, like U never before!!!” It is like their promotional line that represents the owners’ concerns about their promotional strategies.

Online Hawker*Photos*

* The Online Hawker uploaded 2-3 photos over the 24 hours. Sometimes, no photo is uploaded at all. This means that the collection of dresses is not very big and it does not collect dresses regularly.

* It does not use any prominent model’s photo in the page. All the photos are in a catalogue. So the likes they get are only for the impression of the dresses.

Link

It shares a catalogue of photos on the page. No other link has been shared within the 24 hours.

Feedback

It gets two or three likes in 24 hours and no comment, showing that the level of interactivity with the visitors is very low.

Text

It introduces itself as “One point selling for Pakistani Lawn dresses at Bangladesh.” There is no mention of any delivery system or price on the Facebook page, indicating a very poor business strategy.

Tarkashee*Photos*

- * 2-3 photos were uploaded in 24 hours.
- * The photos are in a catalogue. It indicates that it does not want to spend on models to promote the dresses. So, the likes it gets are only for the impression of the dresses.

Link

Only catalogue photos are on their page. No other link has been shared within 24 hours.

Feedback

It gets 2-3 likes in 24 hours and just one comment. This shows that its interactivity with visitors is very low.

Text

- * Tarkashee mentions the color and price of the product. It also makes the mobile number available, influencing buyers to contact directly. This is one of the reasons why its visitors leave very few comments on the page.
- * It also offers discounts if someone purchases two dresses. This shows that they it follows certain business strategies.
- * There are mentions of Tarakshee's three prime delivery points. It also provides home delivery all over Bangladesh and also abroad! For customers, who are unable to collect items from the prescribed delivery points, are given the facility of home delivery for a charge of Tk50, if only one dress is ordered. Free home delivery is also provided if two or more than two dresses are ordered! These proves that the owner has good business sense.

Shorno Fashion House*Photos*

- * They use dummies as model and also catalogue photo of their dresses as they sell sensitive dresses like undergarments.
- * They get 2-3 likes and no comment on their dresses for the same reason.
- * They upload 6-7 photos regularly but there is no interactivity through the photos with viewers.

Link

They do not share any link but only share their product photos. As explained before, the researchers found no interactivity between the seller and the buyers because the buyers feel shy to order undergarments directly on Facebook.

Text

They explain their specialization, quality of cotton and design of dresses on their page. They also gave their contact number and address. As their product is sensitive, address is important here.

Feedback

No feedback has been found on the page. They emphasize their phone number as hotline in the beginning of the page as they encourage their visitors to call them and give their feedback.

Design N Style*Photo*

* In their profile photos, they use Bollywood star Deepika Padukone's photograph and also those of some models to attract visitors.

* They upload 2-3 photos per day which get 20-25 likes and one or two comments. It denotes that they are successful in attracting viewers.

Link

They share 2-3 links of other fashion pages per day. The link of Design N Style's page is found in other similar pages too. This shows that is interactivity among the fashion page owners on Facebook.

Text

* Except their taglines, they also have some attractive comments of their own in the introduction stage. They said: "To satisfy our customers and fulfill all their needs!" and "stand in market with reasonable rate quotes with good quality and time keep up in goods deliver." They also claimed in this way that "we r not the best but we can do best."

* They also explain some reasons to choose them including wide distribution network, industry leading prices, easy payment modes and exclusive variety and collection.

* Their business policy is: no Eexchange and 50% advance. This should reflect their sincerity.

* They also have a policy to import dresses. Those policies are: after the arrival of the product, they will send a photograph of the product to the customer and after that they will take the remaining payment through bank. They also provide courier service like Sundarban or Continental for Home delivery and Product will take five days at most to reach the customers' house. This policy means that their products have a demand outside Bangladesh too.

Feedback

They interact with their visitors as they get regular feedbacks on their page. Most of these are compliments from viewers. Other fashion pages also request them to like their page.

Conclusion

In the preindustrial period, men used to keep their female counterparts confined to the cocoons of houses. But during the Industrial Revolution, patriarchal societies allowed women to join the factories because they were traditionally experts in the craft-based works. In this study, the researchers found that the wholesalers are using the women as retailers in the distribution system of fashion clothes. Because these retailers have a good number of peers and followers on Facebook, whom they can persuade for buying their clothes and accelerate the fashion pages with their liking options. Who the survivors of the businesses are is a bit tricky and also should have the capacity to take risks. Unfortunately, as our business system is still male dominated and the entrepreneurs are mostly young, they are scared of taking risks. Dr. Kabei Gayen urged the government to make getting bank loans easier for these women.

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Empowering Women through Online Bakery Stores in Bangladesh: Barriers and Effective Strategies for Growth and Development

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Abstract

E-commerce is emerging as a powerful tool for gender empowerment in the developing countries. There are many small and medium e-commerce projects operated by women through social media in Bangladesh. This article investigates the use of ICTs as an empowerment tool by women entrepreneurs operating online bakery stores on Facebook in Dhaka city. The aim of this study is to explore how online bakeries facilitate women empowerment to overcome the economic discriminations they have suffered in the past, as well as to have a deeper understanding of the barriers and challenges faced by them. Five online bakery store owners who operate their businesses through social media in Dhaka were interviewed using the Life History Approach method. Their life histories were collected by in-depth, narrative and storytelling formats of interactive interviews. The findings show that these women successfully utilize ICTs in their e-businesses, using social networking sites to exchange information, promote their products and expand their customer base. They are able to earn as well as re-invest money back to their businesses, while successfully striking a balance between their work and family lives. As a result, these women are now empowered and self-dependent. However, they face a number of challenges including finances issues, social stigmas, lack of technological (ICT related) skills and overall management know-hows of e-businesses. The researchers formulated some recommendations for the government and other related agencies, which they deem would help these women entrepreneurs in running small/medium e-businesses.

Keywords

ICTs, Women Empowerment, Online Bakery Stores, Barriers, Effective Strategies

Introduction

It was my husband's birthday and I was checking out some of the more famous bakeries of Dhaka city to order a cake for him. My attempts were being frustrated as I failed to find one that would suit my requirements and taste. Hearing about my situation, my friend (co-author of this article) shared a link of an online bakery on my Facebook wall. I checked out the page and was pleasantly surprised seeing the wonderful and creative bakery items being provided by this online store. I ordered a customized Manchester United-themed red velvet cake for my husband. It was the best-looking cake I ever got for my husband and was as delicious as it looked. I thanked my friend who shared the link with me. We both found out that in Dhaka nowadays, a number of women entrepreneurs are operating online bakery stores through Facebook. We immediately became interested in this concept and decided to study how these small e-businesses empowered women, and the relevant challenges, barriers and strategies.

The Millennium Development Goals of the UNDP addresses women empowerment and measures relative female representation in economic and political power. They consider gender gaps in political representation, in professional and management positions in the economy, as well as in incomes (Klasen, 2006). The present study focuses on women empowerment from an economic perspective with the use of ICTs.

It is important that access to ICTs is made available to all and that they are utilized in all aspects of daily life as envisioned in United Nations Millennium Development Goal number 8 that states the need to "ensure that the benefits of new technologies especially ICTs are available to all." Access to technology translates into access to information. Information in today's world is not an academic issue, but is primarily linked to basic life issues and survival (Dey, 2006).

There is a general belief that the use of ICTs in business, especially in small/medium enterprises (SMEs), gives women the leverage of being independent and flexible. Most women are establishing their businesses in their homes (Kenny, 2002). This allows them to work and spend quality time with their families. It is an observed phenomenon that women now are on a quest to be affluent businesspeople who can work and independently manage their homes. Haque (2013) observed that Bangladeshi women now strive to get involved in businesses, so that they could get the flexibility to work independently anytime and anywhere, as well as manage their homes.

Women have always been considered a second choice in economic development, because of the patriarchal outlook of the society that favours men (Rosser, 2000, p.62). The business environment has not been level enough to allow women to take part and empower themselves. The household was the only place where women

could get recognition; outside that whatever they possessed was not valued (Al-Lamky, 2007, p. 49). Only men were seen as capable members of the community who could make decisions and run the economy. Women were not even allowed to meet and talk to strangers in patriarchal societies (Mellita & Cholil, 2012), let alone starting their own businesses.

According to Marthur-Helm (2005), women are still lagging behind in economic empowerment because of being a disadvantaged gender group (p. 56). The economic environment is tailored to suit men, who have been enjoying the economic benefits while women have been deprived for ages. However, ICTs have the power to rectify the inequalities created by society, as they are able to equip disadvantaged groups, such as women. ICTs can provide women with platforms to air their views on important issues such as health and politics and provide opportunities for them to run their own businesses, says Gurumurthy (2006, p. 613). Maier and Nair-Reichert (2007) also deduced that ICTs could be tools for women's active participation in improving their situations.

In the past, women were only considered for household works and were left outside the mainstream of development. In Bangladesh today, the scenario has not changed much. But with the advent of ICTs, this conservative attitude towards women is diminishing gradually (Ahmed et. al., 2006). Women are encouraged to take initiatives to invest in ICTs and they are also improving their competence using ICTs as an entrepreneur in different sectors. For example, Grameen Telecommunications has explicit goals of helping Bangladeshi women enter the technology sector by creating micro-enterprises that can both generate individual incomes as well as provide phones to entire villages.

In Bangladesh, the Internet infrastructure has been going through a phase of phenomenal growth and made the service affordable to a large group of the population. Also, deep penetration of mobile phones has played a key role in popularizing the Internet (The Daily Star, April 8, 2014). In recent years, e-commerce has emerged as a powerful tool for gender empowerment in developing countries. Common sectors of the e-commerce market are women-owned clothing, accessories and bakery stores operated through social media. Regarding this, Mahfuz Anam, editor and publisher of The Daily Star said: "I have been meeting bachelor level students who are already running e-business on their own. Few days ago, I ran into a house of a rural woman who quite unbelievably set up her own e-business through Internet. So the motivation, particularly the prospect of very small e-businesses, gives us enormous incentives" (The Daily Star, April 8, 2014).

Therefore, Huyer and Sikoska's statement is very relevant to Bangladesh's context where they said the ICTs are women's kit to lock and unlock all the avenues of their economic and social freedom. ICTs have the power to supply information concerning their wellbeing, how to take care of their families and how to run their businesses, enabling them to be bread winners in their households (2003, p. 6). Therefore, it can be said that ICTs are assisting women to end the traditional

patriarchal restrictions by expanding their knowledge-base and growing their businesses, allowing them to work from home, helping them to reach customers online and enabling them to strike a balance between their families and work.

The growing trend of online bakery stores in Bangladesh

In an earlier research, the chief investigator of this paper explained women empowerment through online clothing stores in Bangladesh. This present article observes women empowerment by focusing on their traditional baking skills and operating online bakery stores through social media. Cooking and baking for Bangladeshi woman has become trendy. Even women, whose inner-feminists had sought to leave the kitchen behind, now want to be master chefs (The Daily Star, 17 November, 2013). Many of them have opened online bakery stores with fancy names such as Punizz Kitchen, Silver Lining, The Flourist, ChainS, Cremoso, Dessertopia, The Cookie Jar, Sweet Tooth Bakery and CakeSake.

In Bangladesh, the concept of bakery/cakes was not popular until the early 1990s. A cake was included with different kinds of sweets and savories during festivals and cultural occasions. One would walk into a cake shop, select a square vanilla cake and probably get the guy working at the cash register to pipe out a message with a little icing for the receiver (The Daily Star, January 7, 2014).

That scenario has changed remarkably and having a cake during an engagement or a reception has become customary, perhaps because of the Western mindset of the new generation. According to Haq (2013), beautiful cakes with decadent icing in flavors such as tiramisu, lime time, choco coco, victoria sponge and red velvet, swiss meringue, butter cream and dark chocolate truffles, among many others, are ordered by customers at the online bakery stores (The Daily Star, September 10).

Therefore, these women-owned online bakery stores deliver attractive and well decorated cakes which are multi-tiered, embellished with decadent frostings, delicate with gum paste and fondant motifs and edible pearls (The Daily Star, January 7, 2014). These bakery shops also decorate a cake as per any design customers' desire, such as novelty cakes for occasions, special cakes for ladies and professionals, cartoon characters which are quite the rage among children and their parents. Also these online bakery stores deliver cookies, cupcakes and other sweet desserts. This concept of customized cakes from online bakeries is a new concept in Dhaka city. Some illustrations of these cakes are shown in the next page.

This article investigates the use of ICTs, especially social media, as an empowerment tool for women in Dhaka city, especially for women-owned SMEs, through the implementation of culinary and baking skills. Emphasis will be given on the societal, financial, technological barriers along with the challenges of managing e-businesses. This article will also highlight strategies adopted by women to survive and compete in this business.



Credit: Punizz Kitchen

Picture 1: Winnie the Pooh Theme Cake



Credit: Cremoso

Picture 2: Cupcake with Butterfly Icing



Credit: Punizz Kitchen

Picture 3: Manchester United Theme Cake
Ordered by the Researcher



Credit: Punizz Kitchen

Picture 4: Louis Vuitton Theme Cake

Research Questions

- The research questions of this article are:
- How do online bakery stores facilitate the empowerment of women?
- What is the hindrance for women in managing these ICT-based small enterprises?

Study Objectives

The objectives of this study are as follows:

- To find out how these women overcome the financial barriers to start up the small business, i.e. gain access to the starting capital;
- To understand how these women gain social support for entrepreneurial activity, control over resources and reinvest their profits;
- To investigate how these women acquire the technical and business management skills in the emerging online competitive business environment; and
- To look into what effective strategies are adopted by these women to survive the market competition.

Related Literature

The literature review focuses on the following: benefits of using ICTs in women-owned small businesses; challenges faced by women-owned small businesses; effective strategies adopted by women entrepreneurs; and ends with a discussion on the theoretical framework.

Benefits of Using ICTs in Women-Owned Small Businesses

In 2002, the annual UNCTAD (United Nations Conference on Trade and Development) report on e-commerce and development hailed e-commerce as a “potential goldmine” for women in the developing countries because of its great potential for their empowerment. The use of ICTs plays a key role in economic empowerment and helps women in SMEs to explore information required for the running of their businesses. By utilizing the ICTs, women in SMEs are able to compete on a global scale showcasing their products and services. They are able to exchange information with other businesses (Viju, 2010). This explains Maier & Nair-Reichert’s (2007) statement that ICTs are the “great equalizer” and pioneers in the field of gender empowerment.

Following Maier and Nair-Reichert’s (2007) observation, women in SMEs, who traditionally have been marginalized and far removed from mainstream economic activities, can stand to benefit through the use of ICTs in their businesses. ICTs are capable of leveling the playing field of communication so that all users enjoy the same benefits of access to information. Earlier the same observation was made by Kenny (2002) who said ICTs are powerful tools for empowerment and income generation in the LDCs (Least Developed Countries).

According to Al-Ashtal (2010), use of social networks allows women to get feedback and thereby helping them improve their products and services (p. 2). Terry and Gomez (2010) suggest that ICTs provide women in SMEs with information that they are able to use to develop their businesses. They can use all the knowledge that they acquire to empower themselves while also excel in their quest to be recognized as important stakeholders of the community (p. 6).

Kelkar and Nathan (2002) proposed that the ITs have the potential to “redefine traditional gender roles” and that “the spread of IT-enabled services has been immensely beneficial for both women and men” (p. 45). In her study, Al-Ashtal (2010, p.1) strengthens the point and states that access to and utilization of information develop the sense of worth in an individual. ICTs supply information to women enhancing their capacity to make well-informed assessments concerning their businesses and families, but they are still faced with challenges in utilizing ICTs to their full extent. Therefore, it can be said that the ICTs enable women involved in small businesses to strengthen their situations by giving them an opportunity to communicate well.

ICTs are giving women in SMEs the opportunity to be recognized as effective and efficient economic participants. ICTs permit women to conduct business online without being judged by their gender, as the focus is only on business transaction (Huyer and Sikoska, 2003). Moreover, Mellita and Cholil (2012) explained that using ICTs in e-commerce gave women the flexibility to meet the demand of domestic activities as well as manage their entrepreneurial activities. Haque (2013) stated that Bangladeshi women engaging in e-commerce through social media are able to strike a balance between their work and family life. They are now able to allocate most of their time to family as well as they are able to earn and manage household expenses and spend on their kids.

Challenges Faced by Women-Owned Small Businesses

This article focuses on three major challenges faced by women entrepreneurs which are – financial, societal and technological challenges as found in literature.

According to Mellita and Cholil (2012), there are two main factors that act as barriers for women entrepreneurs in developing countries. They identified financial and non-financial barriers for women-owned small businesses in developing countries. They also pointed out that in highly restrictive societies, women are not allowed to talk to strangers or go out alone to various distant offices and agencies for getting loans to start their businesses.

Hafkin and Huyer (2006) points out the societal barriers by stating that women are often discouraged in their entrepreneurial efforts at the family level. In addition, juggling household responsibilities and work responsibilities can be very challenging and may result in women opting out of ICT-driven developmental efforts. Mellita and Cholil (2012) further strengthen the point that cultural environment can limit opportunities for women entrepreneurs in pursuing improvement of their businesses. Having less time available for entrepreneurial activities is the main factor effecting women-owned businesses’ chances of success. Therefore, Mellita and Cholil (2012) conclude that the social and cultural pressures to prioritize domestic and child care activities directly affect women entrepreneurs’ market time allocation, duration and type of experience, and the field and choice of activity.

However, culture is not static and does not preclude women from various sorts of

agencies. Maneja (2002) points out that culture can open paths to power (p. 32). For example, women can focus on the enabling structure of culture, such as an emphasis on their cooking skills or expertise in weaving or embroidery to open opportunities for social and economic empowerment. Therefore, these Bangladeshi women chose their traditional cooking skills to empower themselves through ICTs, specifically using the social media.

Another challenge that women entrepreneurs in developing countries face is the lack of necessary ICT skills. Maier and Nair-Reichert (2007) identified that women faced barriers to ICT use because a majority of them lacked proper training and access to the ICTs. The high cost of equipment and Internet connection related also create formidable obstacles. It was also observed that women in SMEs were more likely than men to lack basic literacy and computer skills. These shortcomings in necessary skills often prevent women from taking advantage of the opportunities offered by the ICTs (Mellita and Cholil, 2012).

Maier and Nair-Reichert (2007) identified barriers in managing small e-commerce projects. They stated: "Because of the nature of their products - clothing, food and decorative items - they operate on very tight profit margins" (p. 49). Mitter (2005) identifies a few barriers that female entrepreneurs need to contend with in order to kick off and sustain their e-retailing businesses (p. 8). One such barrier is the acquisition of technical and business management skills to deal with the related supply and delivery logistics. Another barrier is the acquisition of information on trade and customs regulations and the ability to address consumer confidence about the ability of the product (Mitter, 2005). However, Maier and Nair-Reichert (2007) concluded that e-commerce projects that require only a small amount of capital, low level of education or training and can be done simultaneously with household chores, have the potential to achieve great successes (p. 49).

Effective Strategies Adopted by Women Entrepreneurs

The first strategy adopted by women is societal involvement. Maier and Nair-Reichert (2007) found that involvement and support from immediate family were also valuable, especially where the women had children and household responsibilities. Mellita and Cholil (2012) strengthened the argument by stating that many ICT-based women entrepreneurs felt that utilizing profits for family care, education, medical needs etc., highlighted the value of women entrepreneurship and provided more support for them both in their own homes as well as in the society a whole.

Secondly, ICT based women entrepreneurs are trying to get government support to run these small businesses. The literature on e-commerce and women empowerment in Bangladesh is characterized by business models, some anecdotal evidences and few case studies but there is no systematic statistical evidence. This is one of the primary reasons behind the lack of awareness among policymakers about e-commerce. Maier and Nair-Reichert (2007) stated that women entrepreneurs are trying to get government support for getting the legal and regulatory frameworks necessary for e-commerce in terms of banking laws and

security concerns regarding credit card and foreign currency transactions.

The final strategy adopted by female entrepreneurs is effective business strategies. Haque (2013) identifies unique designs, free home delivery within 24 hours, offering lower price than regular shops and answering queries as soon as possible, are the most common business strategies adopted by Bangladeshi female entrepreneurs, who run their businesses through social media. In addition, cakes with attractive designs along with special themes, unique flavors, free home delivery and a competitive price are offered by Bangladeshi female online bakery store owners (Haq, 2013).

Theoretical Framework

This study takes cyberfeminism as its theoretical framework. According to Plant (1997), Cyberfeminism focuses on relationship between women and technology, which is intimate as well as subversive. For Plant (1997), the digital and the “female world” are intrinsically connected (p.66). Her interpretation of the new technology emphasizes traditional female tasks such as communicating, weaving and connecting. According to Plant (1997), women seem to be the “perfect” digital agents. Thus, the new technology weakens patriarchal power because according to Plant, women seem to be closer to machines and their processes.

Gajjala (1999) elaborates the concept of cyberfeminism and poses the belief that women should take control of and appropriate the use of cyber technologies in an attempt to empower themselves (p. 617). Cyberfeminists seek to use Internet technologies and to create spaces online that are empowering.

Hinsey (2013) defines cyberfeminism as “a philosophy which acknowledges, firstly, that there are differences in power between men and women specifically in the digital discourse: and secondly, that Cyber Feminists want to change that situation” (p. 26). Hinsey (2013) conclude that cyberfeminism recognizes the ways that technology silently plays a role in creating feminist discourse and calls women to acknowledge its effect, celebrate its uses, and be wary of its negative implications (p. 27).

Research shows that over the past decade or so, Bangladeshi women have become eager to adopt the user-friendly effective technology called Internet. The Bangladesh Telecommunication Regulatory Commission’s latest National Media Survey places the total Internet users in Bangladesh at 30.48 million as of January 2013. The Facebook population in Bangladesh is now 3.39 million. Facebook adds one new user from the country every 20 seconds (Genilo, Akther and Haque, 2013). Therefore, Facebook can act as a great equalizer in the context of women empowerment through small/medium e-businesses.

Methodology

A qualitative research approach has been deemed appropriate for this study. Specifically, the Life History Approach has been chosen. Life histories of six

women from five online bakery stores who operate their business through social media in Dhaka, have been collected using in-depth, narrative and storytelling format of interactive interviews with open-ended questions

Both primary and secondary data have been used in this study. Primary data was collected using the Life History Approach. The Life History Approach has been implemented to explore the issues in understanding the nature of women empowerment in Bangladesh and the major challenges faced by women entrepreneurs, who did so by discussing decisive life events. Secondary data was collected from journal articles, government and non-government reports, and newspaper and magazine articles.

Research respondents were selected by using the purposive sampling method. Five online bakery stores were selected on the basis of the highest number of “likes” they got on Facebook over a certain short span of time. The age range of the respondents was 23-33 years. All of them are Muslims. Three of the six respondents are married. Four finished undergraduate studies, one had a Master degree in English and one Master in Business Administration (MBA). Secondary sources included journal articles, governmental and non-governmental reports on e-commerce, newspaper and magazine articles.

Profiles of Women-owned Online Bakery Stores

Cremoso (Founded in January 2014)

Owner: Nafisa Naomi and Antara Quyyum

Naomi and Antara are business graduates from a private university. Baking is their hobby and they can spend hours on it. Their passion for baking gave rise to the online bakery store named “Cremoso” which is originally a Spanish word that means smooth and creamy.

Available Products: cupcakes, cookies, pies, tarts, crepes, macaroons, customized cakes with and without fondant, etc.

The Flourist (Founded February 2013)

Owner: Saria Tasneem Ahmed

Saria is an advertising executive-turned-pastry chef, who started her venture as a mere blog. Saria obtained a diploma from Le Cordon Bleu London in Patisserie and quit her day job to follow her passion for cooking. Being inspired by her friends, she started her own online bakery store.

Available Products: cakes, cupcakes, mini cupcakes, a variety of cookies, French macaroons and candy.

Dessertopia (Founded October 2011)

Owner: Sabrina Hasan Khan

Sabrina is a business graduate from a private university and currently working as an IELTS instructor. She always cherished cooking and her specialty is desserts which are customized, freshly made and innovative. She strongly believes that dessert items must look and feel absolutely homemade. So, when it is served to guests, it should not feel like it was bought from outside.

Available Products: A wide range of desserts starting from cakes, cupcakes, cheesecakes, cookies to traditional desserts like laddoo, halwa, etc.

Punizz Kitchen (Founded January 2013)

Owner: Umme Aklima Alam

Ms. Alam, a private university lecturer, started the bakery as a hobby. Initially she enjoyed experiencing the gorgeous textures, colors and varying tastes while making her bakery items. It was only when the best results started pouring out that she decided to turn it into a business venture.

Available Products: Regular cakes with varied designs and flavours, cheesecakes, cupcakes, dessert items like tiramisu, truffles, brownies, fruitcake, caramel pudding, etc.

The Cookie Jar (Founded April 2013)

Owner: Najia Hossain

She loved baking from her childhood and used to bake items such as novelty cakes, cupcakes and a variety of desserts such as brownies, puddings and much more. Being inspired by her family members, Najia started selling bakery items through Facebook.

Available Products: cakes, cupcakes, and various types of desserts

Research Findings and Discussion

The findings and discussions of this research paper have been divided into three sections: life chapters, critical life events and expected future of the online bakery stores. Each section is further divided into several sub-sections to provide an in-depth analysis of the life histories of the respondents.

Section 1: Life Chapters

1. Early Life Experience in Cooking:

When asked about early life experiences in cooking, four respondents said as children, they had seen their mothers make cakes, biscuits and other dessert items. They also learnt cooking and baking at home in their childhood. "My mother was an expert cook. Even I was so interested in cooking that I started to learn different dishes from my mother," one respondent narrated. Another said: "I grew up seeing my mother bake cakes, biscuits and many other dessert items. Even during school holidays, I used to bake cakes and send my bakery items to friends."

Two other respondents reported that they were not passionate about cooking during their childhood. But they picked up the habit when they were university students. However, their parents used to taste different new recipes and cooked those items at home. "I was not so feminine in my childhood and I never went to the kitchen. However, my mother had good intuition in cooking and she used to cook different types of traditional Bangladeshi desserts like sweet yogurt, faluda, jorda, rosmalai, etc". Yet another respondent reported: "I was not particularly engaged in cooking in my childhood. But I used to read a lot of recipe books as if I was reading story books. My sister presented me two books titled "Cakes and Cake

Decorating” and “The new Cookbook – From Better Homes and Gardens.” I nearly memorized those books.”

2. First Access to Internet and Purpose of Using Internet:

Regarding access to computers and Internet, all respondents shared a common factor: they all belonged to wealthy families where they got the liberty to use new technologies freely. Except for one respondent, all five respondents studied in English medium schools. As everyone used Internet as kids, they first used dial-up Internet connection and gradually moved to the broadband connection. The following table will provide an idea of their first access to Internet and will clarify their purpose of Internet usage in their early life and also at present.

Table 1: Access and Purpose on Internet Usage

	Nafisa Naomi	Antara Quyyum	Saria Tasneem Ahmed	Sabrina Hasan Khan	Umme Aklima Alam	Najia Hossain
First access to Internet	Grade 2, at school	Grade 3, at school	Grade 3, computer course at school	Grade 8, at father's office	Grade 10, at home	Grade 11, at home
Purpose of Internet Usage at Early Life	Using MS word, drawing on paint, simple browsing, doing class assignments	Using Internet for class projects, browsing, collecting recipes	Using for class projects, browsing different bakery and dessert sites, chatting with friends	Operating MS word, playing games, drawing on paint, email	Chatting with friends, learning cooking and origami on different websites, blogging	E mail, browsing, chatting with friends, blogging
Purpose of Internet Usage at Present	Social networking, learning cake making, checking different recipes online	Running her business, social networking, learning different techniques of cake baking	Running her own business, maintaining her own website, searching different recipes on Internet	Operating her business, social networking, checking recipes on different websites	Operating own business, social networking, food blogging, learning cake baking tips from Youtube	Operating own business, following food blogs, social networking, searching food recipes in Google

3. Social Support for Using Internet:

When asked about social support for using Internet, five respondents replied that their families were supportive. Their parents were satisfied on the point that their studies were not getting hampered. Moreover, they were learning new skills by using Internet e.g. cooking, baking, origami, art designing, graphic designing, etc. One respondent said: "I was always quite a matured and responsible child. My parents were okay with my Internet usage and I was also a good student." Only one respondent reported that her mother was always supportive but her father was a bit skeptic.

4. Gender Upbringing and Gender Roles in Family:

The respondents belong to modern and liberal families. As mentioned earlier, except one respondent, all of them went to English medium schools. Moreover, all the respondents attended private universities for higher education which reflects their belongingness to open-minded families. "My parents pampered me as I was the only daughter among three brothers," one respondent narrated. "Both male and female children were treated equally in my family," another said. All respondents reported that both male and female members equally participate in major decision making in their families.

When asked about doing jobs, all respondents reported that they had full family support to go outside and work. "My in-laws do not mind if I work outside. But I have a passion for baking and therefore I chose to become a pastry chef," said one respondent. Another stated: "My father wants me to pursue MBA and work at multinational companies." All respondents chose their career as chefs not because they had family restrictions regarding mobility or meeting strangers. Their families wanted them to get engaged in part-time or full-time jobs. Rather the respondents had obsessions with patisserie and the culinary arts. However, when asked about gender roles, the married respondents reported that in their families cooking and other household works were equally shared by both male and female members. Male members were found to be engaged in household activities during weekends. The unmarried respondents reported that their fathers had been actively engaged in child rearing but not in cooking and other household activities.

When asked about political participation, all respondents reported that they had full freedom in expressing their political views. "My father encouraged me to cast my vote during this year's election (January 5, 2014)," one said. "My husband and I support different political parties and he doesn't interfere with my voting decision," another stated.

The respondents were also asked about ownership of economic assets. All of them reported that as they belonged to broadminded families, they had full control over resources including their own incomes. They are allowed to re-invest their profits for business growth. Moreover, their families are willing to invest in their businesses if the respondents are in need of financial support at any point of their lives.

Matrix 1: Description of Gender Upbringing by Respondents

Indicator	Description
Gender Role	Both male and female child were treated equally in my family. Both male and female child were sent for higher education in my family. Both male and female family members participate equally in decision making process. Household works are equally shared by males and females in case of new generation couples. Males used to take care of children but cooking and other household chores were looked after by females in case of older generation couples.
Career Choice	My in-laws have no objection if I work outside. My father wants me to pursue MBA and work at multinational companies. I am allowed to meet strangers for my work.
Political Participation	I am free to express my political views in front of my family. My father encouraged me to cast vote during this year's election. My husband never imposes his political views on me. I am allowed to take my own voting decision.
Ownership of Economic Assets	I have full control over my own income. I am allowed to re-invest my profit for business growth. My father is willing to donate money for the expansion of my business. My husband helped me in accumulating money to start my business.

5. Family Engagement in Entrepreneurship:

When asked about family engagement in entrepreneurship, four of the respondents replied that their families had no connection with business. Their parents were service holders all their lives. One respondent replied that her mother was a dress designer who used to run her business from home and their neighbors were her customers. Only one respondent belonged to a typical business family. As a child, she saw her father and brothers engaged in business. Therefore, she had a knack for entrepreneurship. She stated that she does not run her business only for earning money; rather she does it in order to satisfy her inner passion.

6. Social Support for Entrepreneurship:

In response to this question, three respondents reported that initially their family members were not positive about a woman's entrepreneurial endeavors. Their families always wanted them to do a routine job or go for higher education. However, when their family members saw that they were really doing well and

became independent through their bakery stores, they became supportive. According to one respondent, "Now I use my father's car to deliver my cakes to clients. Even my husband is willing to help me set up a physical store." One respondent stated that even though her parents were against her involvement in entrepreneurship, her husband helped her develop her business plan and even inspired her to open a Facebook page. Two respondents replied that they had complete support from their families. "My mother is an entrepreneur and always suggested me that I should run my own business even if I am doing a full-time job," one respondent said.

7. Starting her Own Online Bakery Store:

Each woman has a different story about how they started their businesses.

Nafisa Naomi: My mother was a dress designer. Once she made a rainbow colored scarf for one of her customers and I said: "I can make a rainbow cake." My mother's customer asked me whether I really can make a rainbow cake. As soon as I said yes, I got my first order. Then at a friend's get together party, I met my business partner. Then we set up a business plan and started our own online page.

Antara Quyyum: I have been very interested in art and design since childhood. My desire for baking came from watching cookery shows in the Travel and Living Channel (TLC). I wanted to make beautiful cakes like those shown in TV. But I didn't have an oven at home. Two years back, my friend presented me an oven. Then I started to bake cakes regularly. I believe culinary art is completely based on creativity and I wanted to take baking as a career and eventually my partner and I opened our online bakery store.

Saria Tasneem Ahmed: After completing my undergraduate in journalism, I was planning to go abroad for a Masters degree. I went to Singapore and was wondering which I should choose. Suddenly one of my friends told me that I should become a chef. Then I thought could I actually do it? Then I thought I would give it a try. Rather than obtaining a Master degree in advertising, I ended up doing a Diploma in Patisserie. First I used to sell my products through blogs. Eventually, I started getting recognition among my close circle and ended up opening the Facebook page of my bakery store. I also developed a website of my bakery store so that people can check details easily.

Sabrina Hasan Khan: As an university student, I baked cakes for friends. I got inspired by watching various cookery shows on television. Just after my graduation, I got married. At the same time, I was looking for a job. I used to attend job interviews but did not get any positive response. I was depressed. At that moment, my husband suggested me to start my own bakery store and he was willing to invest in my small business. With his inspiration, I started the Facebook page. The first order I got was from Nestle. They praised the taste and design of my cakes and soon I started getting more orders.

Umme Aklima Alam: I was always a food lover. My first job was in "somewherein blog." At that time I was also a food blogger and used to post regularly at

khadok.com. I also used to bake for my colleagues and they loved my pastry and desserts. But I never attended any training on bakery. On January 31, 2012, I made a cake for my sister for her birthday. One guest told me that it tasted exactly like a German cake made by a famous chef. This compliment inspired me. Then with inspiration from a friend and my sister, I opened a Facebook page and officially started my journey as a women entrepreneur.

Najia Hossain: I took the home economics course in college and enjoyed the practical classes immensely. I always had an obsession for cooking. Whenever I tasted a new food, I tried to make that at home. When I got positive responses about my bakery items from my close circle, I decided to open a Facebook page and run my bakery store online. I worked at different universities and at corporate offices but I never enjoyed the routine jobs. Rather, I enjoy my business and love to be creative with the design and taste of my cakes.

8. Business Management through Facebook:

The Facebook pages of the respondents are the main ICT platform for their online bakeries. These pages look like standard Facebook pages, but they are loaded with images of the full range of bakery products available for the customers. Once a potential customer likes the page, he/she will get regular updates from these pages in his/her Facebook newsfeed, which includes images and announcements of new products, new styles and designs of products, promotions and discounts and fairs and events where these products may be sold.

All the respondents stated that they used broadband Internet connection, and that they had 3G Internet enabled in their mobile phones. All of them are the administrators of their own online bakery's Facebook pages and they maintain these pages themselves. They admitted that they access their bakery's Facebook pages via their mobile phones, so that they can stay updated 24/7 with likes, comments and orders from their clients. The respondents also update their clientele regularly with images of their bakery products and relevant posts. Two of the respondents also utilize Wi-Fi broadband Internet connection at their homes.

The respondents agreed that they generally answered their customers' queries between 10am and 12pm and between 11pm and 1am. Once a customer likes the Facebook page of a certain online bakery, he/she sometimes sends a friend request to the online bakery owner. But the respondents stated that it is not necessary to add their customers to their friends list, as having them like their online bakery's Facebook page is enough to carry on with their business.

All the respondents agreed that their husbands were supportive of their online business and sometimes helped them promote their online bakery's Facebook page, by sharing this page with their Facebook friends.

Section 2: Critical Life Events

1. Peak Experience:

All the respondents are now experiencing a peak in their businesses as they are running smoothly. During festivals, they are burdened with orders and many of them work relentlessly for weeks. There are days when they get orders for as many as 10 customized cakes but because of time constraint, they can take three orders at best. When they get orders of 100 cupcakes, they need to bake continuously for 30 hours which is extremely hectic. "One customer ordered five birthday cakes together with an advance of BDT 40,000," one respondent said. Another said: "So far I have delivered 600 cakes in the city and I am getting more orders everyday."

Talking about their peak experience, the women shared their views on how they became empowered by their online stores. Two of the respondents have always been independent. They never sought monetary support from their families even for paying their tuition fees. "I never took money from my family. I used to do part time jobs and bore my personal expenses. Now I have an online business of my own and with my store's profit I can afford to do many things now," one respondent narrated. Another respondent strengthened the statement by saying: "After my O level, my father became bankrupt. Therefore, I had no option but to depend on myself. This is intensely difficult and stressful I know. But being independent gives you happiness and boosts your self-esteem".

Three respondents said they were proud of themselves as they are running businesses of their own where they could exercise their creativity. "I think I am not selling cakes. I am selling art. But sadly, many customers do not appreciate the artistic effort," one respondent narrated. But all of them are satisfied in this point



Credit: Dessertopia

Picture 5: Oven Bought by a Respondent re-investing her Profit

that they can now earn by themselves, re-invest the money into their businesses as well as contribute to their family incomes. One respondent narrated: "I bought a new oven with the profit from my business. I was so excited that I uploaded a photograph of the oven on my Facebook page to share it with my friends and clients".

They even buy gifts for their family members with their incomes. Only one respondent replied that she could not do much profit as the price of ingredients were too high. She barely had revenue that she could contribute to her family.

2. Nadir Experience:

Here the respondents were asked the challenges and difficulties they had faced in handling their online bakery stores. The main findings are given below:

Financial: When asked about the financial barriers of starting small e-businesses, five respondents said they had their own savings with which they opened their businesses. Three of them used to work fulltime and with their salaries, they opened their online bakery stores. Two of the respondents saved money by giving tuitions and the cash gifts they received during festivals from relatives. Only one respondent reported that her husband helped her in accumulating the initial capital to start the e-business. Roughly, all respondents started with a very small capital, e.g. BDT 10,000. Slowly they grew bigger and started re-investing their profit into the e-business.

Social: In an earlier section, social support for entrepreneurship was explained. From there, we get the views of their immediate family members. However, these respondents face some barriers from the society. There is still a negative perception in the society regarding women and cooking. Cooking is primarily considered a female activity. "But food business is dominated by men worldwide. Sadly, most people in our country do not recognize this fact," one respondent said.

Another respondent reported that people thought she started the bakery shop only because she was incapable of finding a job. These reflected the gender stereotyping in the society and strengthens the existing idea that females are incapable of working outside home. Another respondent narrated that when she shared her dream to become a chef and joining a patisserie school, her ex-boss asked her whether she wanted to be a maid.

Another respondent was really keen on doing a diploma on baking and pastry making in Singapore, but her father wanted her to do MBA. Two respondents stated that in Bangladesh, people still did not understand the concept of e-business, how it is operated and how much effort it demands. Therefore, they get an impression that they are sitting at home and charging a high price for customized cakes.

Technological: None of the respondents faced any technological barrier i.e. operating computer and Internet as they learnt computer at their early ages. Except for one respondent, all of them attended English Medium Schools. Therefore, they faced no problem in understanding the language used in the computers. Three

respondents replied that they were expert in editing, video art, graphics designing and website building. Therefore, they designed their online stores' posters, logos, boxes and packets by themselves.

All respondents mentioned that they had their own laptops and broadband Internet connections. Moreover, they used 3G Internet connections in their mobile phones.

Managing E-Business: When asked about the barriers faced in e-business management, all respondents identified three major barriers. The first barrier is explaining customers the reason for high prices of customized cakes and the second barrier is the problem of their exclusive designs getting copied. All respondents reported that they faced tough times in explaining customers the high price of customized cakes. They needed to import ingredients from USA, UK, Dubai, Singapore, Malaysia and Australia, which are very expensive. In Bangladesh, these women buy ingredients from Agora, Lavender and the markets in Gulshan – they are all expensive super stores. For common ingredients like flour, milk, egg, sugar, butter, etc. the respondents preferred the imported ones. Moreover, they need decorative items like cupcake wrapper, cupcake topper, food color brush, pearl glaze and pearl dust, edible accents, shimmer dust, flavors, gel paste colors – these are also very expensive. Some of the pictures of these items are given below for better understanding of the readers:



Credit: Punizz Kitchen

Picture 6: Pearl Gaze, Shimmer Dust and Glycerins



Credit: Dessertopia

Picture 7: Cupcake Decoration Items



Credit: Dessertopia

Picture 8: Gel Paste Colors

Moreover, when they use fondant on cakes, things become even more expensive. "Good cakes are not cheap and if you do not count the chef's aesthetic efforts, it is unfortunate" said one respondent. "My products are a bit pricey and I am not here to sell macaroons to people who can't afford it. But I know the demand is there," said another respondent. One respondent narrated a story regarding chef's creativity and artistic value which is popular among students of patisserie schools. The story is narrated below:

A lady approached a chef and alleged that he overpriced. So the lady calculated the cost of all the ingredients and offered a specific cost for the cake. The chef agreed with the price offered by the lady. On the delivery date, the lady got a huge box. She opened it and found all the ingredients, but not the cake. The lady became angry and shouted: "Where is my cake?" The chef replied, "You didn't really want a cake. You only paid for the ingredients but you didn't account for my time, creativity and artistic effort."

The second problem these women face is related to copyright issue. They reported that they saw their designs copied by other online bakeries. Sometimes customers come to them and show a picture of a certain cake and want to order exactly the same cake. All respondents found this unethical. They took inspiration from the themes but they do not wish to copy others' work. One respondent said: "Once a woman came to me with a picture where I saw the design of my cake with a different shop's logo and requested me to copy the design. I felt pathetic as she was actually telling me to copy my own design."

The third problem is absence of a legal framework. They said the government should monitor the small e-businesses. Many now have their own online bakery stores and use cheap ingredients to deliver products at non-premium prices. As a result, the businesses of these women, who use fresh ingredients, are getting hampered. There should be some regulatory policy from government regarding this.

3. Turning Point:

Three respondents reported that when they attended fairs, they got good word of mouth reviews, started getting more orders and their sales increased. The respondents attended fairs like "Rangta" held at the WVA auditorium in Dhanmondi, "Westin New Year Festival" and the "Foodies Cupcake Fest 2014" at Gulshan. Four respondents reported that newspaper and magazine interviews also boosted their sales. One respondent said when her cupcakes were praised at a fair; she got an offer to open a pop-up store at the Bangladeshi brand shop Urban Truth. They offered her free space and she sold cupcakes there every Friday for two months. The pop-up store concept is new in Dhaka and it worked really well for her to lift her sales. Two of the respondents could not identify the turning point as they started the store only four months back.

After analyzing the peak experiences, nadir experiences and turning points, the following life history can be proposed:

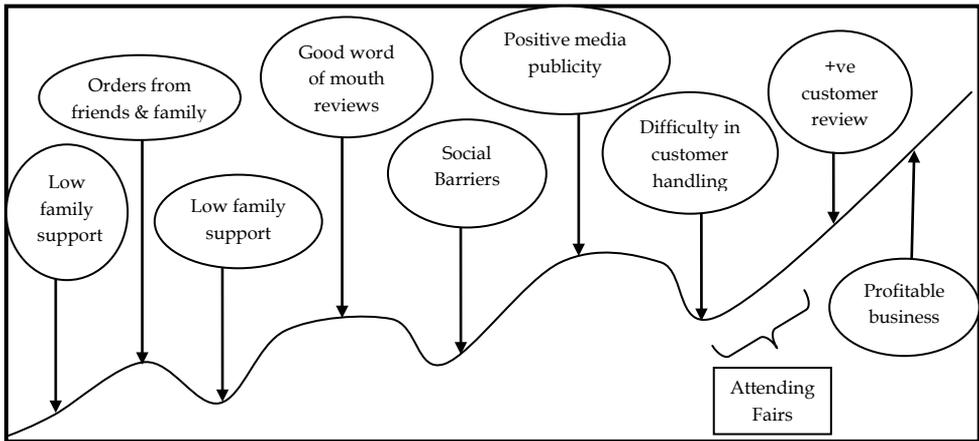


Diagram 1: Typical life history of online bakery stores

4. Inspiring Comments from Customers:

Among the selected bakery stores for the present research paper, Punizz Kitchen is the fastest growing store with overwhelming popularity. According to the owner, Punizz Kitchen gets around 35 Facebook “Likes” per week. The Flourist, Dessertopia and The Cookie Jar collect around 20 Facebook “Likes” per week. Being a new online bakery store, Cremoso is catching up fast with the competition and collects around 10-15 Likes per week.

The respondents reported that whenever they delivered a new bakery item, customers commented on their Facebook pages. Also, customers sent them the picture of the products or tagged the owners when they uploaded the picture of their products. Also, when the owners uploaded the picture of any new kind of bakery item or introduced a new menu, they were flooded by user comments,

All the respondents reported that they received both positive and negative comments from their customers. However, the percentage of negative comment is very negligible. “I am running my online bakery store for almost one and a half years and within this time, I received only 5% negative comments. 95% of the comments from customers are extremely positive and these comments inspire me to experiment with new items,” one stated. “I was tired after a long day. I opened my Facebook page and saw a customer’s comment telling he had the best brownies after a long time from my store. The inspiring comment cut down my fatigue immediately,” another stated.

The following table highlights one specific comment that these women received from their customers which inspired them the most.

Table 2: Inspiring Comment Received by the Women from Customers

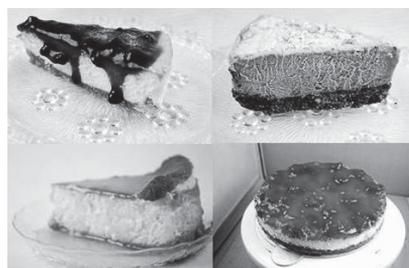
Nafisa Naomi	Antara Quyyum	Saria Tasneem Ahmed	Sabrina Hasan Khan	Umme Aklima Alam	Najia Hossain
“The cupcakes were yummy and exactly the same which I wanted! Just made my dinner perfect!”	“Good taste in every bite....just makes me crave for more...”	“Best place in Dhaka to get amazing cupcakes and macaroons! Each bite literally makes me go all gaga that I end up showing up there every weekend”.	“I have had Red Velvet cupcakes on several different occasions and I am a baker myself but for the first time I have taste something quite as delicious and flavorful.”	Best cake from the best Bakers!! Couldn't have asked for more. U guys just made my day. And that amazing chocolate velvet, out of the world!”	“Just had another piece from the leftover. It's so yummy that I felt obliged to thank you again!”

5. Promotional Activities:

All respondents replied that they had put up special offers during occasions like Valentine’s Day, Wedding, Boisakh, assorted cheese cake box offer, etc. They also offered discounts on special occasions like the first anniversary of the bakery store and special 10% discount offers. “If anyone orders 10 cakes from my store in a year, there is a special discount on the 11th cake” said one respondent. Two other respondents said they offered discount if anyone ordered more than two cakes in the same week.



Credit: The Flourist



Credit: Punizz Kitchen

Picture 9: Valentine’s Day Special Offer

Picture 10: Assorted Cheese Cake Box

The respondents try to answer queries frequently as their businesses are based online. Customers can also call them directly. If they get orders for customized cakes, they try to understand the customer's need and the theme of the cake. "I try to treat everyone equal and answer everyone. I never let customers feel that they are ignored," one respondent narrated. Three respondents reported: "I am willing to say sorry to my customer if I make any mistake."

Once they bake new cakes, they upload pictures on their Facebook pages. Two respondents said they distributed leaflets. All respondents said they used fresh and imported ingredients for making cakes even if they needed to spend more. But none of them are ready to compromise with their quality. They are also keen on using halal ingredients. One respondent also opened a Diabetic Section for older people. Three of the respondents replied that they offered free home delivery.

6. Striking Balance between Work and Family:

Balancing work and family is the main issue that women deal with every day. In this study, three of the married respondents have greater family responsibilities than the three unmarried respondents. None of the married respondents have children yet. The married respondents did not find it difficult to balance their entrepreneurial and household activities as they have supportive home environment. The unmarried respondents also are able to schedule their workload at their convenient time by using ICTs so that they can spend time with family members.

"All my work is done during the morning or early afternoon hours when my husband is at office," one said. "I check my inbox late at night after finishing all household chores. If there is any urgent query then I make the decision to act today or wait until tomorrow. This therefore helps me to achieve and maintain a work-life balance," one other stated.

On a typical day, the respondents bake for about 5 to 6 hours. Usually they get orders for at least one customized cake and few cupcakes per day. During festivals, they are burdened with orders and bake continuously for 26 to 30 hours. "On Mothers Day, I baked 11 customized cakes," one stated. "I had to bake for 30 hours at a stretch in order to deliver my products this Valentine's Day," said another respondent. However, ICTs give them the flexibility to schedule and manage their workloads as well as choose hours of doing business unlike the situation of a corporate job.

Section 3: Expected Future for the Online Bakery Stores

1. Positive Future:

When asked about the expected future of the online bakery stores, all respondents expressed their desire to open physical outlets of their online bakery stores. One respondent expressed her desire by saying: "I would like to open a dessert shop at Dhaka which will serve customers 24 hours." Another respondent said: "My online store was a baby project. Now I want it to grow and meet my customers' demand.

I want to set up an outlet of my own.” Another respondent affirmed: “I was such a good student and was working in the advertising industry. But I gave that career up only to establish myself as a chef and now I want my store to grow big. Sky is the limit”.

Two respondents expressed their desires to open video blogs where they wanted to upload recipes and baking techniques so that people could learn. One respondent expressed her strong desire to open a training school on baking and cake-making. “I could not take any proper training on patisserie as it is very expensive abroad. Everything I have learnt was with the help of Youtube and Google. So, I want to open a training school where I can teach baking skills at a affordable costs,” she said. She was a lecturer at a reputed university. But she left her job so that she could be fully engaged in her business.

Three respondents said they wanted to do diplomas on patisserie and bakery from abroad to enhance their skills and wished to pursue their bakery business as a career. One respondent expressed an unique desire. She said in future she wanted to use completely organic ingredients for baking and do completely eco-friendly packaging.

2. Negative Futures:

When the respondents were asked to predict a negative future about their online bakery stores, none of them did. All of them said in the worst case scenario, the bakery stores could be shut down. One respondent said she would keep her online bakery store closed for a few months because she was pregnant. Two other respondents replied that there was a possibility to close their stores in future because they had applied for immigration to other countries.

3. Expectation from Government:

When asked about their expectations from the government, all respondents said they wanted to see a legal framework and policy support for female entrepreneurs operating ICT-based small businesses. Framework and policy support can be in the form of recognition of their company as SMEs, getting banking facilities/financing, tax/VAT waiver, etc. This, they said, would definitely help in expanding their operations and encourage other startups. They also sought support from the government and the banking industry in terms of with regards to online transaction for smooth payment processing.

The respondents also said they wished to form an association of women who operated online bakery stores and get recognition from the government. This would help them in ordering ingredients from outside in higher volumes for significantly reducing costs.

After analyzing the barriers and challenges faced by the online bakery stores and incorporating the strategies adopted by these women, we propose the following framework which highlights the barriers of running an online bakery store in Bangladesh and the best strategies exercised by these women to survive business competition.

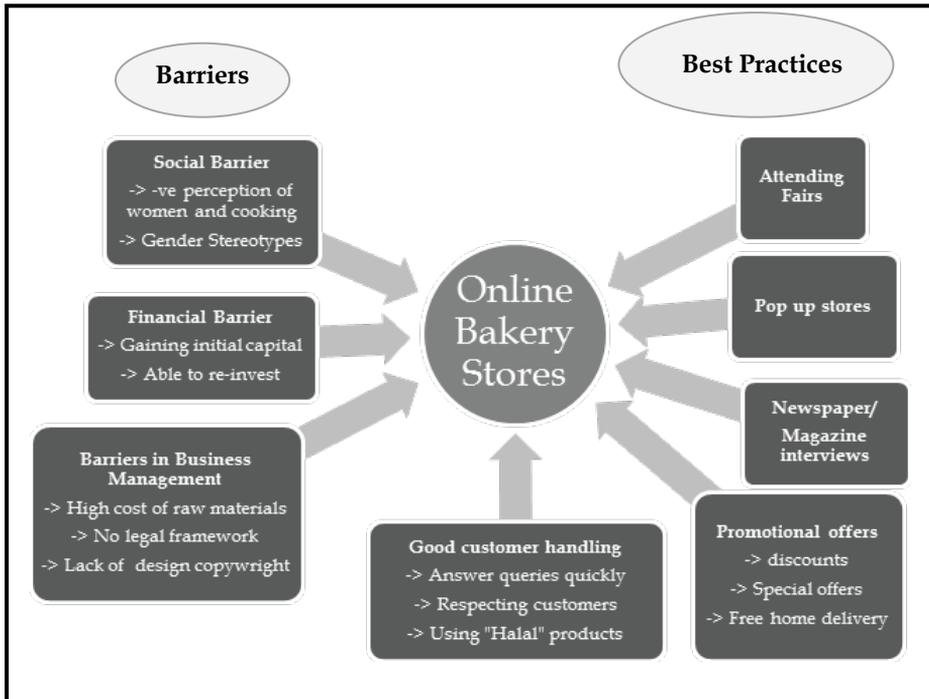


Diagram 2: Barriers of and Best Practices for Operating Online Bakery Stores in Bangladesh

Conclusion and Recommendations

This article investigated the use of ICTs as an empowerment tool by women entrepreneurs operating online bakery stores on Facebook in Dhaka. The aim of this study was to explore how online bakeries facilitate the empowerment of these women to overcome the economic discriminations they have faced in the past, as well as to have a deeper understanding of the barriers and challenges faced by them.

The findings of this research show that these women are now independent and are able to earn as well as re-invest the money back to their businesses. These, in turn, empower them. They are at an advanced stage of utilizing ICTs in their businesses. They utilize social networking sites to exchange information, promote their products and expand their customer bases. Therefore, these women are now empowered, self-dependent and successfully tackling the economic discrimination that existed in the society for years.

It is certainly true that ICT gives women the flexibility to work anywhere, anytime, and to have access to available information. However, there are challenges that women face in operating online bakery stores which include financing issues, social stigmas, lack of technological (ICT-related) skills and overall management know-hows of e-businesses.

Based on the findings of this research, here are our recommendations:

- The government can help these women in forming an association through which they can import ingredients from abroad in higher volumes to significantly reduce costs. The government can also offer loans for those who wish to start up SMEs such as online bakery stores.
- The government should offer training on business management and how to use ICTs through its ministries. Even private companies can contribute in providing ICT-based training to women so that they can get the necessary tips on e-business management.
- The agencies of the government should monitor the food quality of online bakeries. This is to ensure good quality and hygienic food products so that online bakeries with cheaper products made with low quality ingredients cannot operate in the market.
- The government and the NGOs should come together to break the traditional mindset of people that still exists regarding women and entrepreneurship. They should recognize that ICTs are the most potent democratizing tool that can ensure equality among men and women in the societies of the developing countries.

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- Sources of Pictures: Collected from Facebook pages of respective online Bakery Stores

Use of ICT in Teaching English Language at the Tertiary Level

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Abstract

The study aims at investigating how the use of ICT (Information and Communication Technology) can enhance English language teaching and learning at the tertiary level in Bangladesh. Students at the undergraduate level at different universities are often demotivated in English language classes. However, these gen-z students can be motivated if teachers opt for technology in teaching language in the class. The young undergraduate students love to use technology in different forms rather than the traditional classroom techniques. Therefore, the researcher has collected data from the undergraduate students to identify their opinions about ICT based learning. In addition, some teachers from the tertiary level have been interviewed to know more about the present teaching scenario at the universities. In conclusion, some possible ways are discussed to use ICT inside the classroom to teach language in a more convenient way.

Key words

ICT, English language teaching

Introduction

The tradition of teaching and learning in the classroom has changed remarkably with the entry of technology. Technology provides unlimited options in making learning interesting and helping students to be more productive. Technology helps students to get involved and learn according to their interests. It satisfies both visual and auditory senses of the students. Realizing the greater influence of technology in learning, nowadays teachers have started using various forms of technology inside the English language classrooms. In Bangladesh, classrooms at the tertiary level are mostly conducted with the help of multimedia. English language teachers have started using multimedia and are exploring many other benefits of ICT (Information and Communication Technology) in their language classes with the assumption that ICT-based teaching will improve both learning and teaching.

Problem Statement

Today, in Bangladesh, fundamental English language courses are taught in all private universities as well as public universities to all undergraduate students. However, most of the students are found demotivated in the classrooms and thus learning becomes unsuccessful. To make learning fruitful, English teachers at the tertiary level use ICT inside the classroom, since teachers know that they have to deal with gen-z students who use various forms of technology in their daily life. Therefore, it is assumed that students would feel motivated in an IT (Information Technology) enabled classroom more than in a traditional classroom.

Nonetheless, it is important to know the outcomes of the use of technology in the English language classroom, whether it has brought any positive change in the learning of English. The present research investigates the effect of tech-based English classrooms in learning. It is to be noted that ICT/IT/technology are used interchangeably throughout the paper.

Objectives of the research

The central research objectives of the study are:

- Exploring the positive or negative impact of ICT in teaching English language; and
- Find out what students and teachers have say about using ICT in learning and teaching English.

Operational definition

Gen-z

Usually, children born after the mid-1990s comprise generation-z, in short gen-z. They are students, who are more into technology than any earlier generation. The oldest groups of gen-z are now studying in colleges or universities. they are "digital natives" who have grown up deeply immersed in the web of technology and inter-connectivity. Howe and Strauss (2000) have identified seven core personality traits of the gen-z students such as special, sheltered, confident, conventional, team-oriented, achieving and pressured. All these qualities directly or indirectly are related to a more ICT-oriented generation; if they do not know anything, they will simply 'google it'. Fudin (2012, para. 1) suggests the use of various forms of technology to engage and motivate students inside the classroom because:

They grew up with computers and the World Wide Web, and they're comfortable with all kinds of technology, from smart phones to MP3 players to iPads. Most of them conduct their social lives via texting and social media, and spend more time watching YouTube than network television.

In short, gen-z students love to make the maximum use of the facilities of today's Google world.

Literature Review

Language courses taught in the universities of Bangladesh

In Bangladesh, English language is taught as a fundamental course in all the public and private universities, irrespective of the students' academic disciplines. These English courses are regarded as general education courses and are compulsory for all students studying at the university. Usually, basic language skills such as reading, writing, speaking and listening are taught in these courses, so that the students can carry their further studies in English. In addition, most of the universities are well equipped with modern ICT facilities such as computers, projectors and the Internet. Therefore, language teachers can easily use multimedia and Internet facilities while teaching. Commonly, language teachers use audiovisuals for teaching, listening and speaking and different websites for teaching grammar, reading and writing. It is thought that the use of a variety of techno-based materials and contexts will motivate the demotivated students and make them interact in class.

Demotivation in the language class

Demotivation is a common phenomenon in the language classrooms. Chamber's (1999) study reveals that students often find second language study irrelevant and frequently describe it as boring and difficult. It means that students do not get interest in their study. There are a number of reasons for students lacking interest in the classroom. According to Lin and Warden (1996), stressful environment is the main reason behind the demotivation in language classes. Hirvonen (2010) states that demotivation is a state where due to some reasons, students have lost their interests in learning. Sometimes, demotivation springs out from the absence of academic echo system. In this context, Gorham and Christophel (1992) locate five main reasons: the teacher being unorganized, unprepared, boring, and bored. So, students do not get interest in the language classes, if it is not interesting, exciting and novel. Hirvonen's (2010) study attempted to find out the factors that demotivate students from the Middle Eastern countries attending a school in Finland, a European country. The teacher, learning materials and course contents, the learning environment, and simultaneous learning of other languages are key factors behind being unsuccessful in the language classes (Hirvonen, 2010).

The research literature shows that students may be demotivated due to various reasons. However, the use of ICT tools can cheer up the less motivated students.

ICT in language classroom

Less than a decade ago, Bush (1997, p. xiv) reviewed the then contemporary use of technology in foreign language education and stated convincingly:

Ready or not, it appears that technology will play of our institutions. It therefore behooves foreign language education professionals to better understand technology and its potential for foreign language learning.

The use of computers as a delivery modality for instruction is a contentious issue that exposes a myriad of new factors for educators' consideration and assessment (Bull, 1999; Sheingold & Hadley, 1990). In the 1960s, computers started becoming popular among the language teachers. The introduction of new technologies and applications has been hugely successful in allowing students learn independently throughout the media. In past few decades, the relationship between technology and foreign language learning have focused on motivation, reading, writing, listening, speaking and mobile assisted language learning. Research literature throughout the past decade has shown that technology can enhance language acquisition, provide greater access to information, support learning, motivate students, and enhance their self-esteem.

The tradition of English language teaching and learning has been remarkably changed with the entry of technology. Technology helps students get involved with their learning along with interests. Multimedia technology plays a positive role in enhancing students' interest into the classroom language learning. As pointed out by Castells (1996), when users learn more through using technology, they become a productive force being part of the development process. According to Warschauer and Meskill (2000), the advantage of using new technology in language classrooms can be interpreted in the light of the changing goals of language education, where by using the computers and Internet students can do their tasks or exercises and can learn from their mistakes.

Innovative ways of teaching and learning language

In today's era of technology, unlimited alternatives are open both for teachers and learners to use in the classroom and outside of the classroom to teach and learn the language. Some of the important and popular ways are discussed below:

Blogs

Blog is a social site, an online diary, in which students can write whatever they want to and publish on the Internet community to share with other people. It can be used to teach writing. Lee (2011), professor at the department of languages, literatures and cultures at the University of New Hampshire uses three types of blog: personal blog, class blog and project blog to teach language:

* In personal blog, a person can write whatever is there in his/her mind. By this personal blog, a blogger (a person, who writes regularly in a blog) can write various aspects about his/her culture, personal feelings, and experiences. Personal blogs should have about 150-200 words. Bloggers can add pictures, videos in his/her blog and share that blog with thousands of people in the world through Internet. Basically, a personal blog encourages students to write free-hand. During this free-hand writing, students can improve their writing skills through their mistakes in writing.

* Every student needs some space for expressing personal feelings. After finishing a lesson or reading in the class, students share their own observation within 150-200 words in their blogs: this is called class blog. Students in a particular class, comment on their classmates' blogs and ask questions related to the topic. Students can add

video or audio clips or pictures in others' blogs. By doing this, students get chances to share their ideas.

* Project blog is where students of a class choose a particular topic in which they are interested and create a blog to share information. In this blog, everyone can share their points of view. Students analyze newspapers, case studies and add relevant information about the topic in the blog. Thus together a group of students work on a topic and learn from each other while developing the project.

Wikis

A wiki is a website where everyone is allowed to add comment or edit by using their own web browsers. Doolan (2011) has developed the CLAT (Collaborative Learning through Assessment and Technology) a pedagogical model using a wiki, which has been successfully used and evaluated across a number of academic disciplines over the course of five years in higher education. Wikis are available online for all web users. It is easy to use and learn.

Facebook or Twitter

In Facebook, there are many groups such as "Learn English as a Second language" or "English as a second language." The activities of these groups are to motivate students or learners. Everyday these Facebook groups introduce new items such as, vocabulary, grammar, video or audio clips, and daily life conversations etc. for the learners. Often, these groups offer online games also to involve more learners. Like Facebook, Twitter groups also create online games for students to practice English.

Skype

Skype is another mode of audiovisual communication in modern technology, where teachers and students exchange their opinions. It is easy for the students to communicate with a native English speaking tutor without travelling to an English speaking country.

Moodle

Moodle has been developed to help educators create online courses with a focus on interaction and collaborative construction of content. Many teachers around the world use moodles to help students with better options of learning. Moodle can be the best option for e-learning.

BBC Janala in Bangladesh: use of technology for mass language learning

BBC Janala is an English language learning programme for all in Bangladesh, introduced by the BBC World Service Trust in 2009. It is an UKaid project. The main aim of this project is to raise 27 million English language speakers in Bangladesh by 2017. BBC Janala mainly focuses on developing English language skills that are important for employment in Bangladesh. Basically, BBC Janala works with mobile phones, newspapers, the Internet and television. Below is how BBC Janala works:

* By dialing 3000 from a mobile handset, anyone can learn English lessons on various issues at a cost of just BDT 0.5 per minute. There BBC Janala presents 3 (three) minutes' audio lessons for English learners.

* The BBC Janala Amar Engreji courses (My English Courses) to learn English language are published three times a week in the daily Prothom Alo.

* BBC Janala uses television as one of its medium of teaching. In 2009, BBC Janala started a TV show named "BBC BUZZ", which was basically tailored to cater the youths and was presented both in Bengali and English language to ensure easy understanding. Later, BBC Janala produced a weekly drama titled "Bishshaash" (Belief), which reached 20 million audiences in Bangladesh. Afterwards, a new TV show was launched in 2013 named "Nijay Nijay Shekha" (Learning by myself). The purpose of these series was to inspire beginners to learn English.

* BBC Janala also provides books and CDs for their learners. BBC Janala also launched a website for learners, where learners can easily join an online community to discuss their learning and problems.

Thus BBC Janala has been immensely successful among the mass in teaching English using various formats of technology. Recently, they have started spreading their network among the universities to be connected with more learners and teachers.

ICT boosts language learners' motivation

ICT helps students to take interest into their lesson, to participate in the class and to communicate with other students. A study conducted by Liaw (1997) proved that the use of computers promotes verbal interaction among students. Students' motivation level seems to be high in an IT-equipped classroom compared to the traditional classrooms. According to Case and Truscott (1999), students have been able to improve their vocabulary, fluency, and comprehension when they are put into a modern tech-based classroom. Even grammar skills can also be developed by using computers as Lewis (1997) finds out. To develop listening skills, students need sample of authentic and natural speech in a variety of contexts, so that they can identify and understand the patterns of a given foreign language. There are numerous CDs, DVDs, MP3s and websites available in English language to provide listening materials.

Further, students can browse Google in their mobile phones to find out very easily a word or read their favorite articles or stories at any time. This easy access to Internet also makes the students excited to learn something new without the help of their teachers and books. Moreover, use of multimedia makes a class more lively and interesting. Multimedia creates a context, which helps students to comprehend a topic. Multimedia has its own features such as visibility and liveliness. Students get very clear knowledge regarding a topic through multimedia.

Methodology

Research tools

Two kinds of research tools were used in this research: questionnaire and informal interviews. Questionnaire has been used to collect the views and opinions of the students about the use of technology in language learning and interviews have been conducted to know the opinions of the English teachers.

Sampling and setting

The data was collected from 100 (one hundred) students at the tertiary level in 20 (twenty) universities in Bangladesh and for interview, 22 (twenty two) university teachers were selected from the same set of universities. All the participants and the universities were chosen randomly.

Research design

The data was collected both in formal and informal settings following a survey research technique. For this purpose, questionnaires were distributed among the selected subjects and also informal interviews were conducted with a group of teachers. This research is largely based on qualitative analysis as participants have expressed their own opinions, feelings and experiences about the use of ICT in teaching and learning English language at the tertiary level. The quantitative data is presented in the form of tables.

The questionnaire and interviews were set to know the students' and teachers' perception about how far they thought technology helped learners in getting a grip on English and the effectiveness of technology as a motivator in learning the language.

Data analysis and discussion

Analysis of the questionnaire

The present section of the paper analyzes the response to the questionnaires. In the feedback form, there are a total of 9 (nine) questions, including both open-ended and close-ended ones. The close-ended questions are followed by an open-ended option to allow the respondents elaborate further on their answers for better understating the reasons for choosing a particular option. The discussion bellow reveals more about the questions and their responses:

Q.1. Do you use computer to learn English? If yes, explain the reasons for using computer to learn English.

This question has been set to know why usually students like to use computer for learning English.

The data shows that a majority of students use computers in learning English. However, it is not a regular practice among learners. Their explanations reveal that students use computers and other mediums of technology in learning English, if

Table 1: use of computers for learning English

Options	Responses (in percentile), (n=100)
Yes	(26) 26%
No	(5) 5%
Sometimes, if needed	(69) 69%
Total	(100) 100%

the teacher wants them to do so. Many students have admitted that they feel more interested in learning English by using various IT facilities.

Q.2. What forms of technology do you use for learning English or any other reason?

This question has been set to know the types of IT facilities students use for various reasons, especially for learning English language.

According to the table, students use various types of interesting ICT facilities in their daily lives. Not surprisingly, all the participants use Facebook regularly and some of them are members of different language teaching groups. The next most favorite use is of smartphone applications. They find the idea interesting to use Facebook for learning and teaching English. A large number of students use email and gaming facilities regularly, whereas a fair percentage of participants use online activities for learning grammar and developing listening.

Table 2: Types of technologies students use

Options (MR)	Responses (in percentile), (n=100)
For Facebooking	(100) 100%
For emailing	(75) 75%
For blogging	(16) 16%
For practicing online grammar	(34) 34%
For practicing online listening	(21) 21%
For gaming	(89) 89%
Smartphone applications	(96) 96%

Q.3 Do your teachers use modern technologies in the class?

This question was set to know if teachers used technology inside the classroom.

Table 3: use of technology in the class

Options	Responses (in percentile), (n=100)
Yes	(96) 96%
No	(4) 4%
Total	(100) 100%

The table demonstrates that almost all the teachers use ICT facilities in the classrooms to teach English language.

Q.4. My teacher uses computers for the following reasons.

This question has been asked to know what types of ICT facilities teachers use in the class and why.

Table 4: types of ICT facilities used for classroom teaching

Options (MR)	Responses (in percentile) (n=100)
For listening practices (audiovisual)	(98) 98%
For speaking (audiovisual)	(65) 65%
For pronunciation practice	(31) 31%
For developing presentation skills	(46) 46%
Sometimes for assignments	(97) 97%
For conducting online grammar practice	(57) 51%
For notification (e-mails or Facebook)	(55) 55%
For multimedia based lectures	(96) 96%

After analyzing the responses, it is found that almost all the teachers use IT facilities to conduct assignments, carry out multimedia-based lectures and practice listening skills. A large number of teachers use audiovisuals also to teach speaking skills. Further, a moderate percentage of teachers encourage the students to practice online grammar exercises and use email or Facebook for class notification. However, only a fair percentage of teachers use technology in teaching pronunciation. A few participants revealed that their teachers sometimes used blogs to upload the exercises or conduct the assignments.

Q.5. Do your teacher use social networking sites (like Facebook, Twitter, Skype, etc.) to teach the language?

This question explores the possibilities of using social sites in language teaching and students' point of view about this.

Table 5: use of Facebook in teaching the language

Options	Responses (in percentile), (n=100)
Yes	(0) 0 %
No	(100) 100%
Total	(100) 100%

The table clearly shows that teachers do not prefer using Facebook or other social networking sites for direct language teaching. However, in elaborating further, students mentioned that they would be excited if their teachers used Facebook in teaching language, as sometimes they found things boring and routine.

Q. 6. I like a tech-based language class because,

This question directly tries to dig out the reasons for which students like tech-based classes.

Table 6: why students like tech-based classes

Options (MR)	Responses (in percentile), (n=100)
I find it interesting	(96) 96%
I haven't seen this during my school and college days	(98) 98%
I am not bored	(86) 86%
I feel less tensed	(90) 90%
I like to explore various usages of gadgets	(91) 91%
I enjoy visual instruction rather than lectures only	(91) 91%

A majority of the respondents have expressed their higher level of motivation in an IT-based language class. The data shows that almost all the students have agreed that they have not been exposed to an ICT-based class earlier in their schools and colleges, so they find it interesting. It is to be noted that a big number of students expressed that they felt less tensed in a classroom where the teacher explored various types of technologies. A moderate percentage of students interestingly stated that they found that their teachers modern and up-to-date in terms of using modern IT facilities to conduct the course compared to the teachers in the traditional classrooms. The overall data confirms that students like the use of technology inside the classroom, as it is not boring.

Q.7. If you do not like to use technologies for learning English, kindly explain the reasons.

This open-ended question seeks to know if students have negative response towards technology-based English classroom.

Most of the students remarked that compared to a traditional classroom, they felt more active in an ICT-equipped classroom. However, a fair number of participants stated their dissatisfaction that some teachers used IT facilities without a particular objective. Therefore, often they felt that the teachers had less to teach and more to show slides. Often, when there is a power cut, teachers cannot continue the classes due to their high reliance on multimedia facilities. A few students have mentioned that they cannot afford if the teachers also want them to use computer and Internet at home. They love when the teachers use ICT inside the classroom, however, sometimes they cannot complete the homework, when the teachers want them to use IT facilities at home also.

Q.8. If an ICT-based classroom motivates you; please explain the reasons in brief.

This question answers why students are motivated in an ICT-based classroom.

All the participants unanimously accepted the fact that an ICT-based class motivates them more than a traditional language class. Most of the students stated that the visual aids used in the class kept their interest levels up in the class. Usually, in Bangladesh, modern technology is not used in schools and colleges. So, when students discover the use of modern technology in their tertiary classroom, they find it innovative. Some students have mentioned that when their teachers used ICT in the class, by and large they considered the teachers modern.

Q.9. After answering all the aforementioned questions, will you recommend teachers to use technology for teaching language? Please explain your answer in short.

The final question has been positioned to know students' overall suggestions about the topic.

Table 7: recommendation by the students to use ICT in teaching English language

Options	Responses (in percentile), (n=100)
Yes	100 %
No	0%
Total	(100) 100%

Collectively all the participants mentioned that they wanted their teachers to use technology in teaching English language because of several reasons. First, IT makes the class interesting and thus students do not feel bored. The contents used in an IT-powered classroom are also engaging that keeps the motivation level high. Second, students feel less stressed in a class where teachers use modern technology to engage students. Finally, students keep using various types of technology in their personal lives as well, so they love the fact that these same technologies can be used for studying as well.

Analysis of the interview

The interviews have been conducted both in formal and informal settings. The topics of the interview are discussed in next page.

Overall, the interviews reveals that teachers believe that the use of IT can enhance language teaching as it can engage students in class. Language teachers can collect interesting materials for the students from various websites and can improve their own teaching. Even students find it interesting when teachers use modern teaching aids since it gives them learning autonomy. According to teachers, technology helps them to get better learning outcomes, if it is used effectively. However, some teachers are found too much dependent on ICT in conducting the classes, which might have a negative impact on the overall teaching process. Moreover, inefficiency in handling the technical equipments may result in distraction in classroom teaching.

Table 8: Teachers' opinions about the use of technology in teaching English

	Discussed Topics	Responses (in brief)		Discussed Topics	Responses (in brief)
Advantages of using technology in teaching English language	Use of technology in teaching English	All the teachers agreed that they used various types of IT facilities in their classes such as multimedia slides, different websites for class materials and videos.	Disadvantages of using technology in teaching English language	Negatives of using IT in teaching language	Some teachers expressed their dissatisfaction when IT tools malfunctioned in class. Sometimes, it distracted the lesson and wasted a lot of time.
	Reasons for using IT in teaching the language	<p>Teachers use ICT in teaching largely to create interest in the class. Usually students like multimedia-based classes, since visual aids make learning easy. Further, slides help teachers to keep the lesson on and it is easy to engage the students. Moreover, for showing video and practicing listening and speaking skills, ICT facilities are also needed.</p> <p>Most of the teachers mentioned that with the help of ICT, it is easy to engage the students. Even the shy students also sometimes participate when the ICTs are used in classroom. Furthermore, often the use of audio-visuals relieves the students from stress. Some teachers use songs or funny video clips to relax the learners.</p> <p>Some language teachers suggest students to consult websites for autonomous learning, which is sometimes exciting for the young learners, as they tend to use IT in their daily lives.</p> <p>Most teachers stated that technology was a storehouse of opportunities which helped them to be. For example, some teachers participated in online courses and later they used the ideas in their own teaching also.</p>		<p>Most tertiary teachers acknowledged the fact that since often they used slides for teaching in the class, it became difficult for them to carry on the lesson, when sometimes there was a sudden problem with the equipment. Some teachers admitted their over-reliance on multimedia.</p> <p>In addition, all activities cannot be conducted by using ICT, some teachers have mentioned.</p>	
	Social networking sites in teaching language	Some teachers use Facebook mostly for posting class related notices. They usually create a separate group for a particular course and use the group primarily for coordinating the course. However, some teachers believe that Facebook or other networking sites can be used for teaching language, if teachers are efficient IT users only, although they have not tried it in their own teaching.			

Findings of the study

Data analysis revealed that both students and teachers believed that technology-based classes were always motivating both for teachers and students. The participants talked about the following benefits:

Traditional classroom versus modern IT-based classroom

Students usually love IT based classes at their universities compared to the traditional classes in their schools and colleges. In the traditional classrooms, the gen z students used to feel bored, especially if the teachers had to give any lecture. Now, at the tertiary level, even if the teachers give lecture sometimes, students can keep themselves motivated by virtue of the visual aids, such a multimedia.

Autonomous learning

Use of different modes of technology in teaching gives the students opportunity to become autonomous learners. Teachers often use various English learning websites, where students can learn by themselves and teachers only play the role of moderators. Since some universities have Internet access inside the classroom, English language instructors use Internet to teach some language items in the class. Young learners feel motivated seeing all the new usage of technology and thus willingly participate in the class.

Use of ICT matches the psyche of gen z students

The gen z students make the most use of the ICTs or modern technology. Young students cannot think of their daily life without the new innovations. So, when these young people find their teachers also using the modern technologies, they feel motivated to participate in the class activities. Instead of boring grammar books, the gen z students like eBooks, learning websites, mobile learning applications, online practices, etc.

Most teachers have accepted the fact that sometimes they use the ICTs in their language courses to grab the attention of the students. In the language class, most students remain indifferent and consequently, they simply do not want to participate. Hence, often computers and Internet are used to make the learners interested.

Audiovisual aids

Most language teachers use audiovisual aids to teach listening and speaking, which is very interesting for the students. To develop pronunciation, presentation skills, speaking or listening skills, mostly audiovisual aids are used in the university classes. On the other hand, teachers also find it comfortable to teach with the aids, since it reduces teachers' workload. Most of the teachers feel easier to teach with PowerPoint slides, as it is easy to keep the lesson on track. The instructors can easily interest the pupils. Even students also find it easy to understand brief lecture slides instead of expansive books.

Social networking sites in teaching the language

Social networking sites especially Facebook are now very popular among the students. Students believe that social networking sites may help them improve their English language and communication skills. Some students seem to be interested in the idea of using Facebook as a learning medium for their regular academic English lessons.

There are a few teachers, who use Facebook to give instructions about the course or assignments or to post a notice related to the course, because they find that students love to use Facebook for the academic purpose also. Usually, teachers open a separate closed group only for a particular coursework and use that to conduct assignments, online tests or group discussions. However, except for one or two teachers, most have not tried Facebook for direct language teaching.

Innovation in teaching

Almost all participants agreed that because of the ICTs, teachers had been able to bring novelty in their teaching. Teachers used new ideas with their existing methods and students also benefited by learning language in innovative ways. Because of the ICTs, teachers and students could work collaboratively.

Relieves anxiety

Most students feel that an ICT-based language class is more relieving than a traditional one. The audiovisuals facilitate class participation and thus students do not feel any pressure while learning. On the other hand, teachers also use ICT tools with the intention to make learning free of anxiety. When the class environment is free from pressure and students are not stressed, students feel motivated to learn.

High level of motivation

Both teachers and students agreed that an ICT-based classroom results in high level of motivation among students. Use of technology attracts even the most inattentive of the students. Some teachers pointed out that since introvert students felt shy and uncomfortable in participating in class, the language teacher could suggest them to participate in online discussion sites, which would be very effective for them.

However, the study surprisingly unfolds some negatives sides of using ICT in teaching language. Some of them are:

- * Overuse of technology is often distracting, as it may stray the goal of the class and lesson. Teachers sometimes only show the slides rather than teaching the topic. Basically, this happens when teachers use multimedia without purpose.
- * Use of ICT may cut down on the learning time. Sometimes, due to power failure or some electronic malfunctions, it becomes difficult to use ICT in the classroom.
- * Some students are not comfortable with new technology. They find it problematic when teachers ask them to use technology to take a test or to submit an assignment. These students become more introvert than earlier.

- * For some students, it is expensive to use Internet and computer at home to complete homework or take an online test. Thus, they often fail to finish their tasks on time.
- * A few teachers have expressed concerns that sometimes students waste time in aimless browsing and end up learning nothing.
- * Most importantly, teachers have to be very careful in choosing the right learning website for the learners. It takes much of their time. Some teachers said it was difficult to control what students are learning in an ICT-based classroom.

Conclusion

After the aforementioned discussions, it seems that ICT has become an integral part of language teaching at the university level, although it has some demerits. It seems that if teachers are expert and experienced, they would know how to get the most out of the new technologies. It cannot be denied that today, technology has opened an immense plethora of learning opportunities both for the teachers and students. So, if we can choose carefully, we can get the best out of it. Use of ICT in teaching language should not be done only for fashion; rather it should serve a purpose. The study reveals that technology works as a tool for motivating and enhancing learning. Therefore, teachers should reap the benefits of technology in class so that the students are the eventual gainers. For the betterment of language teaching with the help of technology, some suggestions are offered below:

- * Teachers should not use technology in teaching if it does not serve a teaching purpose. While using multimedia, teachers should be careful so that the slides are properly used to teach the language. ICT should be use with proper pedagogical knowledge.
- * The websites chosen to teach language should be selected with care, so that students get contextual items. Teachers may choose moodle software to teach students; nonetheless, before experimenting with the students, the teachers have to be trained moodle users.
- * The universities should train the teaching force to teach in an ICT-equipped classroom, so that teachers can handle any kind of malfunction related to computer or Internet. It will reduce the wastage of time. Further, if language teachers are expert ICT users, they can use different forms of technology to bring innovation in their own teaching.
- * To conclude, students should not consider technology as a replacement of the teachers. ICT in learning a language should be used with careful guidance of a facilitator.

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Realising the Potential of ICT in Human Rights Promotion in Tanzania

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Abstract

Tanzania has enacted National ICT policy in 2003 with one of the goals being mainstreaming the use of ICT in promoting human rights issues. To date, no study has been done to evaluate the challenges that limit the access and use of ICT in provision of human rights education. It is from this premise of not having empirical evidence to explain how to solve the constraints facing Tanzanians in accessing of ICT tools for promoting human rights that this study was conducted in Kilosa District. This research was undertaken using a cross-sectional research approach to explore the contribution of ICT in advocating human rights. The lesson learnt from this research is expected to propel the use of ICT for human rights (ICT4human rights) in other Districts of Tanzania and thus, increase access and use of information relating to human rights education. Increasing human rights education is a critical driver for sustainable socio-economic development of Tanzania.

Keywords

ICT, human rights, promotion, Tanzania

1.0 INTRODUCTION

1.1 Background Information

Sixty years after the Universal Declaration of Human Rights (UDHR), the world finds itself in a different place, where almost anyone, anywhere, has the potential to access information and communicate directly with the rest of the world (Horluchi et al., 2009). ICT has been one of the most powerful drivers of changes in our global knowledge society (Sharma and Sturges, 2007). It has shaped us on how to protect and advance human rights issues by raising public awareness on human rights violations. Also, ICT promotes human rights like right to participate in cultural life, right to education, right to health and standard of living, right to work, right to participate in government, freedom of association, freedom from slavery, freedom from torture and cruelty, right to privacy, freedom of worship, and freedom of expression (ibid).

The world, where there is a vast ICT infrastructure and extensive flows of information, has become a natural and unquestioned feature of modern life. ICT brings society with a wide range of new human rights especially how to protect and advance freedom of expression and privacy online (Hope, 2011).

ICT from a human rights perspective is paramount in creating an environment to benefit humankind. It creates the common ground for human rights activism. The United Nations Millennium Summit formed the body to promote democracy and strengthening the rule of law, as well as respect for all internationally recognized human rights and fundamental freedoms, like right to development (Ugirashebuja, 2000). Furthermore, ICTs threaten authoritarian control and enhance human rights (Ugirashebuja, 2000).

ICTs have allowed entities to be involved in various issues of human rights. International researchers have made systematic comparative analysis of patterns of human rights violations, human rights associated with communication such as right to information, free elections and freedom of associations as well as freedom of expression. These are vital in enhancing and increasing citizens' participation in decision making, thus strengthening democratization (Unwin, 2010).

The Commission for Human Rights and Good Governance (CHRAGG) in Tanzania is focused on promotion and protection of human rights and good governance (Maro, 2011). Due to the increasing number of ICT tools owned by citizens, private sector and government institutions because of affordability, has facilitated the promotion of human; there is need to assess the constraints that limit the access and use of ICT in promoting human rights from global to local levels, particularly in Kilosa District in Tanzania.

ICT has been recognized as an instrument for promoting human rights. The use of ICTs in promoting human rights has been broken down broadly into four main levels of usage. These are: individuals, NGOs, national governments, and supranational institutions (Selian, 2002). ICTs have empowered citizens to communicate their stories, agendas, laws and agreements. ICTs such as Internet

facilitate networking and mobilizing functions of many NGOs working across national borders by influencing elites and Government leaders working for human rights (Selian, 2002).

Africa is among the continents with a specific human rights monitoring body - the African Commission on Human and People's Rights created in 1987 by the Organization of African Unity (OAU) (Nsega, 2007). Much progress has been made in promoting human rights in the African continent also aimed to make human rights well known and accessible through the use of ICTs.

The current ICT situation in Tanzania is enabling citizens to participate fully in sharing and accessing knowledge and information relating to human rights (URT, 2003). However socio-economic constraints that limit the contribution of ICT such as radio, television and mobile phone in promoting human rights in Kilosa District are not clearly known (Selsevier, 2005; Sanga et al., 2013). Therefore, this study addressed this gap by assessing the socio-economic constraints in promoting human rights through ICT.

Thus, the main objective was to investigate on the socio-economic constraints of ICT in promoting human rights. From this main objective, the specific objectives (SO) were:

- To identify the challenges that limit the access of human rights information provided by the ICT tools (SO1);
- To determine awareness of people on the human rights campaign provided by ICT tools (SO2);
- To determine accessibility of ICT tools which promotes human rights information (SO3);
- To determine the possible ways of solving the limitations of accessing human rights information provided by ICT tools (SO3).

Based on the importance of human rights in the society, the findings from this study can help the Government assess if it has achieved its vision of making Tanzania become a hub of ICT solutions that enhances sustainable socioeconomic development and accelerates poverty reduction both nationally and globally (URT, 2003). Also, it can help the Government to improve ICT services which promote human rights by solving the identified socioeconomic constraints based on its ICT policy. The Commission for Human Rights and Good Governance in Tanzania can use the best practice advocated from different literature to promote and protect human rights and good governance (Selian, 2002). Furthermore, the study provides empirical evidence of the constraints that limit the use and access of ICT in promoting human rights.

1.2 Conceptual Framework

A conceptual framework for ICT in promoting human rights proposed in this study comprises four variables: ICT, human rights, access to human rights and

household attributes. These are categorized into independent variables, dependent variables, intervening variables and background variables respectively. Independent variables indicate tools such as Internet, radio, mobile phone, television, newspapers, and magazines for providing information. Intervening variables indicate human rights accessibility such as freedom of expression, freedom of association, participation in decisions, rights to education and rights to participate in government. Dependent variables indicate how human rights will be achieved. This includes increase in human rights awareness and decrease in human rights violation. Background variables indicate the attributes of the household members such usage, sex and marital status and education level. Figure 1 represents a conceptual framework showing how the independent variables relate with dependent variables through the intervening variables.

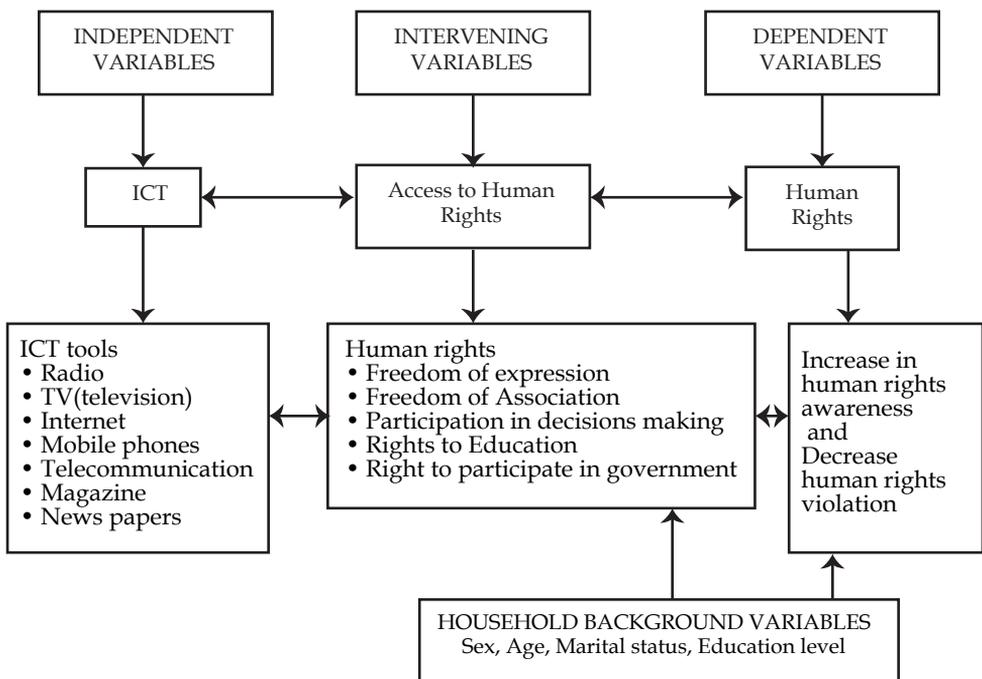


Figure1. Conceptual Framework

2.0 Literature Review

2.1 Definition of key concepts.

Information and Communication Technology (ICT) is a term that includes any communication devices or application, encompassing; radio, television, cellular phones, computer and network hardware and software, satellite systems as well as various services and application associated with them, such as videoconferencing and distance learning. ICTs are after spoken in a particular context, such as ICTs in education, healthcare or libraries (Rouse, 2005).

Human right is a fundamental right to which a person is inherently entitled to simply because she or he is a human being and that are neither created nor can be abrogated by any Government. Supported by several international convention and treaties such as the 1948 United Nations Universal Declaration of Human Rights, these include cultural, economic, and political rights, such as right to life, liberty, education and equality before law, and right of association, belief, free speech, information, religion, movement, and nationality. Dissemination of these rights is not binding on any country, but they serve as a standard of concern for people and form the basis of many modern national constitutions (Foquico, 2009).

In the context of Tanzania, human rights are the needs, rights or other requirements of different persons on the basis of their nationality, tribe, place of origin, political opinion, color, religion, sex or station in life. These are right to equality, freedom to have conscience, or faith, freedom of opinion and expression of his ideas, right to life, right to be respect and be protected, rights for privacy, freedom of movement, equality before law, freedom to freely and peaceably assemble, associate and cooperate with others, rights to elect and being appointed to take part in matters related to governance of the country, freedom to participate fully in making decisions on matters affecting the individual, personal or national wellbeing, right to work and entitlement to own property (URT, 1977).

2.2 When did the Concept of Human Rights Emerge?

We are often confronted with the question as to when did the concept of human rights emerge? Is the question of human rights as old as the existence of human beings on Earth? The concept of human rights is as old as the concept of human itself. The fact that an individual has the rights by virtue of being a human being therefore mean that the concept of human rights came into being with the emergence of the first man on Earth. The concept of human rights existed in pre-modern cultures; for instance ancient scholars such as Aristotle wrote extensively on the rights of citizens to participate in public affairs. Historically, it can be traced down to 16th century Indian Mogul emperor Akbar, who granted religious minorities legal status in his realm and condemned traditional Indian practices such as burning of widows and slavery.¹

However, the problem is that these ancient societies did not have the concept of

¹ Ishay, Micheline (2008). *The History of Human Rights: From Ancient Times to the Globalization Era*, p 66-67

universal rights. For instance, slavery was justified in those times as natural. Also documents such as English Magna Carta of 1215, the British Bill of Rights of 1689 which made illegal a range of oppressive government actions in United Kingdom, the United States Declaration of Independence of 1776, and the French Declaration of Rights of Man and of Citizen of 1789 all established certain rights and thus they are important in the historical development of human rights. Also, the World Wars, which caused huge losses of life and gross abuse of human rights, were the driving force behind the development of modern human rights instruments.

However, no one can run away from the reality of the concept of the existence of human rights through religion (Magalla, 2013). We know that before God created Adam and Eve, he created other natural things such as the Sun, the water bodies, the animals and the plants which bred fruits. Land gave which the humans and the plants, the living and the non-living organisms a place to settle down. Adam and Eve had a right to property and right to work which is currently provided by various Constitutions of the States². Since God provided all of that, it means a right to life existed – no life existed without water, light (the Sun), and there is no life without having something to eat, and by giving them monopolies over all other living organisms implies that they could eat everything they want as long as God instructs them. Even when Adam and Eve ate the forbidden fruit from the forbidden tree, God gave them the right to be heard and give reason as Adam proposed that it was Eve who gave him the fruit and Eve said it was a snake that deceived her. These rights are currently given through the doctrine of natural justice.

Human rights have their limits that one can enjoy their rights without infringing somebody else's rights³. We have to remember that even God created the limitations for Adam and Eve over the enjoyment of the Eden Garden, that they can eat every fruits from any tree except the tree located in the middle of the garden.⁴

2.2.1 Human Rights Situation in Tanzania and its Importance

The History of enforcement and protection of human rights in Tanzania can be divided into three phases: pre-colonial, colonial and after independence.

a. Pre-Colonial Era

During the pre-colonial period, a majority of the African communities used to live in communal societies. During this period, values and rights were held and enjoyed collectively and people had their own values on human rights. However, there was no human rights instrument and enforcement mechanisms as we find in today's world.

² In Tanzania this right is provided under Article 24 of the Constitution of the United Republic of Tanzania, 1977 as amended from time to time.as amended from time to time.

³ See Article 30 (2) of the Constitution of the United Republic of Tanzania, 1977 as amended from time to time.

⁴ Genesis 2:16-17, available at <http://biblia.com/books/nrso/Ge2.15-retrieved on 23rd Feb 2014>.

b. During colonialism

Basing on Tanzania's history from the human rights perspective, it can be said without doubt that colonialism negated and suppressed human rights. When one state colonizes another, it violates the right to self-determination of the colonized people. There is no law that justifies colonialism. The colonial powers rarely allowed colonized people to enjoy any human right as such.⁵

In this period, there were massive violations of human rights. Racism, discrimination, torture, etc were the order of the day, accepted as both ways of life and matter of state policy. Laws were enacted and courts established for the purpose of guiding people on the basis of their complexion. This can be demonstrated in a number of judicial decisions in which one could find decisions with racist sentiments. For instance, in the Ugandan case of *Rex v. Amkeyo* [1917] 7 E.A.L.R 14, the court equated African marriages to wife purchase.

c. After Colonialism until now

The history of protection, promotion and enforcement of human rights after independence in mainland Tanzania and Zanzibar is different. This is due to the fact that at the time of independence in 1963, Zanzibar had a Bill of Rights which provided for the fundamental rights and freedoms entrenched in constitution. But as noted above, after the revolution of 12th January 1964, Zanzibar's Constitution was suspended for 15 years during which it was ruled by Presidential Decrees. Human rights were not among the priorities of the post revolutionary government. These fundamental rights and freedoms returned in Zanzibar riding on the 1984 Constitution. The incorporation of fundamental rights and freedoms in the form of Bill of Rights in the Constitution at independence was rejected by the incoming government as the leaders of the newly independent Tanzania argued that the Bill of Rights will deter the new government in its efforts to develop the country. They argued that the same will be used by judiciary which at the times was largely white to suppress government actions by declaring most of their actions unconstitutional. It was in this parameter that Prime Minister Rashid Kawawa labeled the Bill of Rights as a luxury which would only invite conflicts. Their arguments were accepted by the Commonwealth and therefore Tanganyika became independent without incorporating the Bill of Rights. As a consequence, all issues of human rights and fundamental freedoms thereof were to be determined at the mercy of the ruling party and the only remedy was for the courts to invoke their inherent powers which was rare. This gave the government room to pass a series of very oppressive and objectionable laws which could not have been valid under the Bill of Rights. These laws included the Preventive Detention Act, 1962, the Regional Commissioners Act, 1962, the Area Commissioners Act, 1962 and others. The government also invoked the dormant colonial legislations which virtually took away the fundamental rights and freedoms of the citizens such as the Deportation Ordinance 1962.

⁵ LHRC (2006) *Through a Crucible of Human Rights Struggles in Tanzania: A Decade of Legal and Human Rights*, pp. 5 to 6.

The concept of human rights in Tanzania Mainland became well known during the Constitutional Amendments of 1984, the Fifth Amendment to be particular, after a long struggle by the human rights activists. Before such amendments, the Bill of rights was placed on the preamble. For example, the preamble to Our Constitution begins by: "We the People of the United Republic of Tanzania." This part does not hold legal enforceability meaning that one cannot claim any rights which have been stipulated in the preamble. In the case of *Hatimali Adamji v. East African Posts and Telecommunications Corporations* (1973) L.R.T No. 6, the preamble did not offer any protection to the citizens in situations of violation of rights and freedoms. Also in *Attorney General v. Lesinoi Ndeinai and Joseph Selayo Laizer and Two Others* [1980] TLR 214, it was noted: "A preamble is a declaration of our belief in these rights. It is no more than just that. The rights themselves do not become enacted thereby such that could be enforced under the Constitution."

The Constitution of the United Republic of Tanzania of 1977 as amended from time to time has been complied with the Universal Declaration of Human Rights and other Human Rights Instruments⁶, in promoting human rights (the 5th amendment included the Bill of Rights of 1984).⁷

Currently the important laws for human rights in Tanzania are:

- * The Constitution of the United Republic of Tanzania of 1977 as amended
- * The Basic Rights and Duties Enforcement Act No 33 of 1994
- * The Commission of Human Rights and Good Governance Act of 2001

As for enforcement, there are two major mechanisms:

- * The judiciary
- * The Commission of Human Rights and Good Governance.

So, in Tanzania, there are two venues for the enforcement of human rights: the Commission for Human Rights and Good Governance and the High Court. So you can decide where to file your complainant. But in choosing the venue, there are issues to consider including the client, gravity of the matter, remedies, time and hurdles the client will face, etc.

In a nutshell, when talking about protection, promotion and enforcement of human rights in Tanzania, one should take note of the following: the judiciary, the Commission for Human Rights and Good Governance, the Constitution, administrative law and civil societies such as legal aid centers. On June 14, 2013, the African Court on Human and Peoples' Rights ruled in favor of Reverend Christopher Mtikila against the United Republic of Tanzania, in the matter of *Tanganyika Law Society and The Legal and Human Rights Centre and Reverend Christopher Mtikila v. The United Republic of Tanzania*. The issue was about the

⁶ As expressed in PART III (Articles 12-24) of the Constitution of the United Republic of Tanzania of 1977 as amended from time to time

⁷ The Constitution of United Republic of Tanzania of 1977 as amended from time to time.

rights of independent presidential and parliamentary candidate. The court by majority ruled that the Government of the United Republic of Tanzania has violated Articles 2, 3, 10 and 13(1) of the African Charter on Human and Peoples' Rights. Therefore, the Court directed the United Republic of Tanzania to take constitutional, legislative and all other necessary measures within a reasonable time to remedy the violations found by the Court and to inform the Court of the measures taken.⁸

This has been included in the Constitutional Amendment of 2013 that the independent presidential and parliamentary candidates must be included in the coming Constitution of the United Republic of Tanzania which implies that the human rights as a concept in Tanzania has been taken into consideration compared with the situation in the past.

2.3 Accessibility of ICT Tools which Promotes Human Rights

The situation for the use of ICT in promoting human rights after Tanganyika and Zanzibar united in 1964 was poor because:

- i) Televisions were banned.
- ii) Telecommunication services were available only in some of urban areas e.g. Dar Es Salaam.
- iii) Computers were also banned.
- iv) There was poor electricity supply.
- v) Costs of ICT equipment were high which affected the usage of ICT in promoting human rights.
- vi) ICT literacy among the general public was low.
- vii) There was no ICT policy.
- viii) There was an absence of competition among Internet service providers because there was only one Internet Service Provider (ISP), Raha.com, at that time.

Thus the above factors affected the development of ICT for human rights in Tanzania. How can human rights be promoted through ICT if the above factors existed? This means that from the 1970s to 1990s, ICT played a minimum role in promoting human rights than it currently is performing (Magalla, 2013).

Currently in Tanzania, the number of mobile phone companies (such as Tigo, Airtel, Zantel and Vodacom) has risen and thus increased the rapid uptake of mobile phones by citizens. The introduction of low cost handsets and the prepaid systems has helped to overcome the income barrier to mobile ownership and use (Sife et al., 2007). The Tanzanian Government and mobile phone companies have good cooperation (Rodrigo, 2008).

Potentially, ICT tools are democratic mediums when used in a decentralized manner. This may give local people and communities the opportunity to express

⁸ See at <http://dewjiblog.com/2013/06/15/rev-christopher-mtikila-won-the-case-against-the-united-republic-of-tanzania/retrieved> 24th February 2014.

their grievances. Community radio stations as well as regular radio stations representing the views of organizations in civil society such as trade union, uses ICTs in a manner exceptionally detrimental to the protection of human rights (Selian, 2002).

There is a substantial effort put in by the Government and the private sector to spread the benefits of ICT to poor and marginalized communities, both in the industrialized countries of the North, and in the less developed countries of the South (Sharm, 2007). The expenses and complex technology benefit those whose access to resources is limited and also technology can benefit those whose education and skills contain little that seems appropriate to the use of even the most basic of devices to improve transparency, quality and effective pro-poor public services using ICTs tools (Sharma and Sturges, 2007).

ICT provides opportunities to advance human rights by raising public awareness on human rights violations. Also, ICT provides freedom from discrimination, slavery, torture, right to privacy, freedom of thought and religion, freedom of expression, right to participate in government, right to education and right to participate in culture (Horluchi et al., 2009).

2.4 Challenges facing ICT in promoting human rights

There are significant challenges in realizing the potential of ICTs in access and use for human rights education. The Internet is providing over a billion people with unprecedented access to information and communication tools, but the vast majority of the world's citizens have no or limited access to Internet (Sharma and Sturges, 2007). The possible solution for this is between the need for privacy and sustainable business models for promoting human rights using ICTs (Gronlund et al, 2010).

Access to ICT tools in rural areas is limited by low levels of literacy and connectivity limitations (Sharma and Sturges, 2007). Hence, these tools remain under-utilized. Also, there is potential for these platforms to be used for other democratic processes such as tracking local government budgetary expenditures or citizens monitoring public services delivery (Karemela et al, 2012).

There are three barriers to ICT that scholars and practitioners have identified as the challenges in developing, implementing and sustaining mobile applications for social and economic development as well as promoting human rights. The first barrier is demand and the use of infrastructure (network, electricity), access to devices, literacy, languages, awareness, trust, and affordability. The second barrier is content creation and provision; awareness. The third is affordability as a possibility compared to other technologies and tools (Selsevier, 2005).

Restrictions on freedom of speech and expression are enforced in many states and are among the most significant challenges for human rights defenders operating in the area of ICT tools. Monitoring of human rights violations, suggesting changes or improvements in Government behavior and practices, discussing human rights issues can result in criminal charges, arrest, detention abuse or harassment for

human rights defenders (Botello, 2009).

2.5 Ways to overcome limitations in the use of and access to ICT in Promoting Human Rights

One way of overcoming the existing limitations in the access to and the use of ICT to uphold human rights is through international advocacy. One example of this is the collaboration on the International ICT Policy in East and Southern Africa (CIPESA) (Karemela et al, 2012). CIPESA promotes transparency, accountability and citizen participation as well as catalyzing the use of ICT in democratic processes.

The World Health Organization (WHO) states that 15% of world population has disabilities. However, ICTs have the potential to make significant improvements in the lives of these groups, allowing them to enhance their social and economic integration in communities by enlarging the scope of activities available to them (UNESCO, 2006).

Prioritization of ICT-based training is needed to remove the extremely limited ICT literacy and access to ICTs needs to be taken into account. Thus further basic ICT access and literacy support is also likely to be required before more advanced training will have any significant impact. Also, it will be important to involve other agencies to provide the additional resources required for addressing these basic ICT training and infrastructure requirements (Jensen, 2002).

Governments should actively encourage the development of localized tools and technologies for and by minority, ethnic and indigenous peoples. It removes barriers to participation and allows access to knowledge, culture and education as well as its dissemination within their own communities. ICT tools are assuming an increasingly central role in all aspects of human and societal development around the world. As a result, the ability to access and make effective use of ICTs have evolved into a necessary condition for the progressive realization of a wide range of human and other fundamental rights (Rao, 2012).

Civil society is also deeply involved in Internet governance. Many organizations that protect online human rights exist but many citizens remain unaware of the assistance available to them. Therefore, there is a need to increase awareness on the importance of data protection among people, since the Internet plays positive roles in enabling access to knowledge and in particular access to cultural goods and cultural heritage (Rao, 2012). This brings in another question regarding the security for digital citizens: how do you secure the digital citizens in the cyber space? (Sanga, 2009).

3.0 Research Methodology

3.1 Description of the study area

The study was conducted in Kilosa district in Morogoro region. Kilosa is one of seven districts of Morogoro region located in East central Tanzania 300km west of Dar es Salaam at latitude 5°55' and 7°53' S and longitudes 36°30' and 37°30' E. The

ethnic groups found in the district are Sagara people, Maasai, Kaguru, and other peoples from other ethnics groups. Kilosa district have ICT services provided by the telecom companies, Tanzania Postal Corporation and Tanzania Telecommunication Company Limited (Movek, 2008).

3.2 Research design

The study used cross sectional research design in which data collection was done at once in the population (Kothari, 2009). This type of research design is advantageous because it does not require additional resources such as time and money because data is collected at once.

3.3 Sampling design

Purposive sampling (Kothari, 2009) was used to get the respondents, who had the attributes required by the study. The sample size of 40 respondents was selected which comprised men and women living in the district of Kilosa.

3.4 Methods of data collection

Methods of data collection were based on specific objectives, in which structured questionnaires were used. During the process, households were used as units of data collection. The data collection methods were based on specific objectives (SO).

Specific Objectives	Data collection methods
SO1	The study used structured questionnaires based on closed and open ended questions to collect primary data. Secondary data was collected from reports and various documents like books, journals and Internet materials.
SO2	The study used structured questionnaires based on closed and open ended questions to collect primary data. Secondary data was collected from reports and various documents like books, journals and Internet materials.
SO3	The study used structured questionnaires based on closed and open ended questions to collect primary data. Secondary data was collected from reports and various documents like books, journals and Internet materials.
SO4	The study used structured questionnaires based on closed and open ended questions to collect primary data. Secondary data was collected from reports and various documents like books, journals and Internet materials.

3.5. Methods of data analysis

The collected data based on specific objectives were analyzed as follows:

Specific objectives	Analysis of primary data	Analysis of secondary data
SO1	The collected data was summarized, edited, recorded and analyzed using SPSS.	Secondary data was analyzed in terms of the existing dataset, which had previously been collected by another researchers.
SO2	The collected data was summarized, edited, recorded and analyzed using SPSS.	Secondary data was analyzed in terms of the existing dataset, which had previously been collected by another researchers.
SO3	The collected data was summarized, edited, recorded and analyzed using SPSS.	Secondary data was analyzed in terms of the existing dataset, which had previously been collected by another researchers.
SO4	The collected data was summarized, edited, recorded and analyzed using SPSS.	Secondary data was analyzed in terms of the existing dataset, which had previously been collected by another researchers.

4.0 Results And Discussion

4.1 Overview

The collected raw or primary data came up with the constraints that hinder the use of and access to ICT in promoting human rights in the study area. The qualitative method of coding was used to analyze data. Moreover, both qualitative and quantitative data analysis were done through SPSS.

4.2 Socio-Economic Characteristics of Respondents

4.2.1 Sex

The study interviewed a sample size of forty (40) respondents whereby both men and women were involved in which 50% of the respondents were men and 50% were women. This happened because the study was proposed to equally cover both the sexes in order to understand how men and women understood the constraints facing the use of and access to ICT in promoting human rights. Table 1 shows the distribution of the sex of the respondents.

4.2.2 Age

The respondents belonged to different age groups. 82.5% belonged to the age group 18-39 and 17.5% belonged to 38-59 years. Most belonged to 18-39 because this group includes those who are more interested in using ICT tools such as mobile phone, radio and television compared to other age group. Therefore, they have more chances of understanding the constraints limiting the access to and the use of ICT in promoting human rights. Another reason was that those belonging to this age group were more likely to be aware of the concept of human rights. Table 1 shows the distribution of age of the respondents.

4.2.3 Marital Status

The respondents were of different marital statuses - 30% of them were married and 5% were divorced. A majority of the respondents were single because most of them belonged to the 18-39 age group. Table 1 shows the distribution of marital status of respondents.

4.2.4 Level of education

The respondents were of different level of education; 2.5% of them had adult education, 32.5% primary education, 35% secondary education and 30% post-secondary education. Therefore, majority of the respondents had at least secondary level of education. This is because most of the respondents belonged to the 18-39 age group. This influences the awareness of people about human rights and the constraints facing access to and use of ICT in promoting human rights. Table 1 shows the distribution of the level of education of the respondents.

4.2.5 Occupation

The interviewees belonged to different occupations; 42.5% of respondents were agriculturists, 12.5% livestock keepers, 30% paid employees, 2.5% mechanics and 2.5% students. Majority of the respondents were agriculturists who face many challenges resulting in their low incomes. That in turn brings in some occupational challenges in accessing and using ICT tools for promoting human rights. Table 1 shows the distribution of occupation of respondents.

Table 1: Socio Economic Characteristics of respondents (n=40)

Socio-Economic Characteristics	Frequency	Percent %
Sex		
Male	20	50
Female	20	50
Age		
18-39	33	82.5
38-59	7	17.5
Marital status		
Married	12	30.0
Single	26	65.0
Divorced	2	5.0
Level of education		
Adult education	1	2.5
Primary education	13	32.5
Secondary education	14	35.0
Post secondary education	12	30.0
Occupation		
Agriculturist	17	42.5
Livestock keeper	5	12.5
Business	4	10.0
Paid employee	12	30.0
Mechanics	1	2.5
Total	40	100

Source: Survey data (2013)

4.3 Challenges facing access to and use of ICT for promoting Human Rights

The results from the study indicate many challenges/constraints in access to and use of ICT for promoting human rights. 17.5% of the respondents said it was the culture of using ICT tools, 25% said language problem and 57.5% said lack of education. Another challenge is not broadcasting human rights programmes at appropriate times; 70% identified this as a problem. For example, other radio programmes are aired at night and during farm hours particularly on Kilosa community radio. This limits the access to human rights information provided by ICT tools particularly to women and men, who remain busy with other activities at that time.

Another challenge is economic constraints; 20.0% of the respondents said lack of access to and control over ICT tools, 55% said low income and 25% said high operating costs of the ICT tools.

Technological problems also constitute one of the challenges in accessing human rights education; 32.5% pointed at difficulties in using ICT tools, 12.5% at network problems and 55% at lack of experience of using ICT tools.

In Kilosa, there are places that deal with ICT service such as mobile phone repairing. The respondents sometimes fail to repair ICT tools like computer/mobile phones because of a shortage of spare parts. Making proper inquiry on how to use some of the ICT tools such as computers is a problem. Even those who work in such areas have little knowledge on the matter in hand.

Inequality between men and women is another challenge in accessing human rights information provided by ICT tools; 60% of the respondents said there was inequality. The inequality resulted from various factors. 40.0% of the respondents said ICT tools are dominated by men. The reason for this is that men mostly own the household resources/incomes and they are the ones who make the family decisions. 35% said lack of awareness among women results in poor access to the ICT tools. 25% pointed at gender inequality which means that men dominate the ICT tools compared to women; hence men benefit more than women from using or accessing the ICT tools.

However, as found by Mushi (2009), low awareness and accessibility to ICT tools occurs due to high costs of purchasing, maintaining and daily fund to purchase airtime voucher. Also, another factor is that research institutions rely heavily on donor support to acquire ICT facilities. Other factors are: inadequate ICT experts and under utilization of ICT facilities. Most ICT tools are underutilized due to low level of ICT competencies. In addition, there is a lack of local content; hence the benefits of ICT are not realized. For instance, most contents found on the Internet are in English, which is not a language that everyone in the study area understands.

The results also support the finding of Selvester (2005) which states that affordability of other technologies and ICT tools available is difficult for a majority of people in rural areas. The cost comes from the devices, airtime and charging since many rural areas have no electricity. Most rural women have insufficient

computer skills to benefit from the ICTs. Also, language barriers pose a formidable obstacle and there are substantial difficulties for non-English speakers to interact with the global virtual community. The solution for this is forming groups that can use the Internet in their work. This can help those who do not have the skills.

Therefore, the major challenges facing the access to and use of ICT tools (such as radio, television, mobile phone) in promoting human rights as identified in the study area as: lack of education, problem of radio programmes schedule, low income, inequality between men and women in using and accessing ICT tools such as radio, mobile phones, magazine. From this study, we have identified that women's access to human rights information using ICT tools is mostly limited. Table 2 shows the distribution of challenges in accessing human rights information provided by the ICT tools.

Table 2: Challenges in accessing Human rights information (n=40)

Challenges in accessing human rights info	Frequency	Percent %
Limitation in access of Information		
Culture of using ICT tool	7	17.5
Language problem	10	25.0
Lack of education	23	57.5
ICT perform their session on appropriate time		
Yes	12	30.0
No	28	70.0
Economic constraints		
Lack of access and control to ICT tool	8	20.0
Low income	22	55.0
Running costs of ICT tools	10	25.0
Technological problems		
Difficulties to use ICT tools	13	32.5
Network problem	5	12.5
Lack of experience of using ICT tools	22	55.0
Men and women benefits equally from ICT		
Yes	16	40.0
No	24	60.0
Factor for inequality		
Gender inequality	10	25.0
ICT tools are dominated by men	16	40.0
Lack of awareness	14	35.0
Total	40	100

Source: survey data (2013)

4.4 Knowledge on ICT in Provision of Human Right Information

The results indicate that 50% of the respondents understand the concept of human rights. 40% identified human rights education; 20% mentioned freedom of expression, 7.5% access to social services, 5% participation in decision making, 15% mentioned freedom to worship. A total of 77.5% of the respondents understands the roles played by ICT tools in promoting human rights.

However, as found by Rao (2012), many citizens remain unaware of the assistance available through the ICT tools. There is a need for digital education, awareness or sensitization and capacity-building about the potentials of social media for promoting human rights issues. Also, awareness is important regarding the role of Internet in enabling access to information or knowledge particularly in terms of access to cultural goods and heritage and promoting human rights.

Table 3: knowledge on human rights issues through ICT

Knowledge on human rights	Frequency	Percent %
Meaning of human rights		
Understand the concept of human rights	20	50
Do not understand the concept	20	50
Example of human rights they know		
Education		
Yes	16	40.0
No	24	60.0
Freedom of expression		
Yes	8	20.0
No	32	80.0
Access to social services		
Yes	3	7.5
No	37	92.5
Participation in decision making		
Yes	2	5.0
No	38	95.0
Freedom of worship		
Yes	6	15.0
No	38	85.0
Understand the role of ICT on human rights		
Yes	31	77.5
No	9	22.5
Human rights mostly obtained through ICT		
Freedom of expression	26	65.0
Freedom of association	7	17.5
Participation in decision making	7	17.5
Total	40	100

Source: Survey data (2013)

The most accessed human rights issue through ICT tools is freedom of expression and participation in decision-making. Therefore, most respondents have knowledge about human rights and understand the roles ICT tools play in promoting human rights. Also, there is low awareness regarding the use of ICT tools for such purposes; hence it limits the chance of being educated on human rights issues through the ICTs. Table 3 shows the distribution of human rights knowledge through ICT.

4.5 Accessibility of ICT tools which promote human rights

The results from this study indicate that the most accessible ICT tools that promote human rights are as follows: 65% respondents access radio, 10% TV, 17.5% mobile phone and 7.5% Internet.

The results also indicate that inequality in accessing ICT tools between men and women is the challenge that limits the scope of ICT tools in promoting human rights. 80% of the respondents identified this challenge and men are the one who benefit way more than women. In addition, citizens do not have access to human rights information through ICT tools at any time they want. The results show that 82.5% of the respondents identified this challenge saying ICT tools sometime did not have programmes or systems that emphasize on raising human rights awareness.

However, as found by Gronlund et al.(2010), the Internet has a potential to connect over a billion people with unprecedented access to information and communication tools (ICT) but the challenge remain because most citizens have no or limited access to it due to illiteracy and poverty. Another study by Karemela et al. (2012) shows that access to the ICT tools in rural areas is limited due to low levels of literacy and connectivity problems.

Therefore, one of the major constraints for accessibility of ICT tools is inequality

Table 4: accessibility of human rights education provided through ICT tools

Accessibility of ICT tools	Frequency	Percent %
ICT tools mostly used		
Radio	26	65.0
TV(television)	4	10.0
Internet	3	7.5
Mobile phone	7	17.5
Equality in accessibility of ICT tool between men and women		
Yes	8	20.0
No	32	80.0
Accessibility of human rights information at any time		
Yes	7	17.5
No	33	82.5
Total	40	100

Source: Survey data (2013)

between men and women – men have more access than women. Also, some of the ICT tools (e.g. Internet) are not easily accessible to people in rural areas. This limits accessibility of human rights education through ICT. Hence, these constraints limit achieving ICT policy objectives which emphasize on giving special attention to providing new learning and ICT access opportunities for women and youth, the disabled and disadvantaged, particularly disenfranchised and illiterate people, in order to address social inequalities and promoting human rights. Table 4 shows the distribution of constraints in accessing human rights education provided through ICT tools.

4.6 Ways to solve Limitations of ICT in Promoting Human Rights

The results from this study comprise different views from respondents on how to solve the problems/constraints in the contribution of ICT in promoting human rights. 85% of the respondents said the problem could be solved by taking into account the suggested solution; 47.5% suggested provision of education, 22.5% suggested investing in ICT tools and improving networks; 20% said appropriate time to air radio programmes should be considered, 17.5% proposed controlling the cost of ICT tools, 5% suggested making electricity more available, using easily understood language, ensuring participation of both men and women in decision making, and 2.5% suggested using easily accessible ICT tools.

Also, there have been various initiatives such as the education policy on ICT use. Students may have different levels of access based on the subjects they opt for; example: students taking computer studies have greater access to computers. The students who enjoy greater access to computer rooms are those participating in cyber schooling and computer clubs, science students and club members (Sara et al., 2010).

Furthermore, the Women Fund Tanzania (WFT) was introduced to empower local women heroes through pilot programs that address inequality between women and men, and unequal power relations by supporting rights initiatives of marginalized women and girls such as those living in abject poverty, those living with HIV/AIDS, the sex workers, the disabled, house girls/domestic workers, adolescents and/or those who have been trafficked (Women fund Tanzania, 2012).

Therefore, the constraints facing ICT tools in promoting human rights can be solved through provision of education, investment in ICT tools and improved networks. Also, appropriate time must be considered in setting priorities in scheduling human rights programmes on radio and TV. Table 5 shows the possible ways in which the problems can be solved.

The study found the following challenges: limited accessibility of human rights, knowledge of people on the human rights campaign provided by ICT tool, and accessibility.

Based on the research design, the findings had provided the constraints which face access to and use of ICT in promoting human rights and the possible solution that can be used to solve the problem and can facilitate the implementation of the

national ICT policy. The study by Magalla (2013) shows that ICT in Tanzania does promote human rights rather than demoting human rights as per National ICT policy.

Table 5: the possible ways to overcome the constraints of access to and use of ICT in promoting human rights

Ways to overcome limitations of ICT	Frequency	Percent %
Use of easily accessible ICT tools		
Yes	1	2.5
No	39	97.5
Provision of education		
Yes	19	47.5
No	21	52.5
Controlling costs of ICT tools		
Yes	7	17.5
No	33	82.5
Availability of electricity		
Yes	2	5.0
No	38	95.0
Invest in ICT tools and improve networks		
Yes	9	22.5
No	31	77.5
Use of easily understandable language		
Yes	2	5.0
No	38	95.0
Participation between men and women in decision making		
Yes	2	5.0
No	38	95.0
Consideration of appropriate time		
Yes	8	20.0
No	32	80.0
Total	40	100

Source: Survey data (2013)

According to Magalla (2013), the promotion of human rights through ICT is recommended to be mixed with other approaches because of its effectiveness, efficacy and efficiency in terms of the following factors:

- Political participation can be done freely using ICT.
- Speeding up the transfer of information;
- ICTs facilitate access to legal material and knowledge;
- ICTs provide an enabling environment for the globalized world. With mobile phones and other ICT tools like Internet and radio, people can now easily communicate and understand the world anytime, anywhere.
- It has promoted human rights and freedom of speech.
- It has promoted human rights by upholding their right to work, association, privacy and to own properties.
- ICTs bring an additional dimension to the exercise of freedom of assembly and association, thus extending and enriching ways of enjoying these rights in a digital environment.
- Information technology is driving nation-states towards greater mutual cooperation.
- The ICT environment provides some tools to protect intellectual property rights (IPR). The protection of IPR refers mainly to intellectual property, such as patents, trademarks and copyrights.
- The ICTs enhance capacity building for citizens in human rights issues. This is focusing on the use of ICT for human rights education and capacity building.

Further researches have to be done to investigate into the practicability of the ICT policy and affordability and sustainability of the ICT tools that promote human rights (e.g. radio, television and magazine) in different communities. More citizens have started using social media (i.e. Web 2.0) for human rights activism and there is a need to sustain these efforts. The examples of such initiatives are:

- <http://mrushwa.com/> - free corruption reporting
- <http://www.lkulublog.com> - transparency in state activities
- <http://ijuekatiba.wordpress.com/> - transparency and participation in formation of new constitution of Tanzania
- www.wananchi.go.tz - free airing of problems, suggestions and grievances
- <http://www.unglobalpulse.org/> - collecting information anytime for UN decision making
- <http://www.policeforce.go.tz/> - website of police force of Tanzania
- <http://www.jamiiforums.com> - different discussions forum for Tanzania living in and outside the country (i.e. citizens in Diaspora)
- <http://www.chezasalama.com> - educating youth and general public on issues relating to AIDS and HIV
- <http://www.feminahip.or.tz/>

5.0 Conclusion and Recommendations

5.1 Conclusion

In this study, the constraints facing access to and the use of ICTs in promoting human rights were identified. They include socio-economic factors such as lack of education, inappropriate time of airing sessions on human rights issues, low income, lack of experience in using ICT tools like the Internet and inequality between men and women in using ICT tools since they are dominated by men. Poor knowledge on the roles of ICT tools in promoting human rights as well as poor understanding of human rights among the people are also among the findings.

Another factor is the accessibility of ICT tools. A majority of respondents said there was inequality between men and women in terms of access to ICT tools that eventually limited the accessibility of human rights through the ICTs. In addition, some ICT tools such as Internet, telecommunication, magazine and newspapers are less readily available than other tools such as the radio. Hence this limits promotion of human rights through ICT tools.

Other challenges facing access to and use of ICT in promoting human right are related to the poor participation of stakeholders during the formulation of the National ICT Policy. This calls for a participatory approach in formulating and developing the national and organizational ICT policies. According to Twaakyondo (2011), poor participation of key stakeholders leads to: lack of ownership and operational institutional framework, poor coordination during implementation and lack of coherent but integrated implementation strategies for ICT for human rights.

The possible ways to overcome the limitation of ICT tools in promoting human rights are provision of education, investment in ICT tools and improving networks, and setting appropriate times of broadcasting radio and TV programmes on human rights issues.

Therefore, these challenges limit the achievement of the mission of the ICT policy in Tanzania. The ICT policy must strengthen nationwide economic growth and social progress by encouraging beneficial ICT activities in all sectors by providing a conducive framework for investments in capacity building and in promoting multi-layered cooperation and knowledge sharing. The knowledge sharing must be done both locally and globally for promoting peace, stability and unity in good governance for a well-educated and learned society. However, the lessons learnt from this study can be instrumental for ensuring sustainable accessibility of human rights education through the use of the ICTs.

5.2 Recommendations

The conceptual framework contributed immensely in guiding the study that probes into the constraints in accessing and using ICT tools for promoting human rights.

The developments in ICT have revolutionized the way citizens practice human

rights. The recent crisis and uprising in the Middle East left many democratic and non-democratic states in a dilemma (Shirazi, 2008). This is due to the fact that almost anyone, anywhere, has the potential to access an endless source of information and knowledge; also they can communicate directly with the rest of the world (Sanga, 2009). The ICTs provide an avenue where the voice of the voiceless can be heard. Based on the findings from the study which contribute in the field of social informatics (Stillman and Linger, 2009), the following recommendations could be taken into accounts towards either eradication/elimination or addressing some of the constraints that limit the use of ICT tools in promoting human rights.

Recommendation for the ICT Expert

- * A provision on education to the people. This will enhance awareness on their rights. Therefore they will be able to use the ICT tools to know their rights.

Recommendation for the ICT Investors

- * Increase investments and improve networks of ICT tools so that people can have a wide range of accessible services from the ICT tools (e.g. radio, television, internet, mobile phone, telecommunication, magazine)

Recommendations for the Government

- * Ensure availability of electricity in rural areas because most ICT tools require undisturbed power.
- * Ensure equality between men and women in terms of accessing and using ICT tools. Also the implementation of any of the ICTs must incorporate gender issues from the inception of the project up to the end of its life.

Recommendations for the Public

- * Effective use of ICT tools like radio, TV, Internet, mobile phones, telecommunication, magazine and newspapers as introduced in the conceptual framework of this study in order to influence the access of human rights like freedom of expression, freedom of association, participation in decisions making, right to education, right to privacy, right to participate in government and finally lead to the expansion of human rights awareness in the community.
- * Adoption of living labs in the development of social media applications for promoting human rights which are contextualized for the environment of Tanzania. This can be sustainably done by putting the ICT tools in the hands of the citizens from project plan, development, monitoring and evaluation and implementation. By doing so, the citizens can use them for their own purposes, without a third party directing a specific usage of a given ICT tool. This is the basis for the framework proposed by Simpson (2005) which shows how to integrate innovation, diffusion and community development. The framework is relevant for the ICT for human rights projects.

Future study is proposed on evaluating the online culture of the Tanzanians on e-governance websites and social media portals using soft system methodology (SSM). The aim will be to find out how these systems promote human rights issues in the era of cloud computing and human sensor web (Kshetri, 2011).

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Virtually Connecting Village-Market-Institution: A 360° Agricultural Extension Approach to the Application of ICTs in the Globalised Market Economy

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Abstract

People resist changes that appear to threaten basic securities; they resist proposed changes they do not understand; they resist being forced to change.

Edward H. Spicer

Human Problems in Technological Change

Transformation of subsistence rural economies to market economies is already underway. This has led to physical connectivity among villages, markets and places of interest by roads, water and air as an outcome of government efforts. Although the basic principles of agricultural extension remain unchanged, mutating global economy and development in science and technology has put extension service under more stress. This 360° Agricultural Extension Approach assumes that its boundary trend to be collapsed, but departmentisation has made the task to support farmers more complicated. The study concludes that only connections among markets and villages, villages and institutions; and markets and institutions supported limited satisfaction to all the stakeholders irrespective of their positions, unless linkage of villages-institutions-markets are achieved. The present study cautions that ICTs must be the assets of the communities rather than individual properties.

Key Words

Agricultural Extension, ICTs, Villages, Markets, Institutions.

Introduction

Agriculture is the backbone of the rural economies and livelihoods of the developing and the under-developed nations throughout the world. The most interesting thing about the Indian agriculture is that a majority (81.30%) of 11.93 crore operational holdings belongs to marginal and small farmers. Indian agriculture had three contrasting divergences: irrigated agriculture, rainfed agriculture and dryland agriculture. In India, much is yet to be done. Here there are around 3,000 kg/ha paddy field compared to 6,000 kg/ha in China. Similarly, China has more than 3,000 kg/ha in groundnut production, compared to less than 1,000kg/ha in India. The paradoxes of Indian agricultural extension system may be summed up as follows:

- Farmers are aware of their problems and research systems have solutions.
- Farmers are residing in their villages and research stations and experts are away or not always available to farmers.
- An extension system is there but only about 20% farm technology reaches the target population.
- It is a fact that there is a gap between technology diffusion by the extension system and technology adoption by farmers.

Furthermore, Indian agriculture now stands before a crossroads with climate-risk management in agriculture and resource-poor farmers; abundance of small and marginal farmers; gender dimensions; risk taking and dividend return; technology support and input logistics. All concerned are trying to improve the condition of rural people. However until rural economy progresses, it is impossible. Growth of rural economy is positively related with increased income of farmers. Actually, the substantiality of the rise in real income of farmers and progress made in agriculture is measured by advance in income. A number of studies corroborated that rise in income and technology adoption are positively and significantly correlated (Panda, 2014), gains from new agricultural technology influenced the poor directly by raising incomes of farm households (Pinstrup-Andersen et al., 1976; Hossain et al., 1994; Binswanger and von Braun, 1991; Diagne et. al., 2009). Various forms of technology have contributed to improving links to markets and services (Klonner and Nolen, 2008). In the present globalised world, the emerging areas are: group-led extension, market-led extension, public-private partnership-led extension and ICT-led extension (Chandrashekar, 2011). Public systems have created a great knowledge, passing on to partners i.e. millions of farmers, who could participate in sharing agricultural knowledge among their own communities are really engaging in the process of communication and dissemination efforts (Vijayaraghvan, 2011). This is done through ICT technologies in the form of interactive websites, interactive TV, telephone and community radio (Reddy, 2011).

However, one unfortunate thing happens when we develop a technology and deliver to the farmers and do not think about the market of a particular commodity

(Joshi, 2011). It is assumed that agricultural extension is for transfer of farm technology and agricultural economics is concerned with the costs involved with the entire process starting from cultivation to marketing. Departmentalisation has created problems as crop production with technological knowledge but without marketing knowledge will not add to profitability. This implies that there is a need for the truest convergence of these two departments i.e. agricultural extension and agricultural economics. For example, a farmer with seeds and knowledge about cultivation may get a good yield but it will not be sustainable unless he gets good price. The World Bank, Asian Development Bank and the International Fund for Agricultural Development and other international organisations and donor agencies (both national and international) have found that without agricultural development inclusive growth is not possible.

Access to the ICTs is considered important for individuals to fully achieve educational and economic development goals. In fact, access to the ICTs has become so important that nowadays it is called the “digital divide” (M Wolske, 2010)¹. Farmers’ demand for information has increased in recent years due to greater market instability, more complex production technologies, and greater need for financial planning and control. A variety of sources, including print and electronic media, extension, consultants, and farm service firms are potential providers of information on production practices, marketing strategies, and financial analysis (George et al., 1993). It has been highlighted that a strong linkage complemented by flawless information flow enhanced by the use of ICTs will significantly boost agricultural production in developing countries (Arokoyo, 2005). In most developing nations with low-skilled and low-income labour forces, these factors make mobile telecommunications an enticing prospect. Mobile telecommunications can also more easily overcome the geographic hurdles that prevent remote areas from enjoying the benefits of modern communication. The often used example is that of the rural farmer who, with access to prompt information regarding market prices, weather patterns and best practices for the first time on his mobile phone, can better optimize his incomes and improve efficiency (Houghton, 2009).

The following are the ways in which ICT can contribute to improving and strengthening the agriculture sector in India (E-Agriculture in India, 2014)²:

- (a) Timely information on weather forecasts and calamities
- (b) Better and spontaneous agricultural practices
- (c) Better marketing exposure and pricing
- (d) Reduction of agricultural risks and enhanced incomes
- (e) Better awareness and information
- (f) Improved networking and communication
- (g) Online trading and e-commerce facilities
- (h) Better representation at various forums, authorities and platforms, etc.

¹ <https://www.ideals.illinois.edu/bitstream/handle/2142/.../wolske.pdf>, Retrieved on April 15, 2014

² www.e-agriculture.org/sites/.../E-AGRICULTURE%20IN%20INDIA.pdf, Retrieved on May 15, 2014

Conceptual Terms

Information and Communication Technology (ICT): The term “ICT” describes the use of computer-based technology and the Internet to make information and communication services available to a wide range of users. The term is used broadly to address a range of technologies, including telephones. Central to these is the Internet, which provides the mechanism for transporting data in a number of formats including text, images, sound, and video. Additionally, ICT deals with the application layer, the systems that enable information to be collected and distributed, analyzed, and processed (Asian Development Bank, 2003).

Virtual Connectivity: When virtual was first introduced in the computational sense, it applied to things simulated by the computer. Over time, though, the adjective has been applied to things that really exist and are created or carried on by means of computers. Virtual tends to be used in reference to things that mimic their “real” equivalents. The prefix “e” is generally preferred when speaking of the commercial applications of the web, as in e-commerce, e-cash, and e-business. Cyber meanwhile tends to be used when speaking about the computer or of networks from a broader cultural point of view, as in cyberspace³. Connectivity is a “generic term for connecting devices to each other in order to transfer data back and forth. It often refers to network connections, which embraces bridges, routers, switches and gateways as well as backbone networks. It may also refer to connecting a home or office to the Internet or connecting a digital camera to a computer or printer.”⁴

Again, connectivity is the “ability to make and maintain a connection between two or more points in a telecommunications system: a phone company that offers excellent Internet connectivity.”⁵ So virtual connectivity is “not physically existing as such but made by software to appear to do so.”

Globalized Market Economy: A market economy is an economy in which decisions regarding investment, production and distribution are based on supply and demand, and prices of goods and services are determined in a free price system. The major defining characteristic of a market economy is that decisions on investment and the allocation of producer goods are mainly made through markets. This is contrasted with a planned economy, where investment and production decisions are embodied in a plan of production. At present, market spheres are not confined within the geographical boundary of the nation, rather they are seamless and lead to transformation to the globalised market economy.

360° Agricultural Extension Approach: The concept of 360° originates in feedback study in organisational behaviour in Human Resource Management, although it is now used in different fields of social and management studies for evaluation. Managing a farm as a cultivator and manager comes under the purview of most of

³ <http://www.thefreedictionary.com/virtual>, Retrieved on May 20, 2014

⁴ <http://www.pcmag.com/encyclopedia/term/40241/connectivity>, Retrieved on May 10, 2014

⁵ <http://www.thefreedictionary.com/connectivity>

the management specializations viz. bookkeeping of farming activities with expenditure, remaining in touch with extension systems for getting consultancy from experts (viz. insect pest management, soil management, fertilizer management, seed selections, etc.) In 360° extension approach, farmers remain as equal partners of the entire process – from crop production to marketing. Agricultural extension is for changing attitudes and practices of people (Ensminger, 1957), for improving farm and home (Blackburn and Flaherty, 1994) by application of content derived from research, accumulated field experiences (Leagans, 1961) and enabling them to adopt improved practices in production, management, conservation and marketing (National Commission on Agriculture, 1976).

According to Ballantyne and Bokre (2003), extension aims at:

- Ensuring wellbeing of individuals and communities;
- Changing production systems so that they improve rural livelihoods and helps sustaining resources;
- Improving agriculture and the social, economic and political statuses of rural communities;
- Improving the wellbeing of farm families;
- Improving farmers' productivity and livelihoods;
- Increasing and improving farmers' incomes and productivity on a sustainable basis;
- Enhancing farmers' production;
- Attaining higher levels of efficiency in the farm enterprise; and
- Ensuring food security and improving rural livelihoods.

Village-Market-Institution linkage is a continuous and uninterrupted process and it is there in different physical (roads, air, water) and virtual (telephone, Internet) orders of state. These physical and virtual connectivity are complementary to each other. Considering the time of travel, perishable nature of agricultural and allied produces and market linkages, the virtual connectivity got more priority for better physical logistics. While the 360 degree Agriculture Extension approach is in momentum, it implies that at any time and on real-time basis, farmers can reach for all types of information for wise and reasonable decision-making.

Basic Assumptions

- Agricultural growth can reduce rural poverty.
- ICTs are for communities, not just individuals.
- The ICT tools themselves can do nothing without stakeholders' participation.
- Community/joint strong leadership is essential for the success of ICT initiatives in rural areas.

- Digital exclusion leads to economic exclusion vis-a-vis.
- Multinational companies are willing to support ICT initiatives. Public-private partnership (PPP) is the future of ICTs for agriculture development.
- Bridging the digital divide is a continuous process.
- Simpler technologies in ICT may fetch better results.
- Digital divide can be addressed through virtual/wireless connectivity.
- Revolution in mobile telephony has huge potentiality for ICT.
- Development of ICT infrastructure in rural areas must be a part of all national infrastructure planning and programs.
- Utilization of ICTs for strengthening the linkage among agricultural policy, research and extension institutions, communities and individuals is a political issue as well as an organizational option.
- Political willingness is the beginning of ICT initiatives.
- Convergence of different departments is possible.
- Rural people may be sceptic in the initial phases of implementation of ICTs.
- Initial ICT initiatives may fail and repeated efforts are essential.

Conceptual model of the study

There is a growing appreciation that farmers and members of rural communities need information and appropriate learning methods that were not being met (Greenridge, 2003; Lightfoot, 2003). Evaluation research demonstrates that training and visit systems have not proven themselves to be capable of meeting the demands for appropriate content and learning methods (World Bank, 1999).

Agriculture and allied sectors mean livelihood for most rural people in India and other developing countries. Farmers are connected as villagers to the market and different institutions. Their interactions with and support from state department of agriculture, horticulture, animal husbandry and fisheries are important components of sustainability. They also have connection, although minimum, with the Krishi Vigyan Kendras (KVKs). These departments are connected with the Indian Council of Agricultural Research (ICAR), state agricultural universities (SAUs), various research stations and the KVKs. Farmers dependence on markets especially under the liberal economy has become more important in comparison to the controlled markets that existed in the past. Farmers' connection with institutions and markets are physical and virtual (See Appendix, Figure-1).

In case of farming as livelihood and when crop husbandry is the main component of farming, there are three distinct phases/stages viz. pre-cultivation (including crop selection, land selection, calendar definition, access to credit, etc.); crop cultivation and harvesting, (including land preparation and sowing, input management, water management and fertilization, pest management, etc.); post-harvest, (including marketing, transportation, packaging, food processing, etc.). These three phases had ICT interaction (See Appendix, Figure-2).

ICT as linkage between the farmer and market:

Farmers require information to link various inputs at reasonable prices, and also link output markets (Adekunle et al., 2004). The Village-Market linkage is a process and ICT as a tool completes the circle. ICT has three distinct strands with overlapping sharing: farmers knowing about inputs (seeds, fertilizers, pesticides, etc.) and outputs (vegetables, fruits, cereals, etc.). In ICT domain, purchasing and selling are continuous processes (See Appendix, Figure-3).

The World Bank's ICT in Agriculture e-Sourcebook (2011) pointed out that market information to farmer might be provided through diverse tools: mobile, radio and Internet. Among these, especially with mobile phones, farmers can:

- make more informed decisions** on where and when to sell the output;
- bypass or bargain with middlemen** (enhancing negotiation prospects);
- make better risk mitigation decisions** based on localized weather; and
- Be more aware** of demanded products, scarce agro-inputs, and availing subsidies.

Inequity in access to information on agricultural value chains and agribusinesses allows those with information to take advantage of those without it (often farmers), even though much of the information is technically within the public domain. Three types of ICT solutions are there for agricultural value chains and agribusinesses management, categorized in terms of the end result for the consumers: ICT for production systems management, ICT for market access services, and ICT for financial inclusion (Miller, et. al. , 2013) (See Appendix, Figure-4).

ICT for production systems management:

Specialized information services provide data to improve farmers' productivity, yields and profitability during the course of their normal business of growing agricultural produce:

Short-term productivity: Typically, information such as weather updates is readily available at low or no cost (often subsidized by the local governments). However, farmers do not have access, often timely, to this data.

Crisis management: Crisis management information services essentially help to prevent losses (rather than raising productivity) viz. weather-based plant disease management.

Long-term productivity: Long-term productivity information services cover topics that take longer to learn and are often offered with other technologies and channels, such as face-to-face training or extension agent support. Benefits from such services are generally realized at a much later date.

Risk management: Risk management information services are also long-term in scope, but as with crisis management, they help farmers avoid losses rather than increasing productivity.

ICT for market access:

Market access ICT services are those that provide beneficiaries, especially farmers, with access to information on pricing of agricultural products (inputs and outputs) and on finding and connecting to suppliers, buyers or logistics providers, such as storage facilities and transport companies. They include:

Pricing: The most common ICT intervention for the agricultural value chain is a pricing service in which commodity price information is pushed out to customers on a regular basis. This data is often national or regional in scope, and so may not be entirely relevant for the farmers, depending on his/her proximity to markets.

Virtual trading floors: Virtual trading floors (VTFs) are electronic marketplaces where buyers and sellers connect through an electronic network (as opposed to pricing services, which mostly only provide static information). The important difference between VTFs and traditional trading floors is that the buyers and sellers on a VTF do not have to be physically at the same location to make an exchange.

Holistic trading services: Holistic trading services essentially provide the same services as pricing information services and VTFs, with additional assistance beyond the simple transactions of purchasing and buying agricultural products. Such assistance can include weather information, technical information on agricultural practices, and long-term education such as e-choupal of ITC Ltd.

ICT for financial inclusion:

The primary types of financial services offered through ICT solutions for value chains are transfers and payments, credit, savings, insurance and financial derivatives. ICT can help improve rural communities' access primarily by convincing financial institutions to enter potential rural markets through unconventional methods such as:

Transfers and payments: This service is generally called direct person-to-person (P2P) service. These solutions are often offered by mobile network operators (MNOs) rather than banks, as they provide a simple cash transfer service.

Credit: Large credit programmes through governments have often failed, but in recent decades there has been a significant rise in access to private credit providers, such as input suppliers, lead buyer firms, speciality lenders, microfinance institutions and banks, which all require at least sustainability if not profitability.

Savings: More compelling solutions may be found in other financial services such as savings and insurance, both of which are often ignored in the preference for credit. The rural poor need financial services that are convenient, flexible and secure, especially for their own money, i.e. savings.

Insurance: ICT can be a significant contributor to improvement in the adoption and administration of insurance as policy renewals are historically very poor

(potential solution: short message service [SMS] reminders), trust between customers and insurance companies is generally low, and the available data for appropriate pricing of policies and monitoring of potential risk events is inadequate.

World Bank's ICT in Agriculture e-Sourcebook (2011) noted that despite the benefits that farmers glean from using market information systems (MISs), plenty of challenges remain. These are:

- 1) Most services (and almost all of the paid services) are accessed by comparatively well-off farmers. Such farmers are often early adopters of new technologies because they have the ability to pay, take risk and are more educated.
- 2) If SMS messages are not provided in farmers' native languages, they face difficulty in interpreting the messages and responding to them. This is further pronounced where literacy is low.
- 3) Scalability is questionable. Most market information services that use ICT are in their pilot stages.
- 4) Impact is not yet clear, especially pinpointing exactly who benefits from these services.
- 5) The environment surrounding the farmer is not always enabling, preventing the farmers from converting "information" into "benefits."

ICT as linkage between Farmers and Institutions:

Life and livelihood of farmers depend on a number of institutions such as local governance institutions (Panchayat Raj Institution [PRI], Department of Agriculture, Horticulture, Animal Husbandry and Fisheries for the agriculture and allied sectors, Nationalized Banks, co-operatives, educational institutions, healthcare institutions and also indirectly with state agricultural universities (SAUs) and the Krishi Vigyan Kendra [KVKs]) through a number of projects, trainings and consultancy. These institutions are located either near or far from the villages. The connection with the nearby institutions are more convenient in contrast to the far-off ones. This connectivity is held either by roads or virtual means such as a phone call. For all cases of day-to-day activities of farmers, they need not to be present physically; instead, virtual connectivity is enough. Virtual connectivity saves time and money and gets real-time information. For example, for getting weather related information, farmers need not to visit weather stations; a text message to his mobile phone is enough to serve as real-time information for him to make reasonable decisions.

Barriers to ICT adoption and possible solutions:

ICT programme implementation depends on infrastructure, government policy, cultural factors, organisational factors, and human resources. ICT implementation has faced problems in developing countries in terms of infrastructure and Internet connection, human resources, policy support from government and pedagogy (Soekartawi, 2005). ICT readiness is crucial for its successful application accruing

the benefits. In the first stage of ICT readiness, technology is new to a country or a region and the readiness of its people to adopt is a crucial issue (Kauffman and Kumar, 2005). ICT readiness assessment allows one to design comprehensive e-learning strategies and effectively implement ICT goals (Kaur and Abas, 2004). The assessments also help a country's leaders to measure and plan for ICT integration, focus their efforts and identify areas where further attention is required (Krull, 2003). The following are some barriers to ICT adoption and possible solutions:

Barriers to ICT adoption	Possible solutions
Lack of physical and human resource infrastructure in villages	<ol style="list-style-type: none"> 1. Development of community computer centres 2. Compulsory computer education starting from school level 3. Involvement of private parties for construction of infrastructure 4. Utilizing educated local youths by training them
Unnecessarily blocking workable older technologies by new technologies	<ol style="list-style-type: none"> 1. Evaluating the existing media and modes of communication 2. Discussing the new technologies with the communities 3. Trying in small scale or pilot basis 4. Comparing the performance of new technology with the old ones 5. If old technology with minor modification or addition can perform well, deciding not to tempt to replace it with new ones. 6. Giving importance to traditional media 7. Keeping options open for basket choices
Time consuming nature of and cynicism about initial investments	<ol style="list-style-type: none"> 1. Being patient until stakeholders are convinced 2. Trying in small scales and showing the results
Lack of understanding about what ICT can do including unexpected deviations from initial expectations by farmer and the community	<ol style="list-style-type: none"> 1. Give emphasis in peer learning 2. Travelling with stakeholders to places where the solution has been successful from the idea that "Seeing is believing"
Lack of leadership among agents of change	<ol style="list-style-type: none"> 1. Training and retraining of change agent for imparting technological knowledge and skill 2. Logistic support for the change agents
Lack of local and/or suitable information on ICT tools	<ol style="list-style-type: none"> 1. Linkage with farmers should be strengthened 2. Bringing their problems into the research domain 3. Noting the findings about ICT tools after discussion with farmers/trial/demonstration, etc

Conclusion

Agriculture is the backbone of rural economy and the livelihoods of developing and under-developed countries. The World Bank, the Asian Development Bank and the International Fund for Agricultural Development and other international organizations and donor agencies (both national and international) have found that without agricultural development inclusive growth is not possible. All concerned are trying for improve the condition of rural people through agriculture. Among all the initiatives, emerging areas are: group-led extension, market-led extension, public-private partnership-led extension and ICT-led extension for agricultural development. A variety of sources, including print and electronic media, extension, consultants, and farm service are the potential providers of information flawlessly. With access to prompt information regarding market prices, weather patterns and best practices for the first time on the mobile phones of farmer can better optimize incomes and improve efficiency. In the 360° extension approach, farmers remain equal partner to the whole process – starting from crop production to marketing – and this needs institutional support. The ICT helps farmers make more informed decisions, bypass or bargain with the middlemen, make better risk mitigation decisions, be more aware of products that are high in demand. The ICT is also used for crisis management, risk management and as virtual trading floors and holistic trading services.

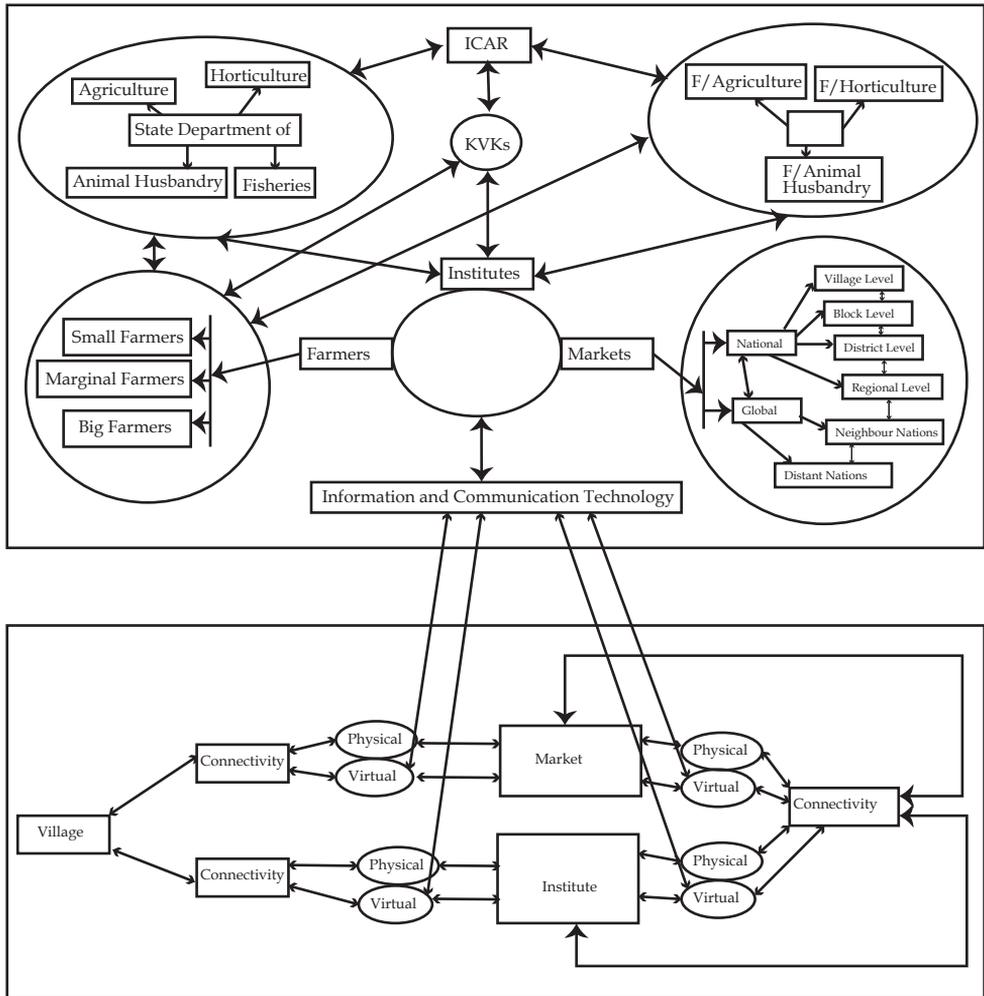
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Appendix



ICAR = Indian Council of Agricultural Research, SAUs= state agricultural universities, KVKs= Krishi Vigyan Kendras, F= faculty

Figure 1: Conceptual model of the study

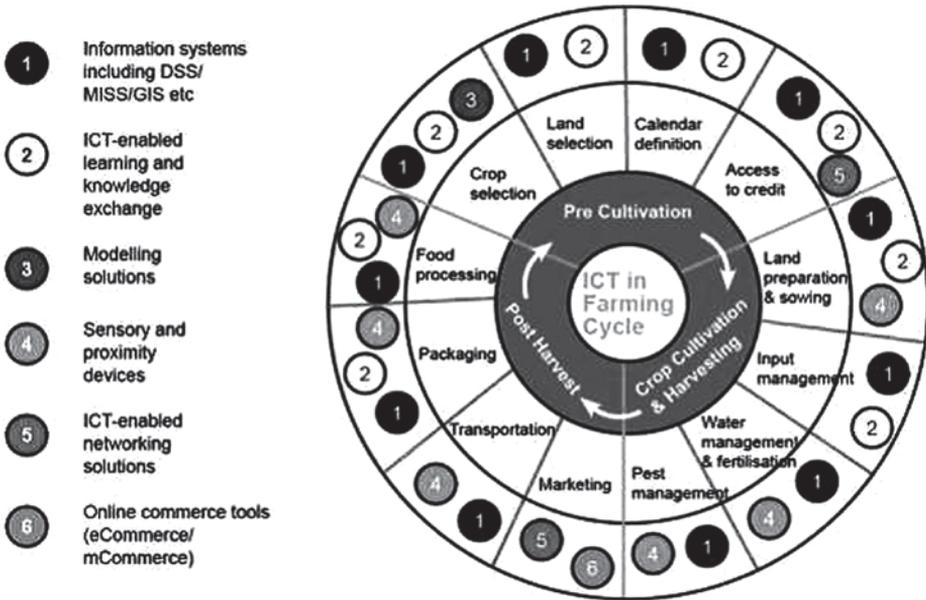


Figure 2: Information and services requirements for different stages of crop lifecycle and a snapshot of possible ICT solutions that could be used for each of these stages

Source: siteresources.worldbank.org/.../Resources/.../Agriculture_FullReport.pdf, Retrieved on May 23,2014.

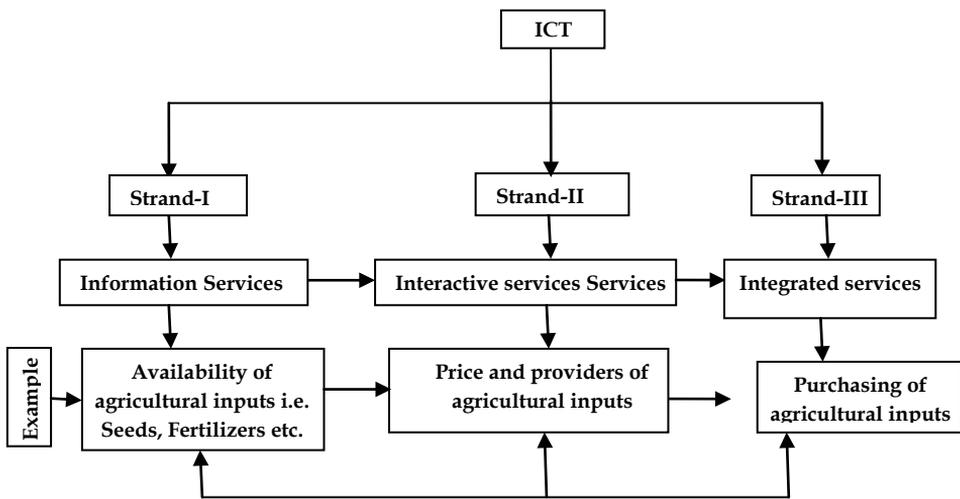


Figure-3: Overlapping sharing of different ICT services

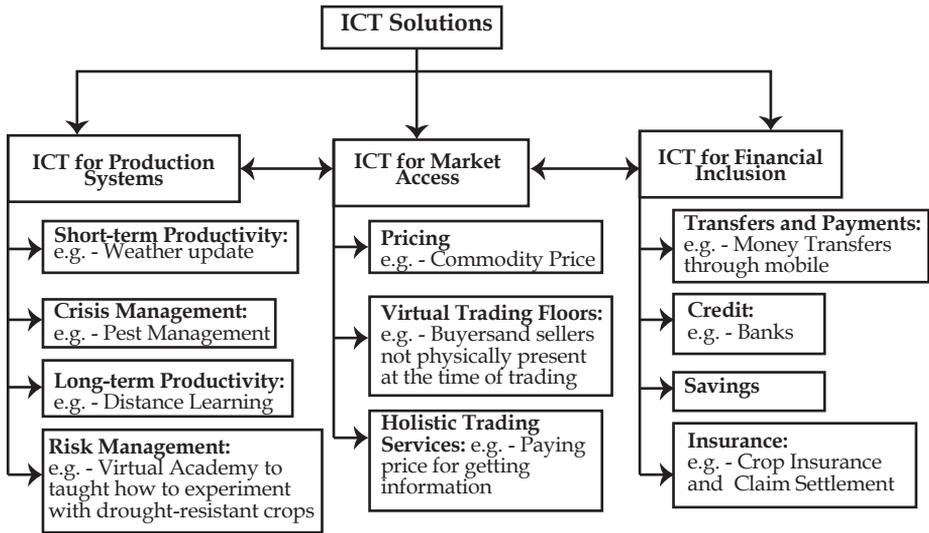


Figure-4: ICT solution for agricultural value chains and agribusinesses management for farmers

INTRODUCTION

Internet and mobile phone penetration has opened-up new horizons for ICT based services to benefit communities at the bottom of the pyramid. Primarily driven by donors, development agencies, local and international NGOs, civil society, mass media, these services have extended even to the rural areas. Telecenter networks, for example, have reached previously inaccessible places using nonprofit and for profit models.

Although a large amount of work has been done in using ICT for Development, there has been no conscious effort to explicitly capture these initiatives. Hence, there is a pressing need to document success stories, lesson learnt and shortcomings. There is a call to write case studies on projects, programs and policies in this regard. As knowledge has become central to development, it is timely to publish a journal that specializes on ICT for Development issues. Academicians, practitioners and researchers can use the journal as a reference point for their work. It will contribute a great deal to strengthen knowledge management. Simultaneously, it will also enable them to share their experiences, works and knowledge.

OBJECTIVES

The ultimate objective of the working paper series is to articulate, capture and document success stories, best practices, lessons learnt and shortcomings of ICT4D projects or researches in developing countries.

TOPICS:

Academics/researchers/practitioners are invited to submit their work that addresses issues related to adoption, diffusion, and implementation and monitoring/impact assessment of ICT for development projects in developing countries. In fact, ICT4D being a crosscutting issue the working paper series will feature writing from almost any sectors or area namely E-Agriculture, E-Livelihood, E-Governance, E-Health, E-Education, E-Commerce, E-SME, E-Environment, Climate Change, etc in relation to ICT. The WPS encourages papers that are problem-finding, problem solving, forward-looking, sharing relevant experiences and investigating controversial and important issues.

AUDIENCE

The target audience of this working paper series are those who wish to learn how to encourage adoption of ICT, applications and impact assessment, and also researchers who are interested in the diffusion of ICT for developmental projects in developing countries. Therefore, the target audience includes ICT service providers, policymakers, and academics/researchers, students of social science, information systems, and information technology and development studies.

SUBMISSION REVIEW PROCEDURE

Researchers and practitioners will be asked to submit an abstract of the paper. Those whose abstracts have been approved will be invited to submit complete papers. Papers must be written in English. The full paper must be between 4,000 to 9,000 words including all diagrams and references, and in MSWord or PDF format. All submissions must have names, affiliations and full contact details (including email addresses) of all authors. Authors should utilize the APA Stylebook.

All submitted papers will be reviewed on a double-blind review basis by two unanimous reviewers. The reviewers will be selected by the editorial. The reviewers will provide constructive feedback to authors upon acceptance and rejection of the article. Articles submitted for publication are evaluated according to the following criteria:

- | | |
|-------------------------------------|---|
| o Significance of the topic | o Appropriateness to the Working Paper Series |
| o Adequacy of the literature review | o Development of concepts/hypotheses |
| o Quality of research design | o Adequacy of data analysis |
| o Legitimacy of conclusions | o Significance for practice |
| o Contribution to literature | o Clarity of presentation |

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