STUDENTS USAGE OF FACEBOOK TO ENHANCE LEARNING IN HIGHER EDUCATION

A THESIS SUBMITTED TO THE GRADUATE SCHOOL OF APPLIED SCIENCES OF NEAR EAST UNIVERSITY

By

NASHWAN ABDULKAREEM DUHOKI

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I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

Name, Last name: Nashwan Abdulkareem Duhoki
Signature:
Date:

To my family and friends

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ABSTRACT

Social network sites such as Facebook are constantly undergoing massive changes in their architectural design and overall system performance. These changes are arousing the interest of many researchers with the hope of integrating the technology into the educational sector. The aim of the study was to investigate students' perceptions on using Facebook to enhance learning in higher educational institutions. An online questionnaire was used for this study. The link was distributed electronically to students currently enrolled at Duhok University in Northern Iraq. 308 students participated in the survey. Descriptive statistics and Pearson product-moment correlation was used to analyze the data and test the relationship between the dependent and independent variables. Findings revealed that Facebook adoption has a significant positive relationship on Perceived Usefulness and Ease of use. There was also a significant positive relationship between Educational usage and Communication. In addition, results also showed that there was no significant influence between Educational usage and two variables (Collaboration and Materials and Resource Sharing) as well as between Facebook adoption and Educational usage. On the other hand, findings also revealed that Facebook adoption does not have a significant influence on Social Influence, Facilitating Conditions and Community Identification. Furthermore results showed that Perceived Usefulness is deemed as the most important factor in considering Facebook adoption. Information provided in this study will be beneficial to governments, teachers, students, academic institutions as well as other researchers who are interested in the same area of study.

Keywords: Facebook, Facebook adoption, higher education, social media, northern Iraq, e-learning

ÖZET

Facebook gibi sosyal ağ siteleri sürekli değişikliklere uğramakta ve mimari tasarımı ile sistem performansları artırılmaktadır. Bu değişiklikler teknolojiyi eğitim sektörü ile birleştirmeyi arzulayan birçok araştırmacının ilgisini çekmektedir. Bu çalışmanın amacı yüksek eğitim kurumlarında öğrenimi artırmak maksadıyle Facebook kullanımını araştırmaktır. Bu çalışmada online bir anket kullanılmıştır. Anket linki İrak'ın Duhok Üniversitsinde eğitim gören bir grup öğrenciye online olarak dağıtılmıştır. Ankete 308 öğrenci katılmıştır. Tanımsal istatistik ve Pearson çarpım momenti korelasyon teknikleri kullanılarak veriler analiz edilmiş, bağımlı ve bağımsız değişkenler arasındaki bağlantılar bulunmuştur.

Elde edilmiş olan bulgulara göre Facebook'un faydalık ve kolay kullanım üzerine önemli positif bağıntısı bulunmuştur. Ayni zamanda, eğitimsel kullanım ve iletişim aralarında da önemli pozitif bir bağıntı bulunmuştur. Buna ilave olarak, elde edilmiş olan neticelere göre eğitimsel kullanım ve iki değişken (birlikte çalışma ve ortak kullanım) arasında önemli pozitif bir bağıntıya rastlanmamıştır. Diğer taraftan, bulgulara göre Facebook kullanımının sosyal tesir ve kurum tanımı üzerine önemli pozitif bir bağıntısı bulunmamıştır. Ayrıca elde edilmiş olan neticelere göre, kullanım faydalılığının Facebook kullanımında en önemli faktör olduğu ortaya çıkmıştır. Bu çalışmada verilmiş olan bilgilerin öğretmenlere, öğrencilere, akademik kurumlara ve ayrıca bu konuda çalışma yapan araştırmacılara faydalı olacaktır.

Anahtar Kelimeler: Facebook, Facebook kullanımı, yüksek öğrenim, sosyalmedya, Irak, e-öğrenim

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SNS: Social Network Sites

NG: Net Generation

HEI: Higher Educational Institutions

CHAPTER 1

INTRODUCTION

This chapter includes the problem statement, aim of study, importance of study, research hypotheses and an overview of the chapters to follow.

Introduction

After its launch in 2004, Facebook has grown rapidly and 2016 statistics show that the social network site now has more than 1.65 billion users with an average of 1 billion active daily users (Lee & Phoey, 2016). Facebook is a social platform that helps people interact and share information online by providing a personalized profile for each user. The tremendous acceptance and growth of this social network has aroused the interest of many researchers and many researchers have undertaken studies in an attempt to find out if integrating this technology into education would enhance the learning process. Seaman and Tinti-kane (2013) and Liu (2012) strongly supports the usage of Facebook as an essential educational tool due to its ability to promote social interaction, improve student participation and therefore the researchers believe it can enhance the overall learning system. Although in the literature many researchers have undertaken study in this area, there haven't been much research done on the adoption of Facebook as a learning tool in Northern Iraq.

1.1 Problem Statement

Regardless of the growing prominence of Facebook among university students all over the world, few studies have been done to investigate the benefits of integrating Facebook as a learning tool at Duhok University, Northern Iraq. To address the issue, the main purpose of this study is to explore the relationship between using Facebook as an academic tool and to determine if the social network site can enhance the learning process. In addition, the researcher seek to portray and bring to the light the idea that social network can be integrated in education without negative impacts on academic grades if properly integrated and students educated on how to use it for their betterment which is contrary to what other researchers suggest (Naghmeh & Aghaee, 2010; Liu, 2012) who are totally against the usage of social media as a learning tool in enhancing the learning process.

1.2 Aim of Study

The aim of this study is to investigate students' perceptions on using Facebook to enhance learning in higher educational institutions.

To achieve the main aim of the study, we test the following hypotheses:

- **H1:** Perceived Usefulness will have a significant influence on Facebook adoption.
- **H2:** Ease of use will have a significant influence on Facebook adoption.
- **H3:** Social Influence will have a significant influence on Facebook adoption.
- **H4:** Facilitating Conditions will have a significant influence on Facebook adoption.
- **H5:** Community identity will have a significant influence on Facebook adoption.
- **H6:** Communication will have a significant influence on educational usage of Facebook.
- **H7:** Collaboration will have a significant influence on educational usage of Facebook.
- **H8:** Resource and material sharing will have a significant influence on the educational usage of Facebook.
- **H9:** Facebook adoption will have a significant and positive relationship with educational usage of Facebook.

1.3 Importance of Study

This study is important to educational institutions, the government, students and researchers.

First: Educational Institutions (Duhok University)

- Liu (2012) explained that using Facebook as an educational tool promotes effective communication and collaboration between instructors and students. This virtual interaction often lead to higher retention rates as students become more connected to their university.
- Social media provides richer content for students which increases their knowledge base and keeps them up-to-date with current affairs. Social media provides resources in different formats such as video, website links, files and audio recordings giving the student a wide range of preference (Seaman & Tinti-kane, 2013).

Second: Government

- The use of information communication technologies (ICT) services through the usage of social media in education results in efficiency and transparency which improves the overall quality of public service delivery and also promotes distance learning (Naghmeh & Aghaee, 2010).

Third: Students

- Lee and Phoey (2016) pointed out that using social media increases students' participation in educational affairs by allowing them to leave feedback to the university promptly on social media pages and it also allows students to stay updated with current educational news.
- Liu (2012) stated that by using social media in the classroom like Facebook, students are able to interact with each other outside the classroom and it can be a useful tool when working on team projects.

Fifth: Researchers

- Not much research has been done on benefits of using Facebook as an educational tool in enhancing learning in Northern Iraq universities. The researcher hopes and believes that this study will draw attention to potential researchers who are interested in the same area of study.

1.4 Limitations of the Study

- The scope of research is limited to students currently enrolled at Duhok University in Northern Iraq with the population consisting of students from all faculties without any restriction.
- The research will be conducted over a short period of time, a longitudinal research should be considered in the future.
- The focus was on Facebook only. Other web 2.0 technologies such as wikis, blogs, social bookmarking should also be considered in finding out their role and impact in enhancing education.

1.5 Overview of the Thesis

This study is divided into six chapters as follows:

Chapter One: General Introduction

This chapter includes the problem statement, aim of study, importance of study, research hypotheses and an overview of other chapters to follow.

Chapter Two: Related Research.

This chapter presents research by other scholars on the same area of interest. It focuses on explaining factors influencing usage of social media in education, benefits of using Facebook in education, Integrating Facebook in education, previous research findings and concerns on using Facebook as an educational tool.

Chapter Three: Theoretical Framework

This chapter is designed as a medium to help institutions considering policies to implement for supporting social media usage in education, technologies to use in education, understanding Facebook distributed system design and steps for integrating Facebook into an education.

Chapter Four: Research Methodology.

This chapter explains the research model, participants, sample selection, data collection and tools, data analysis and the research procedure. Reliability tests are also shown for the survey tool used.

Chapter Five: Results and Discussion

In this chapter, results found are discussed in respect to the fundamental objectives of the research.

Chapter Six: Conclusions and Recommendations

To wind-up the research, in this chapter the researcher gives a short summary of what the research was on and outlines

CHAPTER 2

RELATED RESEARCH

This chapter presents research by other scholars on the same area of interest. It focuses on explaining factors influencing usage of social media in education, benefits of using Facebook in education, Integrating Facebook in education, previous research findings and concerns on using Facebook as an educational tool.

2.1 Factors Influencing Usage of Social Media in Education

Naghmeh and Aghaee (2010) came up with a model to describe the factors that influence students' decisions to use social media as an educational tool. They described three main categories which are demographical factors, contextual factors and behavioral factors which are crucial in understanding a learner interactions in a virtual network environment. Figure 1 below illustrates the significant factors for online student participation.

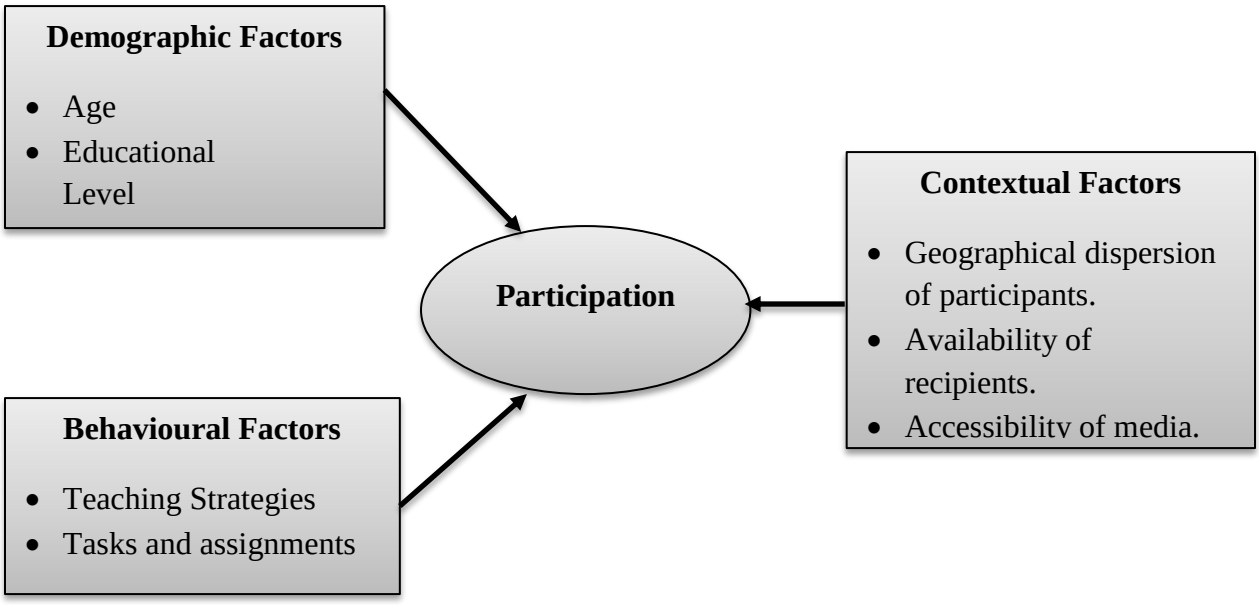

Figure 1: Significant factors for online student participation (Naghmeh & Aghaee, 2010)

Each category will be explained in detail below:

Contextual Factors: According to Naghmeh and Aghaee (2010), this category has three imperative factors namely; geographical dispersion of the participant, availability of the recipients and accessibility of media. Furthermore the researchers explained that these three factors can affect the perceived utility of social media. Students tend to use social media when there is geographical dispersion since students seldom meet face to face and accessing different resources at a distance motivates students to use social media. In addition, availability of the recipient is an important factor in motivating students to use social media. When other students are not available online, others chose not to use the same medium of communication. Furthermore, accessibility of the media is an important key in stimulating a student's satisfaction and desire to use the media. Technical problems and lack of support have a negative effect on ones desire to use social media as a learning tool.

Demographic Factors: The three main factors that fall in this category are age, educational level and learning style. The younger generation in the digital age have more desire to participate in online learning through social media than the older generation. Other researchers level (Gerhard & Mayr, 2002) have indicated that social media usage is more dominant in universities and among distance learning students compared to lower educational levels.

Behavioral Factors: Teaching strategies and tasks play a crucial role in determining whether students will be willing to participate in online platforms. Instructors should be able and willing to motivate, support and enhance students' interests to participate in social platforms. However, on the other hand it is also important for instructors to bear in mind that too much social media control may result in boredom leading to students being unmotivated and confused.

2.1.1 Benefits of using Facebook in education

In the literature, many researchers (Mazman & Usluel, 2010; Irwin et al., 2012; Munoz & Towner, 2009) have identified numerous benefits of incorporating Facebook as an important tool in enhancing education. The following variables have been identified as key components; Interaction, Communication, Social relationship and Participation. Instructors play a crucial role when Facebook is used as a learning tool in that they act as a learning catalyst and knowledge navigator

for the students unlike the traditional classroom setting where face to face play an important role. When using Facebook as a learning tool, the instructor's role is more geared towards active participation in order to motivate students. The interaction that Facebook provides between students and instructors can be beneficial in identifying students learning difficulties, monitoring academic progress of students, motivating students and giving academic advice outside the classroom.

Facebook is designed in such a way that it facilitates communication between teacher and student by enabling students to download learning material and submit assignments online. Active participation, resource sharing, collaboration and critical thinking are enhanced by the tools incorporated in social network platforms (Mazman & Usluel, 2010).

Ease of use provided by Facebook allows students to share resources easily, collaborate, update information, stream videos and enhances communication (Mazman & Usluel, 2010). In a study conducted by Rambe (2012), the researcher found out that Facebook is a valuable tool in academia. In addition, the researcher pointed out that not only does Facebook promote networking but it also enhances the learning experience through promoting visibility of common problems that students faced in learning different course concepts. Instructors are able to identify students with similar problems and can address them individually or as a group by explaining in detail using text or a live video without having to arrange a one on one meeting (Irwin et al., 2012).

In their study, Munoz and Towner (2009) provided an overview of the different ways in which Facebook can be integrated into the learning system as explained below:

- ***Profile page:*** An instructor is responsible for creating a profile page which he/she uses to communicate with students as they interact and share useful educational content.
- ***Creating a group page for a class:*** A course group is an essential tool in communicating between instructors and students. Students can communicate with fellow classmates, share resources and discuss key topics. On the other hand, instructors may also find the group useful in posting and uploading course content as well as reminding students on key events.
- ***Replacing/Duplicating web course functions on Facebook:*** Similar to discussions conducted on web course boards in a traditional classroom, the same concept can be facilitated virtually through Facebook discussion boards and instant messaging.

- ***Integration of Facebook Applications****:* To enhance the learning system students can download add-on features with useful applications that will expand the Facebook functionality.

2.1.2 Integrating Facebook in higher education

In the literature, many researchers (Ractham & Firpo, 2011; Plessis & Smit, 2014) explained the numerous features that Facebook has which instructors can make use of to enhance the learning process. The features and the uses are explained in detail in the table below:

Table 2.1: Useful Facebook features that can enhance the learning process (Plessis & Smit, 2014)

Feature	Collaboration Protocols
Wall	Instructors and students collaborate as they use thumbnails of video clips, images and news to share information on useful educational content. Students also answer other questions posted by their fellow students as they interact online.
Discussion	Knowledge is shared as students discuss certain topics and help each other in understanding and grasping concepts. The threads for discussion are useful for future reference and a good starting point for exam preparation.
Photo	Students can share posts about topics under discussion as well as personal photos as they interact and get to know each other.
Quiz	Instructors can create educational quizzes and share with students on Facebook.
Private message	Students use this feature to communicate with each other outside the groups and other platforms with several participants. Some students prefer to engage instructors using private messages when they are not willing to

	post in the group. Instructors also use this feature to discuss grades or share exam marks with students.
Video	Thumbnails of YouTube videos and other uploaded videos are useful in explaining educational concepts because of the virtual effect they portray.
Comment	Students made constructive comments on each other's posts which is often useful in helping other classmates tackle their assignments more efficient.
Tag	Students often use this feature to alert their classmates on important news for instance tag a friend on a post with lecture notes when your friend missed the class.
Event Calendar	Instructors often use Facebook Event Calendar to remind students of project deadlines, test dates and other useful academic programs going on.
News Feed	Through the news feeds section, students can follow trendy news on their subject making them stay up-to-date with current affairs.

2.2 Previous Research Findings

Liu (2012) conducted a research at the School of Continuing and Professional Studies (SCS) at Chinese University of Hong Kong among university students. 312 students participated in a Facebook learning platform for 5 weeks. The platform enabled students to submit assignments, download course materials, do quizzes and join private study groups. Students were also required to prepare video presentations and upload them for peer review, post case studies on the wall and participate in group discussions. In addition, instructors were also required to update students, answer questions and upload study materials to the group. At the end of the semester 214 students participated in a survey, the results were analyzed and findings revealed that teachers play an important role in motivating students by interacting with them on social media and by being active. The role of teachers become more active as they participate online.

In a research undertaken by Caraher and Braselman (2010) at a university on social network usage among university students, 64% of the students indicated that they use Facebook to connect with classmates and work on class assignments. More than 50% of the respondents mentioned that the greatest benefit of Facebook is that it can be accessed from anywhere, anytime as long as there is internet connection. In addition, students also mentioned that other benefits which include convenience, information-sharing and efficient.

Irwin et al. (2012) conducted a research at Griffith University at the Gold Coast campus in 2011. The sample comprised of 253 students and 4 lecturers from 4 different faculties. Facebook pages for each course were created when the semester commenced. During the semester, lecturer would share information and discuss on the page, students were encouraged to frequently visit the page and like the page as well to establish a connection between the course page and the student's personal Facebook account. When this process was done, the page could appear under the "Activities and Interests" section on the student's page. Lecturers would frequently post lecture notes, tutorial sheets, inform students lecture times and venue and students would receive notifications on their personal accounts. 144 students completed the post-semester survey online, response rate was 67.4%. Findings revealed that of the 12 students who did not have a Facebook account when the semester commenced, 5 of them created Facebook accounts during the course of the semester in order to engage and take part in Facebook course discussion groups. 31.8% of the students commented on posts, 74.6% liked the page and 81.9% constantly visited the page during the semester to check for updates about the course.

A survey by Pearson (Seaman & Tinti-kane, 2013) at the faculty of Education at universities in United States. Findings revealed that there has been an increase in the usage of social media in education from the years 2013 to 2015.Many institutions in the United States are integrating social network platforms in their learning management systems to facilitate sharing of resources as well as promoting engagement between lecturers and students outside the classroom environment.

Lee and Phoey (2016) conducted a research at University of Malaysia to find out if Facebook is a useful tool in enhancing learning of English language. The sample size consisted of 300 students. Findings revealed that learning English on Facebook is feasible and students who used Facebook

to improve their language skills were better in written English and this showed that Facebook is a good platform were students can interact and learn different languages.

In order to understand the usage of social media in education, a researcher conducted interviews at University of Georgia with 13 participants. The participants all managed Facebook accounts for either the admissions department or students activities. Results showed that institutions mainly use social media platform to quickly reach out to students on news regarding events/programs and also to share information about their academic progress (Hall, 2014).

2.3 Concerns on Using Facebook as an Educational Tool

Liu (2012) is against the idea of using social media in education. The researcher argues that the main purpose of social networking was for socializing and was never implemented to be integrated into educational platforms. In addition, he also stated that privacy and security issues are a threat and many teachers are reluctant to use Facebook in education. Furthermore, he emphasized that usage of Facebook in education violates system integration and data integrity.

In the literature many researchers (Naghmeh & Aghaee, 2010; Liu, 2012, Lee & Phoey, 2016; Seaman & Tinti-kane, 2013) pointed out the negative aspects of using social media in education. Although social media has positive benefits to the educational industry and can enhance the learning system, it is also crucial for both students and instructors to be aware of the negative effects of social media. The researchers pointed out that online interaction can never be compared with face-to-face interaction. Online interaction lacks non-verbal cues which are important for understanding and can enhance communication between instructors and students. In addition, the researchers also mentioned that online communication has limited ability of feeling exchanges such as gestures, voice tones and eye contact. Furthermore, online communication have substantial delays in relaying the message and this can result in delays when communicating urgent messages that require prompt responses.

CHAPTER 3

CONCEPTUAL FRAMEWORK

This chapter is designed as a medium to help institutions considering policies to implement for supporting social media usage in education, technologies to use in education, understanding Facebook distributed system design and steps for integrating Facebook into an education.

3.1 Policies Used to Support Educational Learning

In their study, Kingsley et al. (2013) mentioned the issue of policies as important aspects for sustainability and implementation of successful integration of social media into learning management systems. The researchers mentioned the following policies as crucial for successful adoption of social media into the educational system:

I ***Government policies:*** Successful implementation of ICT (Information and Communication Technology) in educational institutions is directly influenced by Government policies. Some governments view usage of social network sites as a threat and hindrance to academic success and therefore restrict their citizens to their access to Facebook, Twitter and YouTube. In China there is a restriction on the usage of Facebook in academic institutions and integrating social network sites into learning systems is prohibited by the Government.

II ***Institutional policies:*** Institutions can choose to permit, limit or ban the usage of social media in education by the policies each institution implement. It is crucial for educational institutions to consider doing workshops and seminars where students are taught the benefits as well as the negative effects of using social media. This kind of education will equip students on proper usage of social media for their academic betterment and professional development rather than limiting social media to socializing only

3.1.1 Social media technologies for enhancing education

In the literature, Naghmeh and Aghaee (2010) explained the different technologies that students use to support their educational interaction and enhance the overall learning system. Communication is enhanced as peers engage online with each other and with instructors as well.

Instructors are responsible for uploading lecture notes and students are at liberty to share educational resources on social media platforms. Figure 2 below illustrates a conceptual model of how students use different web-based technologies to support their learning process.

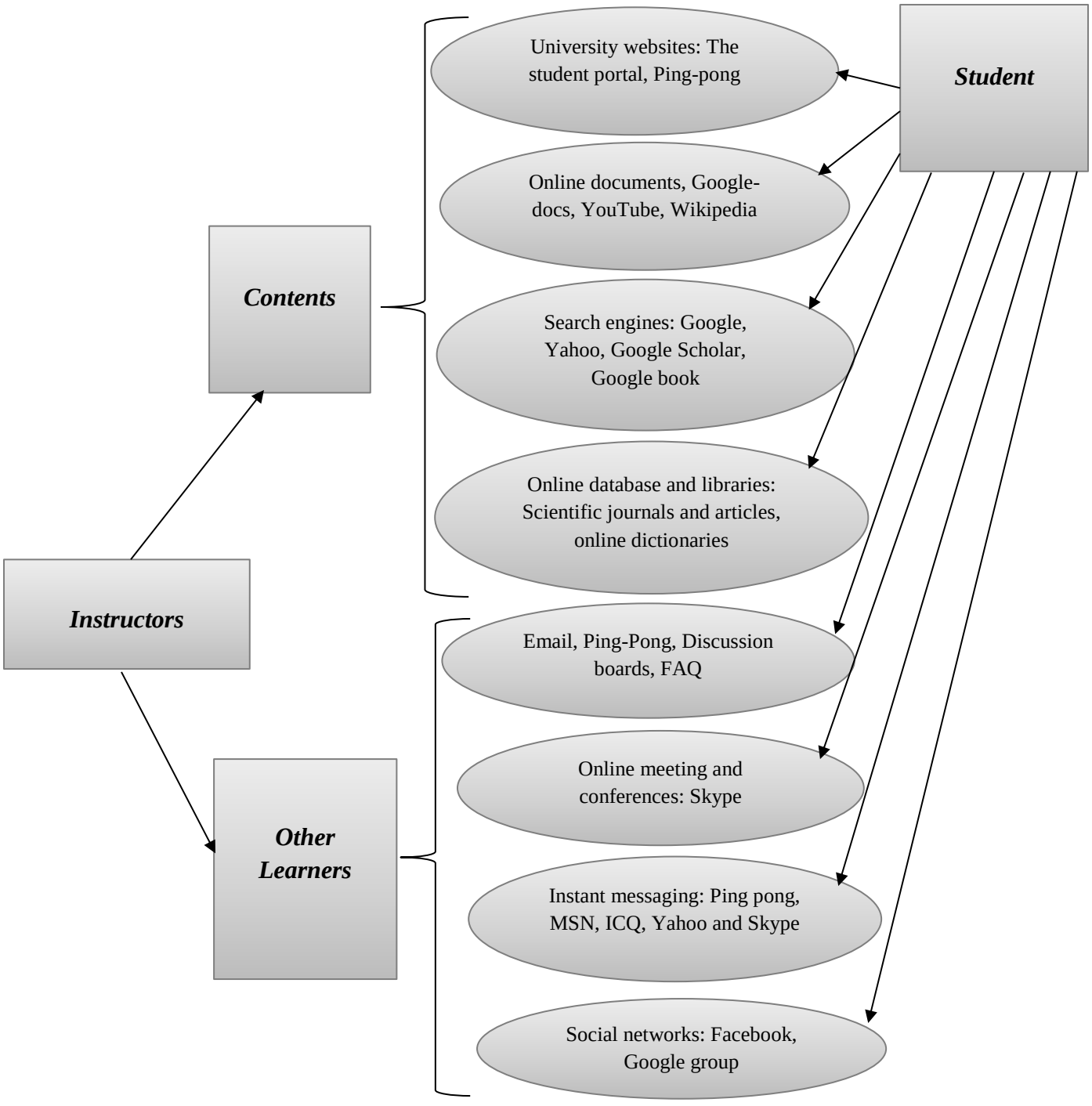

Figure 2: Online technologies used to support educational learning (Naghmeh & Aghaee, 2010)

3.2 Facebook Distributed System Design

Facebook relies on globally distributed and dependent data centers which are centralized in the United States. Salem (2013) pointed out that the major system requirements for Facebook are scalability, availability, openness, reliability and security. Figure 3 below illustrates the system architecture used by Facebook. In addition, the researcher mentioned that Facebook relies on a three tier architecture in which data flows from clients requests following the steps explained below:

a) The web servers are responsible for handling billion requests and aggregating logs that are relayed from different webservers.

b) Once the webservers receive a request, the request is then redirected to the scribe-Hadoop Cluster where logs are aggregated and then communication signals are sent to the Hive-Hadoop servers. The main servers here are the production and ad-hoc servers which are responsible for prioritizing the requests based on delivery deadlines and time constraints. Ad-hoc cluster is responsible for serving low priority tasks and analysis of user activities on historical data sets.

c) The database engine responsible for holding the entire system intact is Federated MySQL database.

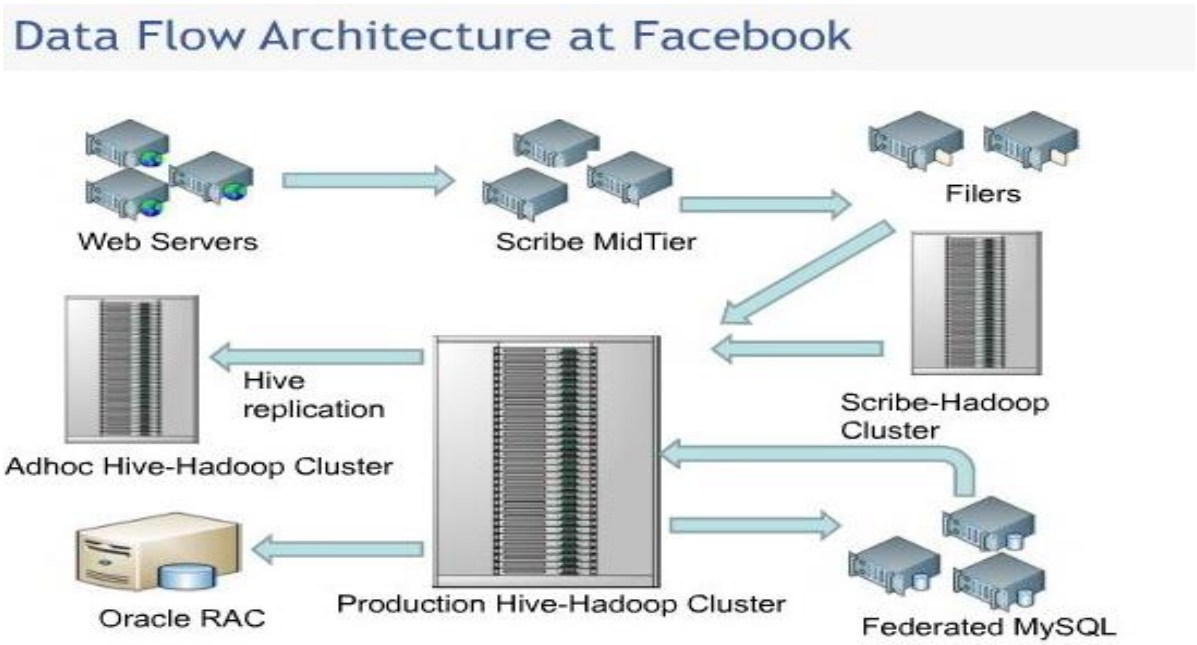

Figure 3: Facebook distributed data flow architecture (Salem, 2013)

3.3 Steps for Integrating Facebook into the Educational Learning System

Phillips et al. (2015) came up with 7 steps for successfully integrating Facebook into the learning system of any institution willing to enhance its learning process by including social media. The steps mentioned by the researchers are explained in detail below:

1. ***Develop and follow a Facebook policy for the Institution***

   Any successful implementation involves agreement between all stakeholders involved. It is crucial for educational institutions to develop a Facebook policy that best meets its educational needs. Stakeholders to be included in the meetings are not limited to instructors, students, IT experts as well as non-academic staff. The policy should be updated from time to time due to changes in the technological sector. Issues which are critical to discuss include usage of Facebook in the classroom, privacy issues, content to be shared and security issues among other issues.

2. ***Encourage students to follow Facebook's guidelines***

   It is important for the Institution to encourage students to follow rules and regulations set forth by the social media platform that is to be integrated into the learning system. As a Facebook user one has to comply the Children's Online Privacy Protection Act (COPPA) which Facebook uses and it prohibits people under the age of 13 years to use Facebook. It is also crucial for students to fully understand the laws regarding internet usage in their respective countries. Institutions should make a list of rules to follow when interacting on social media, appropriate online behavior as well as encourage students to report offensive content to help keep Facebook a safe platform.

3. ***Stay up to date about safety and privacy settings on Facebook***

   The researchers strongly advocate students and the institution to stay up-to-date with safety and privacy settings on Facebook. This will help in creating a safe online environment in which students and instructors can easily share information and resources. It is therefore deemed crucial for students and institutions to review settings and choose the right settings ideal for their needs.

4. ***Promote good citizenship in the digital world***

Students need to be constantly educated on how to become good citizens by the way they share and communicate with other people both online and offline. Furthermore, the researchers explained ways in which a digital citizen is expected to behave as explained below:

- A digital citizen is expected to behave and conduct him/herself in a civil manner online the same way one would behave in the offline world.
- Actions portrayed online must show that one is a responsible citizen.
- It is important to watch what you say or text online to promote a healthy and safe online community.

5. ***Use Facebook's pages and groups features to communicate with students and parent.***

Facebook provides several features and functions that can be integrated into the educational learning system to enhance the learning process. When features are properly used, communication between educational stakeholders is enhanced. Some useful features include sharing lecture notes on Facebook, creating discussion groups, instructors can stream live videos as well as setting calendar events and sending reminders to students about educational events.

6. ***Embrace the digital, social, mobile, and "always-on" learning styles of 21st Century students***

Studies have shown that 85% of American teens have mobile phones (Phillips et al., 2015). When educational institutions are in sync with technological advancements among students such should be taken advantage of and used as a tool in enhancing the educational process. Facebook mobile in education is luring the attention of many researchers and has also brought massive changes in the e-learning world as students can easily connect with each other as well as attend classes online when lecturers send reminders for live streaming sessions.

7. Use Facebook as a professional development resource

Facebook has created a platform where educators can collaborate and share ideas and strategies on how best to use social media in enhancing the educational learning process. The Facebook for Education page (facebook.com/education) is a professional development page with personalized features allowing instructors to select their areas of interest and collaborate with other instructors across the world in their area of interest as they share on tips and best strategies of using social media in education.

CHAPTER 4

RESEARCH METHODOLOGY

This chapter explains the research model, participants, sample selection, data collection and tools, data analysis and the research procedure. Reliability tests are also shown for the survey tool used.

The purpose of the research is to investigate students' perceptions on using Facebook to enhance learning in higher educational institutions. Figure 4 below shows the research model that was used by the researcher. The research model to be used is adapted from a study conducted by Mazman and Usluel (2010). The model has been modified to suit the research under study. The model consists of 10 dimensions Usefulness, Ease of use, Social Influence, Facilitating conditions, Community Identity, Adoption, Educational usage, Communication, Collaboration and Materials and resource sharing

4.1 Research Model

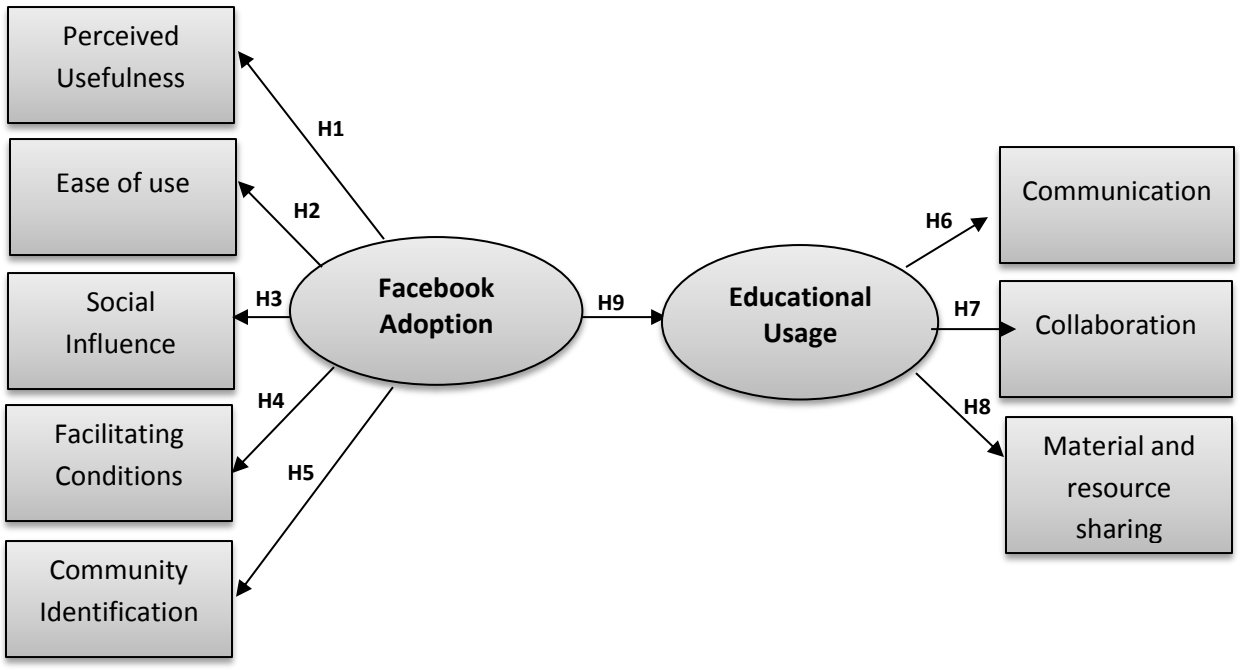

Figure 4: Research model (adapted from (Mazman & Usluel, 2010)

Mazman and Usluel (2010) described the terms used in the model as follows:

- ***Perceived Usefulness:*** This refers to the extent that an individual believes that he/she will benefit from using a new system or technology. In this study, this will refer to the relative advantage gained by using Facebook as a tool in enhancing learning.
- ***Ease of use:*** The extent to which an individual believes that by using a particular system would be free of effort. In this study, it will refer to the degree in which one perceives the usage of Facebook whether its complex to use or its free of effort.
- ***Social Influence (SI):*** The extent ‘;to which one is inspired to use a system by those around him/her. In this study social influence will focus on the extent to which one is influenced by others to use Facebook.
- ***Facilitating Conditions (FC)*****:** The extent to which one believes that an institution or organization must be there to support the use of the system. In this study, this will refer to the extent that one believes an educational institution has a role to play in ensuring that students are able to use social media in the classroom for educational purposes.
- ***Community Identification:*** This refers to an individual’s motivation to participate in virtual communities such as Facebook discussion groups and comes to view him/herself as a member of the group or community.
- ***Adoption of Facebook:*** In the literature, many researchers (Mazman & Usluel, 2010; Munoz & Towner, 2009; Hall, 2014) have pointed out that features of a system or technology play a crucial role in one’s decision to use a new technology or system.
- ***Educational usage of Facebook:*** Facebook is a social network site that facilitates collaborative learning, enhance communication and writing skills. In this study, this construct will be investigated under the following three topics; communication, collaboration and resource sharing.
- ***Communication:*** The use of Facebook as a communication tool in education has facilitated class discussions, announcements and delivery of homework.
- ***Collaboration:*** Facebook promotes collaborative learning as members join new networks such as academic groups and exchange ideas.
- ***Resource/material sharing:*** Facebook enables students and lecturers to collaborate and share resources virtually. Sharing resources can be done through videos, files, photos and audio resources.

4.1.1 Data resources

Secondary and primary data resources will be used in this thesis.

I. Secondary Data Resource

In order to introduce the theoretical literature of the subject, the researcher used secondary data resources which include: previous studies, books, academic magazines, journals, periodicals, information on university websites and published articles related to the subject under question in order to gain an overall understanding of the research area and what has already been done and researched in this area of study.

II. Primary Data Resource

To analyze the qualitative and quantitative data of the research, an online questionnaire was developed and the questionnaire was used as the main tool for collecting primary data. The data collected was analyzed using SPSS statistical software.

4.2 Research Participants

The research population consisted of 308 students currently enrolled at Duhok University in Northern Iraq, both undergraduate students and postgraduate students from all faculties were considered without any special restrictions.

4.2.1 Sample selection

The population of this research was selected using simple random sampling, a sampling technique in which an individual is entirely chosen by chance with each member having an equal chance of being selected. Since the questionnaire was in English, it was most appropriate to select students from English speaking departments which are as follows: English Department, Medicine, Pharmacy and Education. The university is located in the researchers hometown therefore conducting the research at the university was going to be cost effective for the researcher compared with other universities which required transport costs for initial face-to-face engagements with the school registrar before permission was granted to put the questionnaire on the students' online portal.

4.2.2 Demographic data of participants

This section describes the demographic data of participants after data collection. Table 4.1 illustrates the demographic data of participants, 308 students completed the survey online comprising of 203 undergraduate students and 105 postgraduate students. 59.4% of the sample resembled male population (169 males) and 45.1% were females (139 females). The participants were divided into 4 different age group ranges which are 18-24, 25-34, 35-44 and 45 and above with each group having 118, 110,60 and 20 participants respectively.

Table 4.1: Important demographic data of participants

Characteristic	Frequency	%
Level of Study		
Undergraduate	203	65.9
Postgraduate	105	34.1
Age group		
18-24	118	38.3
25-34	110	35.7
35-44	60	19.5
45 and above	20	6.5
Gender		
Male	169	54.9
Female	139	45.1
Department		
English	103	33.4
Education	84	27.2
Medicine	63	20.4
Pharmacy	58	18.8
Do you have a Facebook account		
Yes	259	84.1
No	49	15.9

4.2.2.1 Social Network Sites Used by Students

Descriptive statistics was used to analyze responses from students on the social network sites they use. The question was a multiple-response question as students were allowed to tick all responses applicable.

Findings reveal that 1.66% (13) of the students do not use social network sites. As illustrated on Figure 8 below, we can see that 259 students use Facebook, 22.63% (177) use WhatsApp, 25.19% (197) use Instagram, 21.99% (172) use Twitter, 12.15% (95) use Skype and 1.66% use YouTube. With these findings we can therefore conclude that more than 80% of the students use at least 1 social network site. Similar findings were found by Bicen and Cavus (2011) who conducted a study in Cyprus and found out that more than 80% of university students use social network sites. Seke (2015) also pointed out that the growth of cloud based social network sites such as Facebook and Instagram has lured a lot of students' due to the fact that they are cost effective since they require little data.

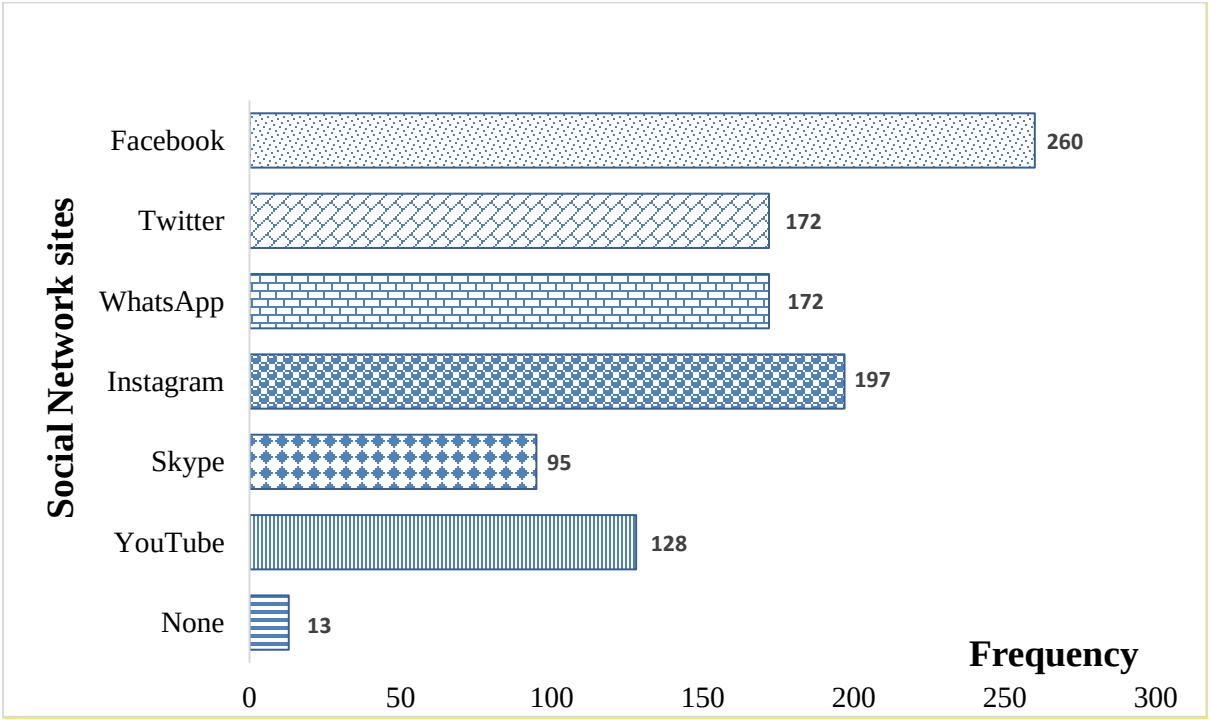

Figure 5: Social network sites used by students.

4.2.2.2 Devices Used to Access the Internet by Students

Students were asked to state the devices they use to access the internet. The question was a multiple response question and students were at liberty to select more than 1 device used to access the internet. As depicted in Figure 9 below, 16.69% (104) students indicated that they use desktop computers to access the internet, these comprised of 78 undergraduate students and 26 postgraduate students. The percentage for students who used laptops was 38.68% (241) and this comprised of 133 undergraduate students and 108 postgraduate students. 37.08% of the students (231) indicated that they used their mobile phones to access the internet and this comprised of 169 undergraduate students and 62 postgraduate students. Furthermore, 4.37% of the students (28) use public computers at internet cafes to access the internet and this comprised of 17 undergraduate students and 11 postgraduate students. 3.17% of the students (18) indicated that they do not use the internet and this comprised of 12 undergraduate students and 6 postgraduate students.

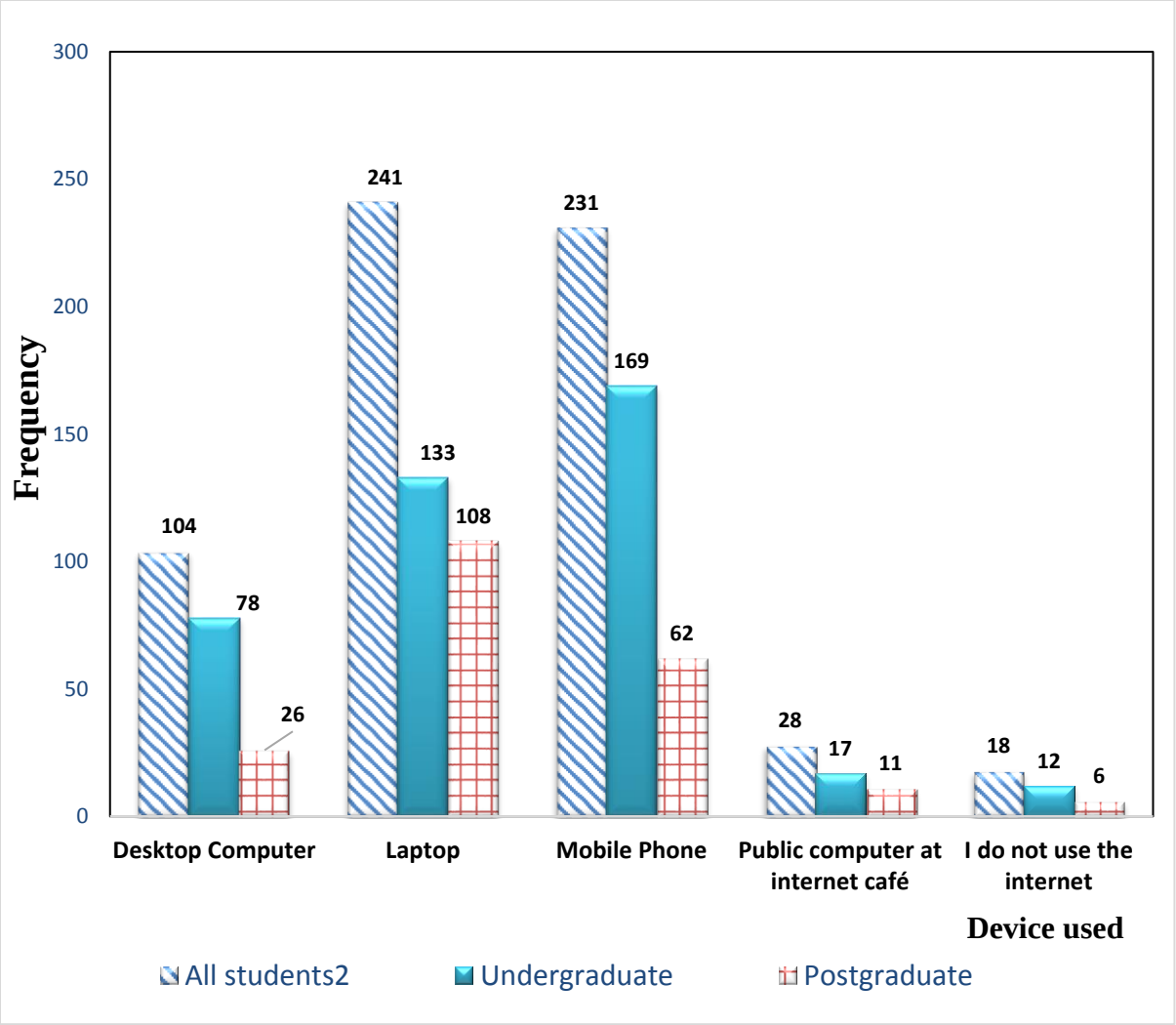

Figure 6: Devices used to access the internet by students

4.3 Data Collection Tools

4.3.1 Questionnaire design and content

After reviewing the literature, the questionnaire was the most appropriate tool and the survey was hosted online on eSurv.org, a free online survey website hosted by researchers. The questionnaire has 10 dimensions which are as follows: Social Network Adoption, Perceived Usefulness, Perceived Ease of use, Social Influence, Facilitating conditions, Community Identity, Educational usage of Facebook, Communication, Collaboration and Materials and resource sharing (see Appendix 1).

4.3.2 Reliability test of survey dimensions

The survey tool which was used for data collection was an online questionnaire, "Students' perceptions on using Facebook to enhance learning in educational institutions: Case study of Duhok University in Northern Iraq". The content of the questionnaire was examined and reviewed by the Department of Computer Information Systems at Near East University together with IT experts. The Cronbach Alpha of the survey dimensions was calculated and the results are shown in Table 4.2 below. All dimensions are above 0.70 hence the findings show that the scales are reliable (Mohsen & Dennick, 2011).

Table 4.2: Reliability test of survey dimensions

Dimension	Cronbach Alpha	No of Items
Social Network Adoption	0.707	3
Perceived Usefulness	0.804	3
Perceived Ease of use	0.741	2
Social Influence	0.828	2
Facilitating Conditions	0.707	2
Community Identity	0.775	2
Educational usage of Facebook	0.875	6
Communication	0.872	3
Collaboration	0.741	2
Materials and resource sharing	0.857	3
Overall Items	**0.809**	**28**

4.4 Data Analysis Methods

When the data collection phase was over, a statistical package for social sciences (SPSS) version 20 was used for in-depth data analysis. Descriptive statistics and Pearson product-moment correlation was used to analyse the data and test the relationship between the dependent and independent variables.

4.5 Research Procedure

To achieve the aim of the study, the following steps will be followed by the researcher:

1. Both primary and secondary data sources were used to understand the subject under study.
2. Sample questionnaires were distributed to a small group of students to check the feasibility of the study and if the students understood the questions.
3. The questionnaire was revised after responses are analyzed using feedback from the test group
4. A free website funded by global researchers' eSurv.org was used as a host for the survey.
5. Request letters to conduct the survey at Duhok University were emailed to the registrar office and research council office at the university to obtain approval and ask the school to send the questionnaire link to the students portal so that many students may participate in the survey
6. Data was collected online for a period of 1 month.
7. An analysis of the data was carried for both qualitative and quantitative data obtained from the research.
8. Discussions and recommendations for further research were stated and included in the last chapter of the thesis.

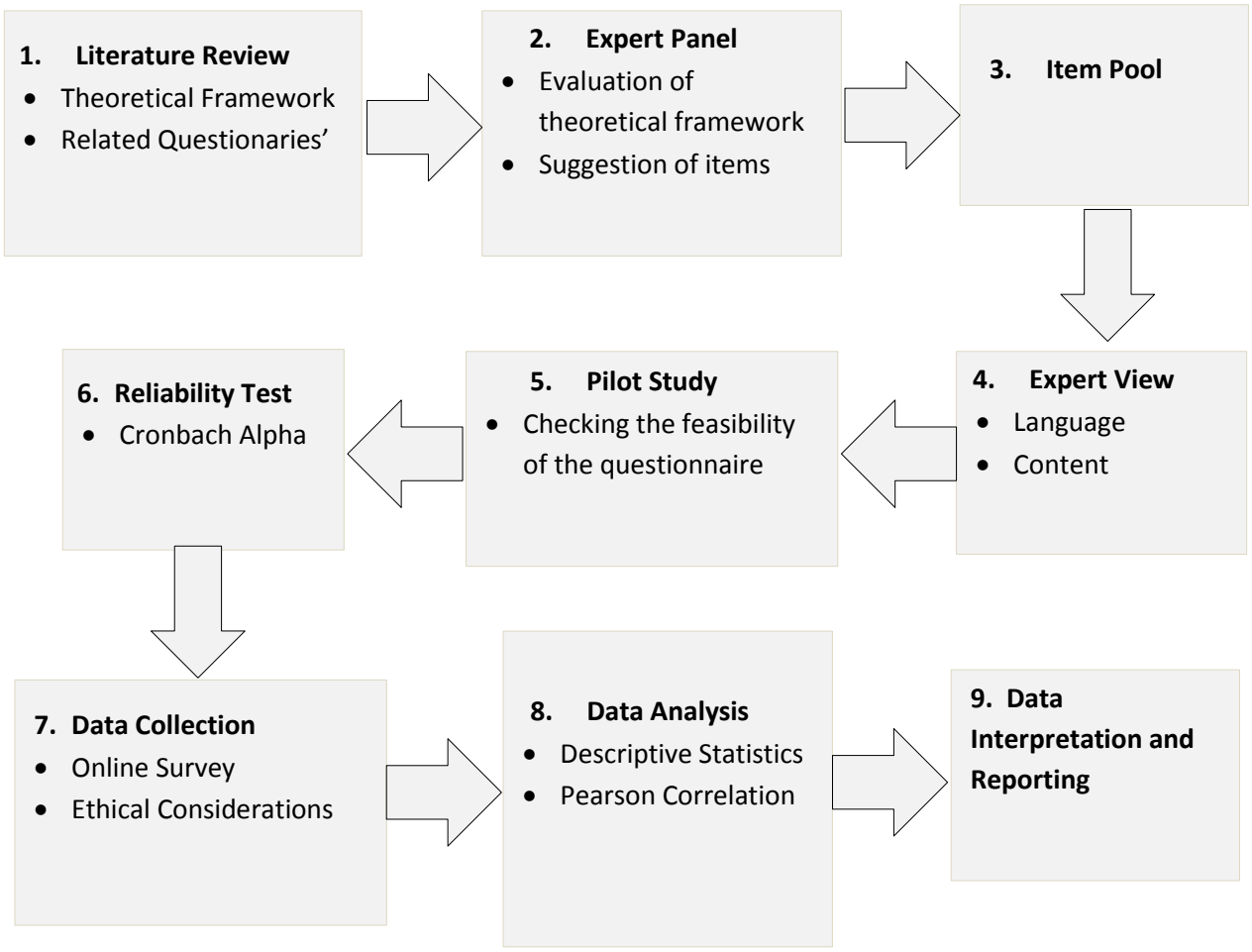

Figure 7: Research procedure

4.6 Research Schedule

This study commenced on the 5th of September 2016 and was completed in January 2017. Figure 6 below shows the detailed description of the tasks and the duration that each task took. Expenses incurred during data collection were financed by the researcher and has been excluded from the research schedule. The Gantt chart for the research is also illustrated on Figure 7 below.

	Task	Start Date	End date	Duration (days)	Assigned To
1	**Thesis proposal and Review**	09/05/16	11/10/16		
2	Identifying a research area	09/05/16	09/12/16	7	Nashwan
3	**Literature Review**	09/12/16	10/20/16	38	
4	Formulating research questions	10/21/16	10/21/16	1	Nashwan
5	Writing research proposal	10/22/16	11/18/16	28	Nashwan
6	Review	11/18/16	11/18/16		Prof Dogan Ibrahim
7	**Preparation and development of r**	11/19/16			
8	Drafting the questionnaire	11/19/16	11/22/16	4	Nashwan
9	Distributing questionnaire to a tes	11/23/16	11/24/16	2	Nashwan
10	Obtaining feedback from test grou	11/24/16	12/25/16	2	Nashwan
11	**Survey data collection and analys**				
12	Data collection	11/25/16	12/25/16	30	Nashwan
13	Data analysis	12/26/16	12/31/16	5	Nashwan
14	Compiling Thesis Document	01/01/17	12/10/16	10	Nashwan
15	Writing final draft of thesis	01/10/17	01/13/17	3	Nashwan
16	Final thesis Review	01/13/17	01/13/17	1	Prof Dogan Ibrahim
17	**Total Duration of Thesis**			**131**	

Figure 8: Research schedule

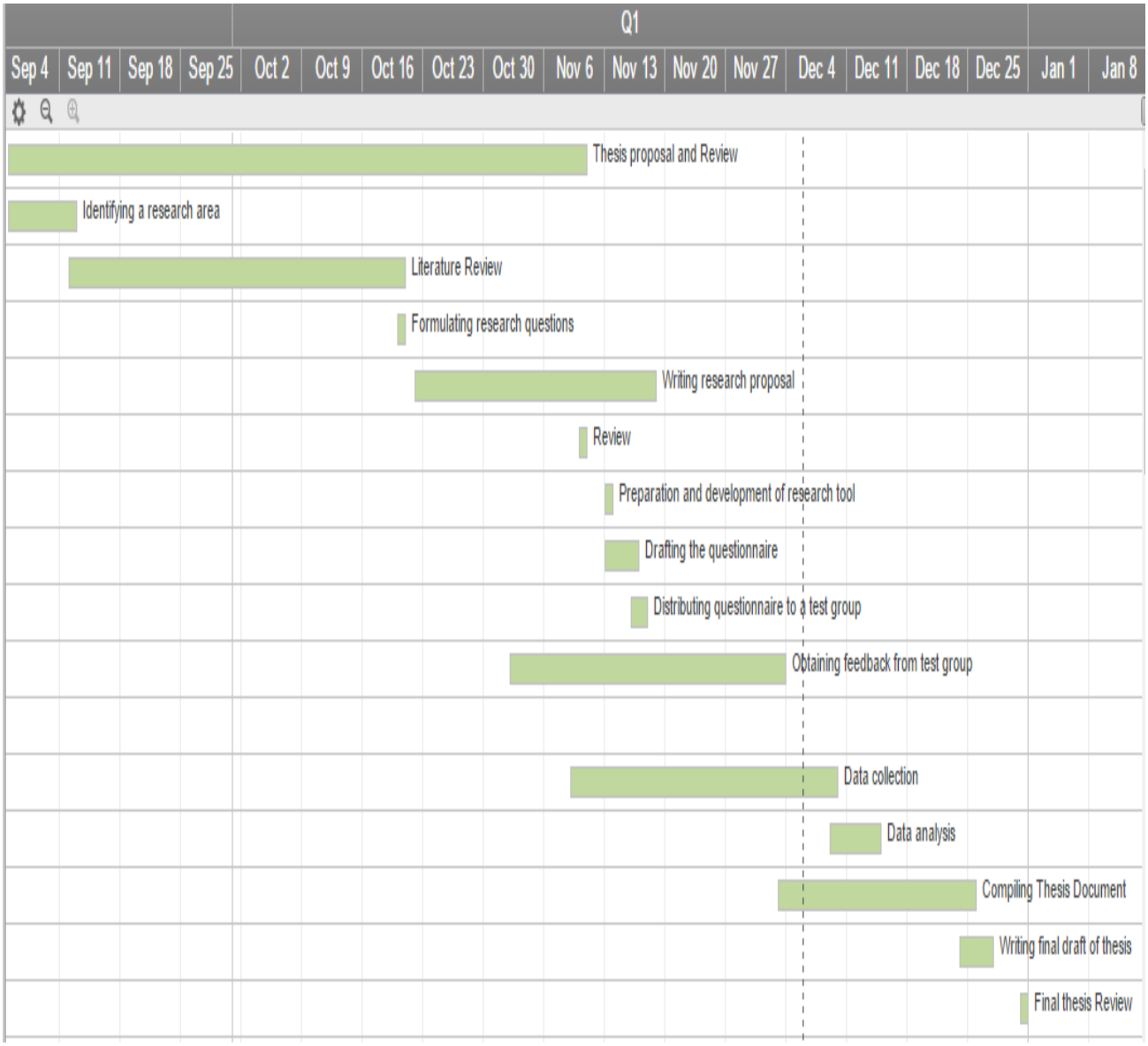

Figure 9: Gantt chart for the research

CHAPTER 5

RESULTS AND DISCUSSIONS

This chapter discusses the results found in respect to the fundamental objectives of the research under study.

5.1 The Relationship Between Facebook Adoption and Perceived Usefulness

A Pearson product-moment correlation coefficient was computed to assess the relationship between Facebook adoption and Perceived Usefulness (Table 5.1). Findings revealed that there was a positive correlation between the two variables, r = 0.648, n = 308 and p = 0.000. A scatterplot in Figure 10 summarizes the results and shows a moderate, positive correlation between the 2 variables. This means that when Perceived Usefulness increases, Facebook Adoption also increases forming a strong uphill linear relationship. We can therefore accept the hypothesis and conclude that Perceived Usefulness will have a significant influence on Facebook adoption. Similar findings were found by Mazman and Usluel (2010) who conducted a study on Facebook adoption in education with 695 students as participants. Their findings revealed that Perceived Usefulness has a significant positive influence on Facebook adoption with significant variables (p < .005 or t > 1.96) and (b ¼ 0.84).

Table 5.1: Showing the Pearson Correlation between Facebook Adoption and Perceived Usefulness

		Facebook Adoption	**Perceived Usefulness**
Facebook Adoption	Pearson Correlation	1	**.648****
	Sig. (2-tailed)		.000
	N	308	308
Perceived Usefulness	Pearson Correlation	**.648****	1
	Sig. (2-tailed)	.000	
	N	308	308

**. Correlation is significant at the 0.01 level (2-tailed).

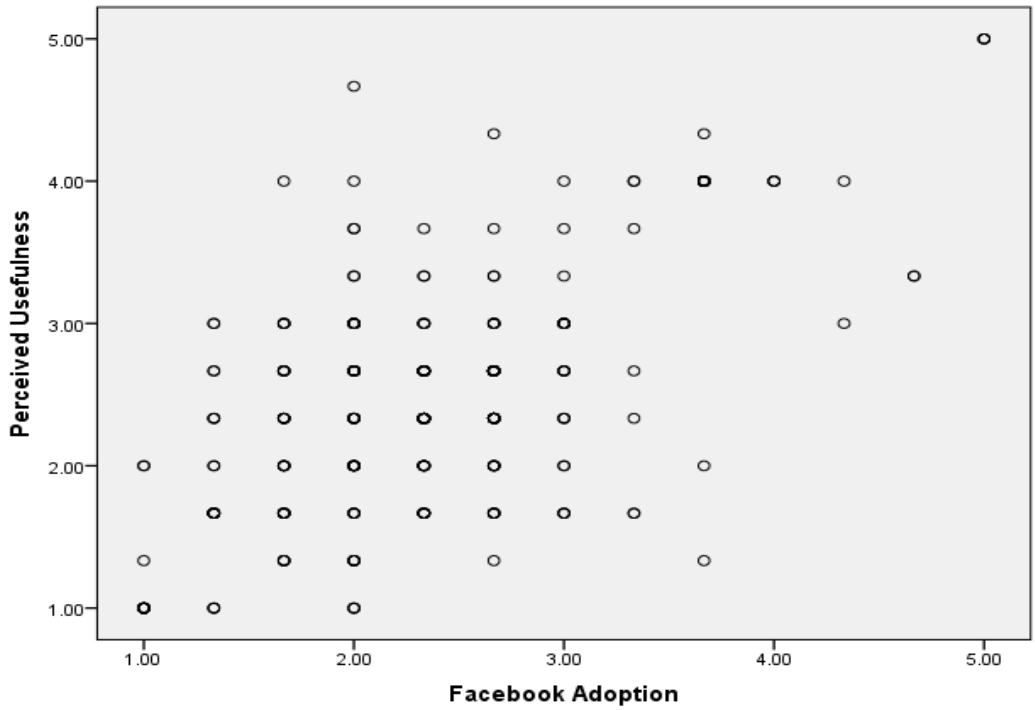

Figure 10: Scatter diagram showing the relationship between Facebook Adoption and Perceived Usefulness

5.2 The Relationship Between Facebook Adoption and Ease of Use

A Pearson product-moment correlation coefficient was computed to assess the relationship between Facebook adoption and Ease of Use (Table 5.2). Findings revealed that there was a positive correlation between the two variables, r = 0.618, n = 308 and p = 0.001.

A scatterplot in Figure 11 summarizes the results and shows a strong, positive correlation between the 2 variables. This means that when Ease of Use increases, Facebook Adoption also increases forming a strong uphill linear relationship. We can therefore accept the hypothesis and conclude that Ease of Use will have a significant influence on Facebook adoption. Similar findings were found by Mazman and Usluel (2010) who conducted a study on Facebook adoption in education with 695 students as participants. Their findings revealed that Ease of Use has a significant positive influence on Facebook adoption with significant variables (p < .005 or t > 1.96) and (b ¼ 0.35).

Table 1.2: Showing the Pearson Correlation between Facebook Adoption and Ease of Use

		Facebook Adoption	Ease of Use
Facebook Adoption	Pearson Correlation	1	**.618****
	Sig. (2-tailed)		.001
	N	308	308
Ease of Use	Pearson Correlation	**.618****	1
	Sig. (2-tailed)	.001	
	N	308	308

** Correlation is significant at the 0.01 level (2-tailed).

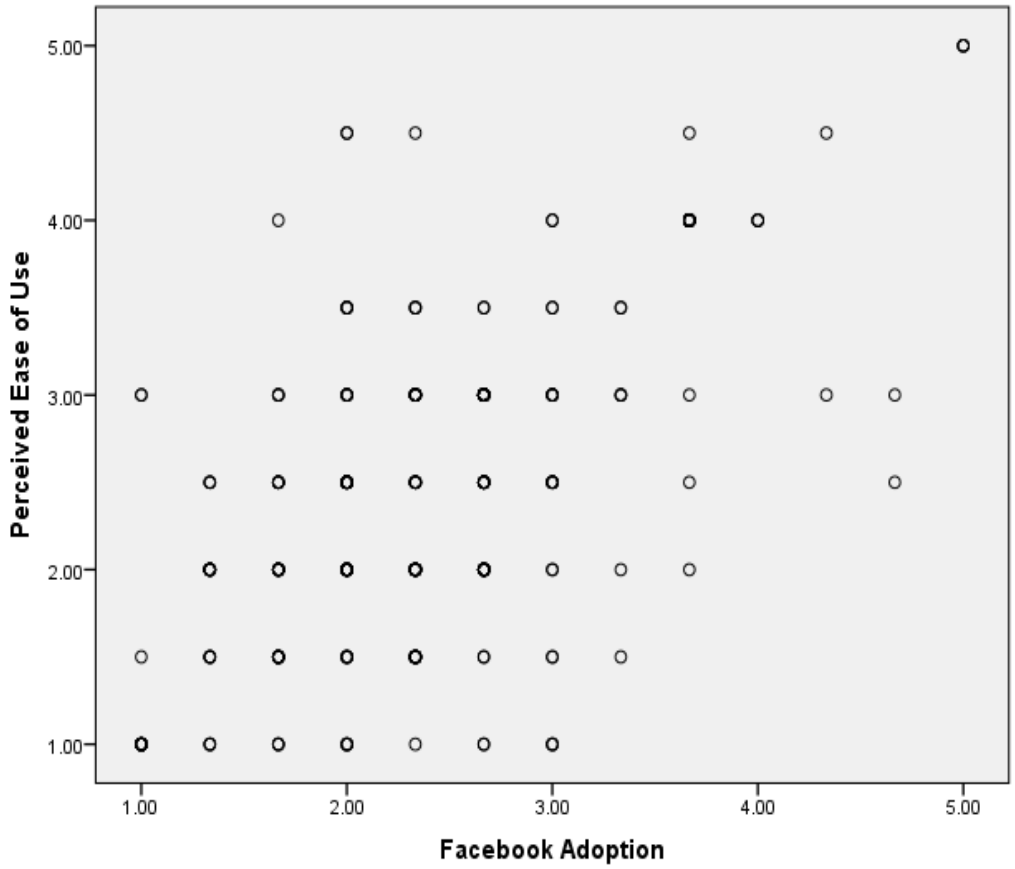

Figure 11: Scatter diagram showing the relationship between Facebook adoption and Perceived Ease of Use

5.3 The Relationship Between Facebook Adoption and Social Influence

A Pearson product-moment correlation coefficient was computed to assess the relationship between Facebook Adoption and Social Influence (Table 5.3). Findings revealed that there was a positive correlation between the two variables, r = 0.442, n = 308 and p = 0.000. A scatterplot in Figure 12 summarizes the results and shows a weak, positive correlation between the 2 variables. This means that changes in Facebook Adoption are not correlated with changes Social Influence. We can therefore reject the hypothesis and conclude that Facebook Adoption does not have any significant influence on Social Influence.

However, our findings differ from that of many researchers (Mazza & Dimitrova, 2004; Mazer et al., 2007) who found out that social influence has a significant influence on Social network adoption. This difference could be due to the fact that these researchers focused on a wide range of social network sites not limited to Facebook only. In addition, our findings also differ from that of Mazman and Usluel (2010) who conducted a study on Facebook adoption in education with 695 students as participants. Their findings revealed that Social Influence has a significant positive influence on Facebook adoption with significant variables (p < .005 or t > 1.96) and (b ¼ 0.50) which contradicts with our findings. Further research is needed to find the cause of the discrepancies.

Table 5.3: Showing the Pearson Correlation between Facebook Adoption and Social Influence

		Facebook Adoption	**Social Influence**
Facebook Adoption	Pearson Correlation	1	**.442****
	Sig. (2-tailed)		.000
	N	308	308
Social Influence	Pearson Correlation	**.442****	1
	Sig. (2-tailed)	.000	
	N	308	308

**Correlation is significant at the 0.01 level (2-tailed).

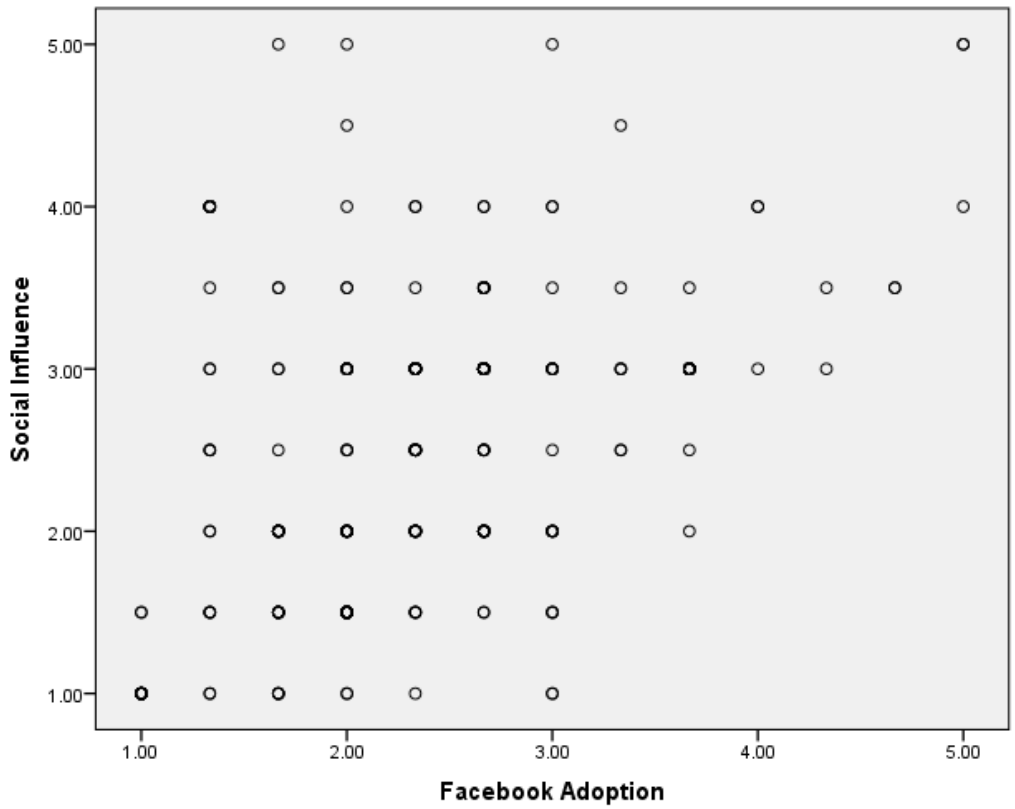

Figure 12: Scatter diagram showing the relationship between Facebook adoption and Social Influence

5.4 The Relationship Between Facebook Adoption and Facilitating Conditions

A Pearson product-moment correlation coefficient was computed to assess the relationship between Facebook Adoption and Facilitating Conditions (Table 5.4). Findings revealed that there was a positive correlation between the two variables, r = 0.336, n = 308 and p = 0.000. A scatterplot in Figure 13 summarizes the results and shows a weak, positive correlation between the 2 variables. This means that changes in Facebook Adoption are not correlated with changes in Facilitating Conditions. We can therefore reject the hypothesis and conclude that Facebook Adoption does not have any significant influence on Facilitating Conditions. However, our findings differ from that of Mazman and Usluel (2010) who conducted a study on Facebook adoption in education with 695 students as participants. Their findings revealed that Facilitating Conditions have a significant positive influence on Facebook adoption with significant variables ($p < .005$ or $t > 1.96$) and (b ¼

0.65) which contradicts with our findings. Further research is needed to find the cause of the discrepancies.

Table 5.4: Showing the Pearson Correlation between Facebook Adoption and Facilitating Conditions

		Facebook Adoption	Facilitating Conditions
Facebook Adoption	Pearson Correlation	1	**.336****
	Sig. (2-tailed)		.000
	N	308	308
Facilitating Conditions	Pearson Correlation	**.336****	1
	Sig. (2-tailed)	.000	
	N	308	308

** Correlation is significant at the 0.01 level (2-tailed).

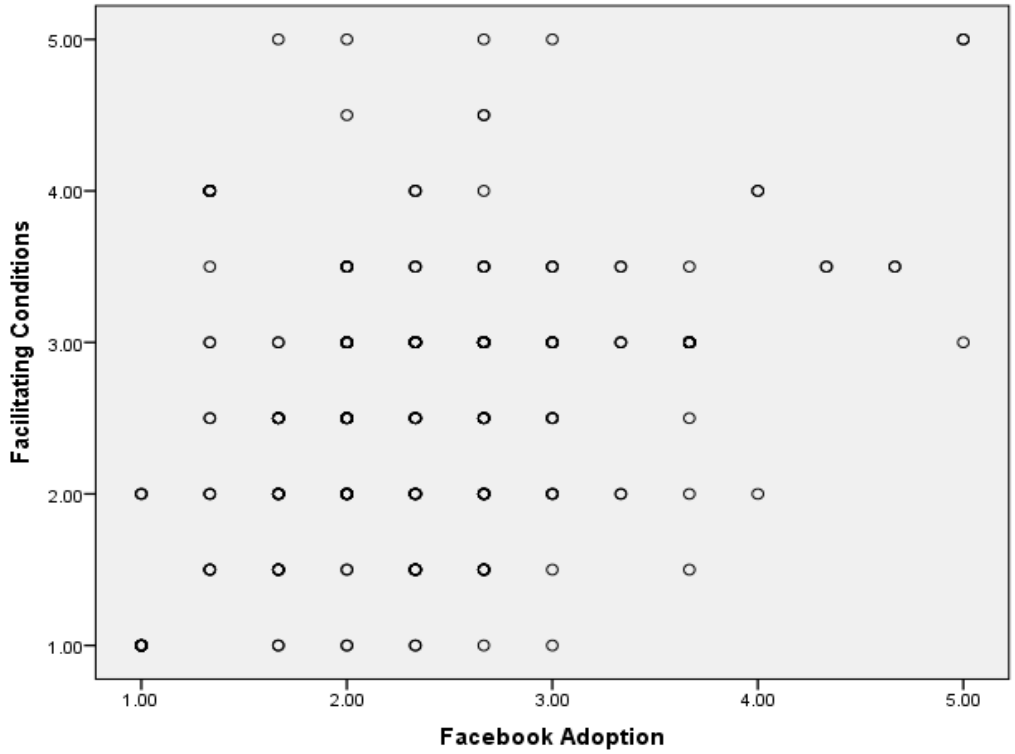

Figure 13: Scatter diagram showing the relationship between Facebook adoption and Facilitating Conditions

5.5 The Relationship Between Facebook Adoption and Community Identification

A Pearson product-moment correlation coefficient was computed to assess the relationship between Facebook Adoption and Community Identification (Table 5.5). Findings revealed that there was a positive correlation between the two variables, r = 0.338, n = 308 and p = 0.000. A scatterplot in Figure 14 summarizes the results and shows a weak, positive correlation between the 2 variables. This means that changes in Facebook Adoption are not correlated with changes in Community Identification. We can therefore reject the hypothesis and conclude that Facebook Adoption does not have any significant influence on Community Identification. However, our findings differ from that of Mazman and Usluel (2010) who conducted a study on Facebook adoption in education with 695 students as participants. Their findings revealed that Community Identification has a significant positive influence on Facebook adoption with significant variables (p < .005 or t > 1.96) and (b ¼ 0.65) which contradicts with our findings. Further research is needed to find the cause of the discrepancies.

Table 5.5: Showing the Pearson Correlation between Facebook Adoption and Community Identification

		Facebook Adoption	**Community Identification**
Facebook Adoption	Pearson Correlation	1	**.338****
	Sig. (2-tailed)		.000
	N	308	308
Community Identification	Pearson Correlation	**.338****	1
	Sig. (2-tailed)	.000	
	N	308	308

** Correlation is significant at the 0.01 level (2-tailed).

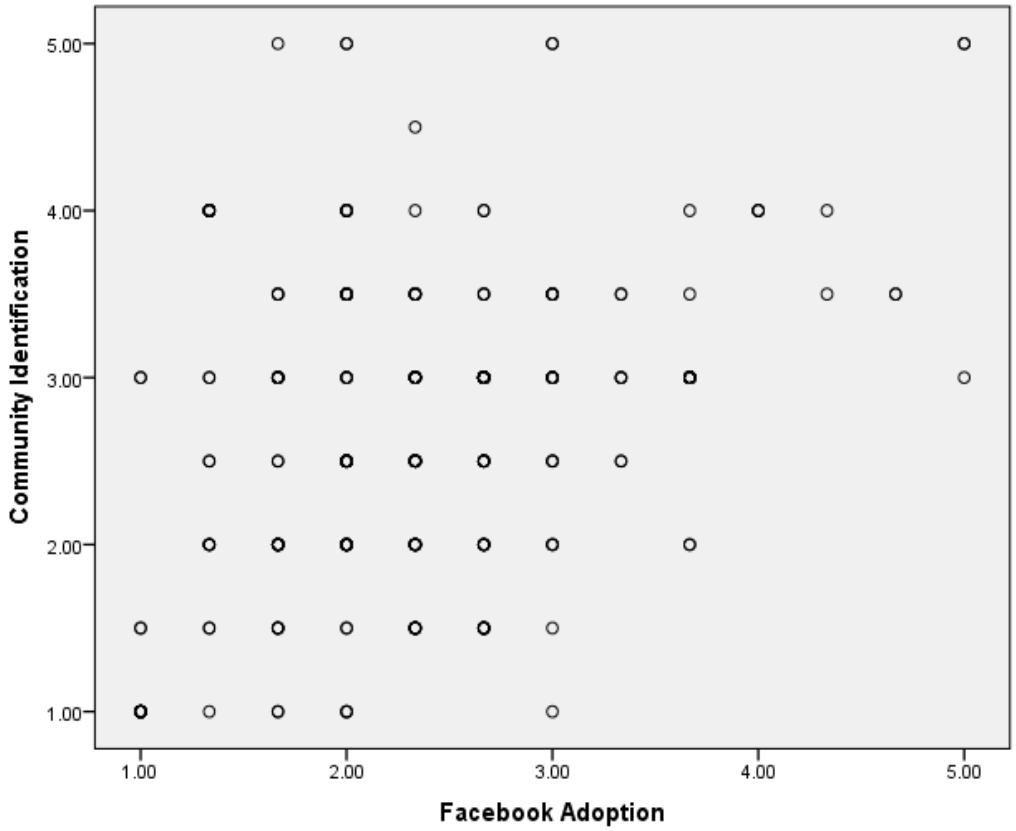

Figure 14: Scatter diagram showing the relationship between Facebook adoption and Community Identification

5.6 The Relationship Between Educational Usage of Facebook and Communication

A Pearson product-moment correlation coefficient was computed to assess the relationship between Educational usage of Facebook and Communication (Table 5.6). Findings revealed that there was a positive correlation between the two variables, $r = 0.524$, $n = 308$ and $p = 0.002$.

A scatterplot in Figure 1 summarizes the results and shows a moderate, positive correlation between the 2 variables. This means that when Educational usage of Facebook increases, Communication also increases forming a strong uphill linear relationship. We can therefore accept the hypothesis and conclude that Educational usage of Facebook will have a significant influence on Communication. Similar findings were found by Mazman and Usluel (2010) who conducted a study on Facebook adoption in education with 695 students as participants. Their findings revealed

that Communication has a significant positive influence on Educational usage with significant variables ($p < .005$ or $t > 1.96$) and (b ¼ 0.87) which supports our findings.

Table 5.6: Showing the Pearson Correlation between Educational usage of Facebook and Communication

		Educational Usage of Facebook	**Communication**
Educational usage of Facebook	Pearson Correlation	1	**.524****
	Sig. (2-tailed)		.002
	N	308	308
Communication	Pearson Correlation	**.524****	1
	Sig. (2-tailed)	.002	
	N	308	308

** Correlation is significant at the 0.01 level (2-tailed).

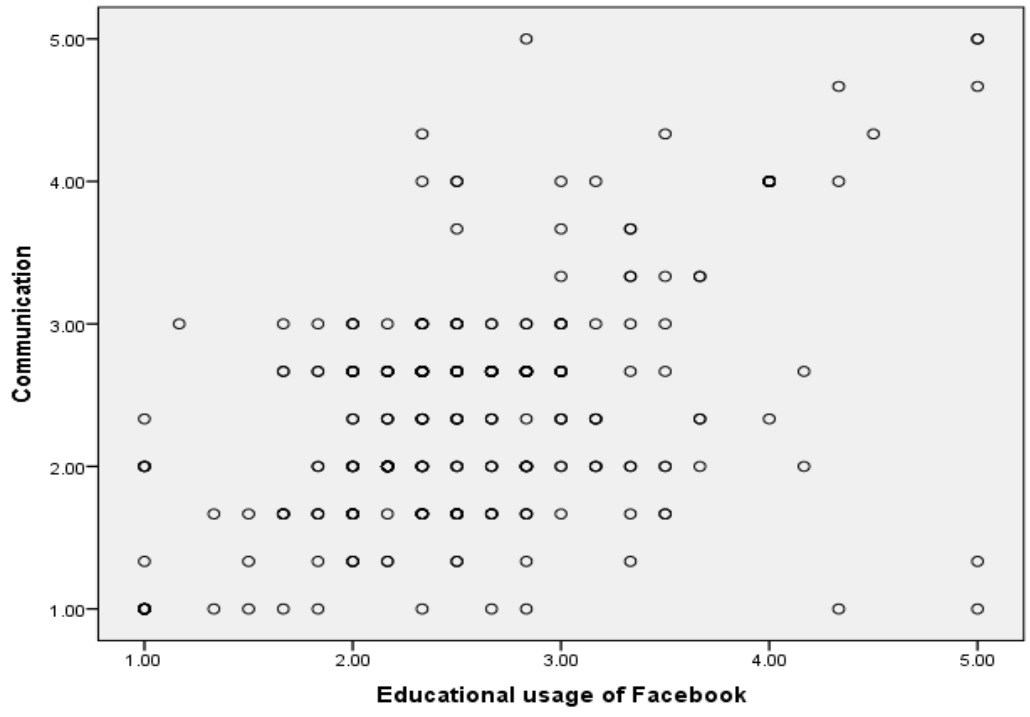

Figure 15: Scatter diagram showing the relationship between Educational usage of Facebook and Communication

5.7 The Relationship Between Educational Usage of Facebook and Collaboration

A Pearson product-moment correlation coefficient was computed to assess the relationship between Educational usage of Facebook and Collaboration (Table 5.7). Findings revealed that there was a positive correlation between the two variables, r = 0.444, n = 308 and p = 0.002.

A scatterplot in Figure 16 summarizes the results and shows a weak, positive correlation between the 2 variables. This means that changes in Educational usage of Facebook are not correlated with changes in Communication. We can therefore reject the hypothesis and conclude that Educational usage of Facebook does not have any significant influence on Communication. However, our findings differ from that of Mazman and Usluel (2010) who conducted a study on Facebook adoption in education with 695 students as participants. Their findings revealed that Collaboration has a significant positive influence on Educational usage with significant variables (p < .005 or t > 1.96) and (b ¼ 0.87) which contradicts with our findings. Further research is needed to find the cause of the discrepancies.

Table 5.7: Showing the Pearson Correlation between Educational usage of Facebook and Collaboration

		Educational usage of Facebook	**Collaboration**
Educational usage of Facebook	Pearson Correlation	1	**.444****
	Sig. (2-tailed)		.000
	N	308	308
Collaboration	Pearson Correlation	**.444****	1
	Sig. (2-tailed)	.000	
	N	308	308

**. Correlation is significant at the 0.01 level (2-tailed).

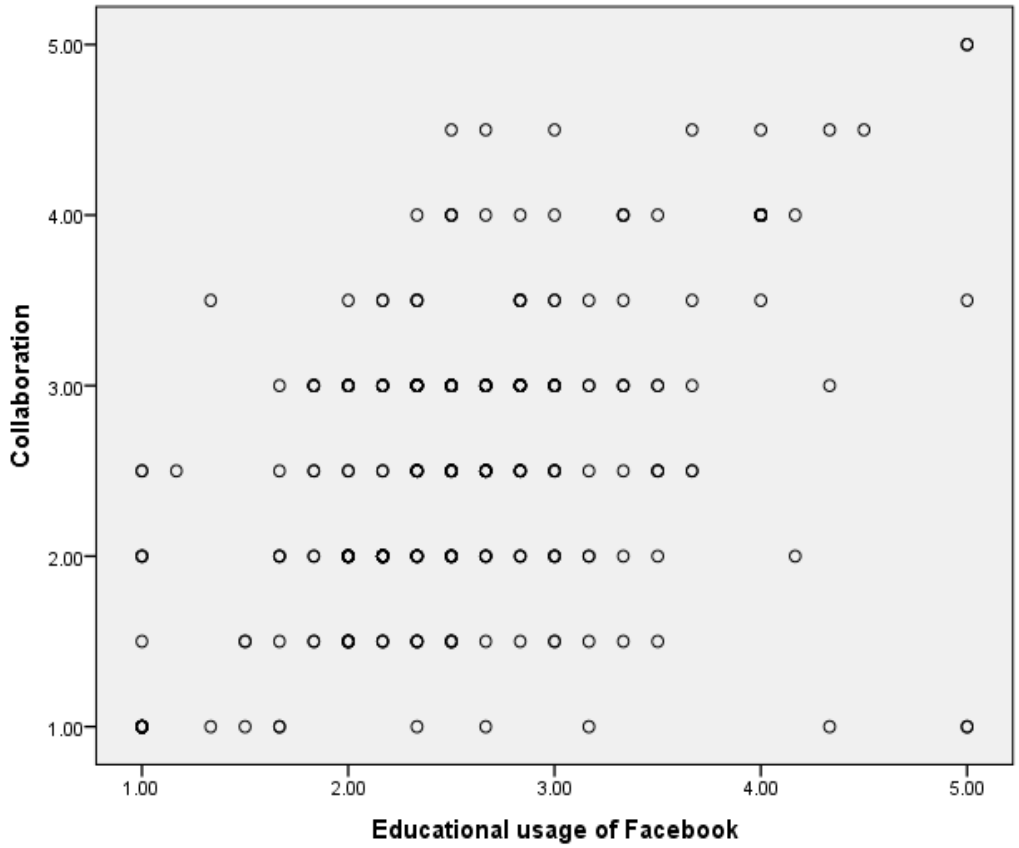

Figure 16: Scatter diagram showing the relationship between Educational usage of Facebook and Materials and Collaboration

5.8 The Relationship Between Educational Usage of Facebook and Materials and Resource Sharing

A Pearson product-moment correlation coefficient was computed to assess the relationship between Educational usage of Facebook and Materials and Resource Sharing (Table 5.8). Findings revealed that there was a positive correlation between the two variables, r = 0.382, n = 308 and p = 0.000. A scatterplot in Figure 17 summarizes the results and shows a weak, positive correlation between the 2 variables. This means that changes in Educational usage of Facebook are not correlated with changes in Materials and Resource Sharing. We can therefore reject the hypothesis and conclude that Educational usage of Facebook does not have any significant influence on Materials and Resource Sharing. However, our findings differ from that of Mazman and Usluel (2010) who conducted a study on Facebook adoption in education with 695 students as

participants. Their findings revealed that Materials and resource sharing has a significant positive influence on Educational usage with significant variables (p < .005 or t > 1.96) and (b ¼ 0.84) which contradicts with our findings. Further research is needed to find the cause of the discrepancies.

Table 5.8: Showing the Pearson Correlation between Educational usage of Facebook and Materials and Resource Sharing.

		Educational usage of Facebook	**Resource Sharing**
Educational usage of Facebook	Pearson Correlation	1	**.382****
	Sig. (2-tailed)		.000
	N	308	308
Resource Sharing	Pearson Correlation	**.382****	1
	Sig. (2-tailed)	.000	
	N	308	308

**. Correlation is significant at the 0.01 level (2-tailed).

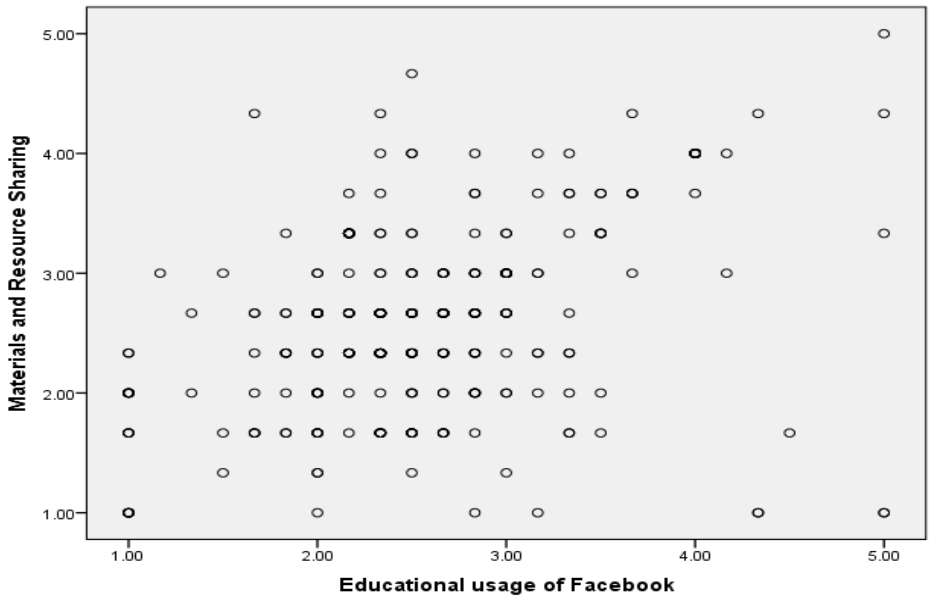

Figure 17: Scatter diagram showing the relationship between Educational usage of Facebook and Materials and Resource Sharing

5.9 The Relationship Between Facebook Adoption and Educational Usage of Facebook

A Pearson product-moment correlation coefficient was computed to assess the relationship between Educational usage of Facebook and Materials and Facebook Adoption (Table 5.9). Findings revealed that there was a positive correlation between the two variables, r = 0.207, n = 308 and p = 0.000. A scatterplot in Figure 18 summarizes the results and shows a weak, positive correlation between the 2 variables. This means that changes in Educational usage of Facebook are not correlated with changes in Facebook Adoption. We can therefore reject the hypothesis and conclude that Educational usage of Facebook does not have any significant influence on Facebook Adoption. However, our results differ from those of Mazman and Usluel (2010) who found out that the direct effect of Facebook adoption and Educational usage had a significant positive influence on Educational usage. Further research is needed to find the cause of the discrepancies.

Table 5.9: Showing the Pearson Correlation between Facebook Adoption and Educational Usage of Facebook

		Facebook Adoption	**Educational Usage of Facebook**
Facebook Adoption	Pearson Correlation	1	**.207****
	Sig. (2-tailed)		.000
	N	308	308
Educational usage of Facebook	Pearson Correlation	**.207****	1
	Sig. (2-tailed)	.000	
	N	308	308

**. Correlation is significant at the 0.01 level (2-tailed).

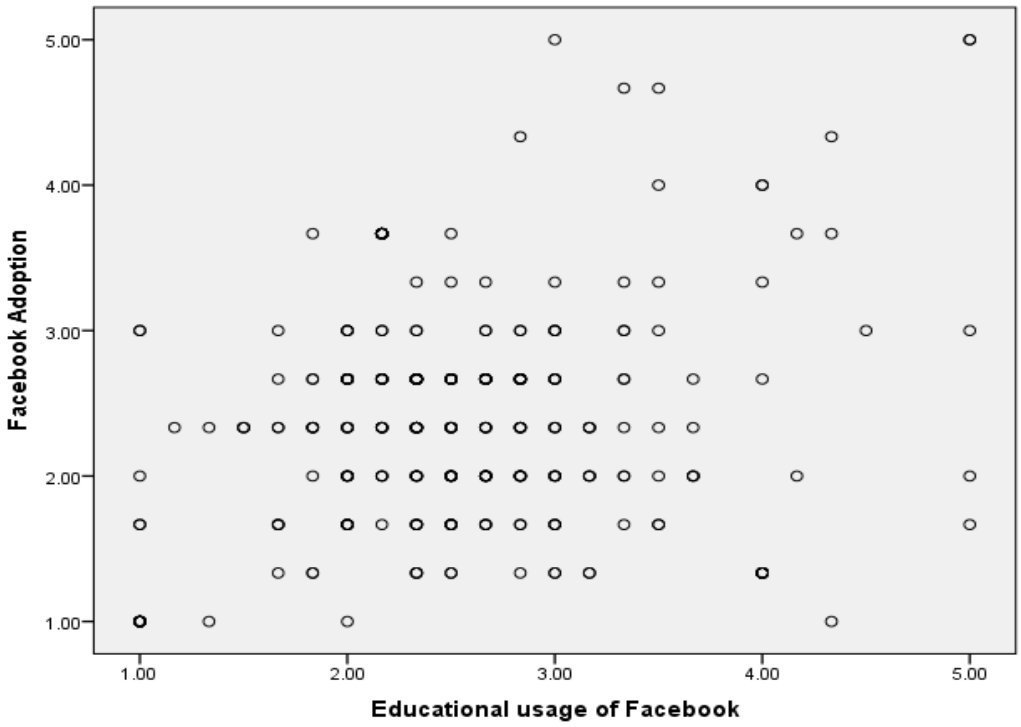

Figure 18: Scatter diagram showing the relationship between Educational usage of Facebook and Facebook Adoption

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

To wind-up the research, in this chapter the researcher explains what the research was on and outlines recommendations for future research based on research findings.

6.1 Conclusion

The growth of social network sites, particularly Facebook has captured the attention of many researchers in considering incorporating the social network into Higher Education. The study revealed that social network sites are used by students of different ages and educational levels. 308 students from Duhok University in Northern Iraq participated in this study. Findings revealed that Facebook adoption has a significant positive relationship on Perceived Usefulness and Ease of use. There was also a significant positive relationship between Educational usage and Communication. In addition, results also showed that there was no significant influence between Educational usage and the following variables (Collaboration and Materials and Resource Sharing) as well as between Facebook adoption and Educational usage. On the other hand, findings revealed that Facebook adoption does not have a significant influence on Social Influence, Facilitating Conditions and Community Identification. Furthermore results showed that Perceived Usefulness is deemed as the most important factor in considering Facebook adoption. Similar findings are supported by several researchers in the literature (Mazman & Usluel, 2010; King & He, 2006; Ngai et al., 2007; VanRaaij & Schepers, 2008).

Several factors should be taken into account by educational institutions before adapting Facebook as part of their learning system. Dedication and commitment are crucial for both the teacher and students to achieve success. Posting too much content may also lead to confusion and information overload (Mazman & Usluel, 2010). Even though some researchers may deem the usage of Facebook as a distraction to academic success, it is crucial for academic institutions to fully understand that we are now living in the 21st century and the Net Generation (NG) students are multi-taskers, they can use social networks effectively and any electronic gadget without a manual

(Seke, 2015). Such a generation live in a digital world and is surrounded by the social media sphere.

Institutions should not just create a Facebook page because their rivals are doing so. It is important for Facebook pages to be constantly updated and respond promptly to messages. In conclusion, Facebook is a great platform that can be used to enhance learning in Higher Educational institutions because of its appealing interface and its ability to facilitate online discussion.

6.2 Recommendations

Further research is recommended within the same field of study to understand teachers' perceptions on using Facebook as an educational tool since this study focussed on gaining an insight on students' perceptions. In addition, it would also be interesting to investigate whether educational level plays important role in students' participation in social media as well as if there are any differences in social media usage between different educational institutions.

The research was conducted over a short period of time during the fall semester of 2016. Further research is recommended over a wide time frame and also that incorporates a larger participant group.

REFERENCES

Bicen, H., & Cavus, N. (2011). The most preferred social network sites by students. *Procedia-Social and Behavioral Sciences*, *2* (2), 5864-5869.

Caraher, K. & Braselman, M. (2010). CDW Government LLC,*The 2010 21st-Century Campus Report*. Retrieved on November 16, 2016 from: http://webobjects.cdw.com/webobjects/media/pdf/newsroom/CDWG-21st- Century-Campus-Report-0710.pdf

Gerhard, J., & Mayr, P. (2002). *Competing in the E-Learning Environment– Strategies for Universities*. Proceedings of the 35th Hawaii International Conference on System Sciences. Retrieved on 15 November, 2016, from: https://www.researchgate.net/publication/224075986_Competing_in_the_Elearning_Environmet--Strategies_for_Universities

Hall,S. (2014). How Higher Education Institutions Utilize Social Media. Retrieved on November 16, 2016 from: http://digitalcommons.georgiasouthern.edu/cgi/viewcontent.cgi?article=1076&context=honors-theses

Irwin, C., Ball, L., & Desbrow, B. (2012). Students' perceptions of using *Facebook* as an interactive learning resource at university. *Australasian Journal of Educational Technology*, 28(7), 1221-1232.

King, W. R., & He, J. (2006). A meta-analysis of the technology acceptance model. *Information & Management*, 43(6), 740-755.

Kingsley, A.J., Adu-Manu, A.K., & Yeboah, Y. (2013). A conceptual framework for the Adoption of Social Network Technologies (SNTs) in Teaching – case of Ghana. *IJCSI International Journal of Computer Science Issues*, 10 (5), pp70-78.

Lee, C.E., & Phoey, T.L. (2016). Educational use of Facebook by undergraduate students in Malaysia higher education: A case study of a private university. *Journal of Social Media and Technology*, 1(1), 1-8.

Lui, L. (2012). Review of use of animation as a supplementary learning material of physiology content in four academic years. *The Electronic Journal of e-Learning*, 10(4), 377 – 386.

Mazman, S.G, & Usluel, Y.K. (2010). Modeling educational usage of Facebook. *Journal of Computers and Education*, 55, 444-453.

MazerJ, P, Murphy,R, E, & Simonds, C, J (2007). I'll see you on 'Facebook': the effects of computer-mediated teacher self-disclosure on student motivation, *Affective Learning*, 1 (5), 49-54.

Mazza, R., & Dimitrova, V. (2004). Visualising student tracking data to support instructors in web-based distance Education.proc of *International World Wide Web conference*, New York, USA, pp. 154–161.

Mohsen, T., & Dennick, R. (2011). Making sense of Cronbach's Alpha. *International Journal of Medical Education*, *2*, 53-55.

Munoz, C.L., & Towner, T.L. (2009). Opening Facebook: How to Use Facebook in the College Classroom. *In proceedings of Society for Information Technology and Teacher Education conference,* Charleston, South Carolina.

Naghmeh, M., & Aghaee, N. (2010). Social Media Usage in Academia: Campus Students Perceptions of How Using Social Media Supports Educational Learning. Retrieved on November 15, 2016, from: https://www.diva-portal.org/smash/get/diva2:351931/FULLTEXT01.pdf

Ngai, E. W. T., Poon, J. K. L., & Chan, Y. H. C. (2007). Empirical examination of the adoption of Web CT using TAM. *Computers and Education*, 48(2), 250-267.

Phillips, L.F., Baird, D., & Fogg, B.J. (2015).Facebook for Educators. Retrieved November 17, 2016 from: http://www.k12.wa.us/safetycenter/InternetSafety/pubdocs/FacebookforEducators.pdf

Plessis, N.D., & Smit, E. (2014).Facebook in higher education: An Auto ethnographic journey entering into edu-social space. *African Journal of Hospitality, Tourism and Leisure*, 3(1), 1-11.

Ractham, P., & Firpo, D. (2011). Using Social Networking Technology to Enhance Learning in Higher Education: A Case Study using Facebook. *In Proceedings of the 44th Hawaii International Conference on System Sciences,* 2(4), 1-10.

Rambe, P. (2012). Critical discourse analysis of collaborative engagement in *Facebook* postings. *Australasian Journal of Educational Technology,* 28(2), 295-314.

Salem, A.M. (2013). Facebook Distributed System Case Study For Distributed System Inside Facebook Data-Centres. *International Journal of Technology Enhancements and Emerging Engineering Research*, 2(7), 152-160.

Seaman, J., & Tinti-kane, H. (2013). Social media for teaching and learning. Retrieved on November 16, 2016 from: http://www.onlinelearningsurvey.com/reports/social-media-for-teaching-and-learning-2013-report.pdf.

Seke, M.M. (2015). Higher education and the adoption of cloud computing technology in Africa. *International Journal on Communications, 4*, 120-124.

VanRaaij, E. M., & Schepers, J. J. L. (2008). The acceptance and use of a virtual learning environment in China. *Computers and Education*, 50(3), 838-852.

APPENDICES

APPENDIX 1

PROPOSED QUESTIONNAIRE

Students' perceptions on using Facebook to enhance learning in Higher Educational Institutions

This questionnaire is for the data collection part of the MSc thesis study in order to investigate and understand Students' perceptions of using Facebook in higher educational institutions. The participation to this questionnaire is voluntary. All responses are anonymous and will be used for educational purposes only. Please read the instructions carefully and choose the response which is most convenient for you. Please answer all questions.

Contact: Nashwan Abdulkareem Duhoki (nashwan.abdulkareem@gmail.com)

Thesis Supervisor: Prof. Dogan Ibrahim (dogan.ibrahim@neu.edu.tr)

Section I: Demographic information of participant

1. **Gender:**

   ○ Male

   ○ Female

2. **In what age group are you?**

   ○ 18-24

   ○ 25-34

   ○ 35-44

   ○ 45 and above

3. **Level of Study**

   ○ Undergraduate

   ○ Postgraduate

4. **Do you have a Facebook Account?**

   ○ Yes

   ○ No

5. **Which other social network sites apart from Facebook do you use?**

   ○ Instagram

   ○ Twitter

   ○ WhatsApp

   ○ Skype

   ○ YouTube

   ○ I do not use social network sites

6. **Which of the following devices do you use to access the internet? (You may choose many options)**

   ○ Desktop Computer

   ○ Laptop

   ○ Mobile phone

   ○ Public computers at internet cafés

   ○ I do not use the internet

Section II:

Please rate your agreement or disagreement to the following statements:

Social Network Adoption:	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
7. Online social networks take up much valuable time.					
8. I have knowledge/ confidence needed to use online social networks.					
9. I prefer face-to-face rather than using online social network sites.					

Perceived Usefulness:	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
10. Online social networks have social benefits.					
11. Facebook is useful for communicating information to students.					
12. Online social networks are useful for personal and work related activities.					
Perceived Ease of Use:	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
13. I find Facebook easy to use					
14. I find it easier to share information about lectures on Facebook than other platforms					
Social Influence:	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
15. I would use Facebook if my friends are using it					
16. TV, newspapers and radio influence the choices I make about online social networks.					
Facilitating Conditions:	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
17. Online social networking is fun and entertaining.					
18. Facebook provides enough support/help which I can always rely on when I have a problem.					
Community Identification:	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
19. I am comfortable participating in Facebook study groups					
20. I follow people on Facebook who inspire me in my career goals.					

Educational Usage of Facebook:	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
21. I feel Facebook is a great tool to use in Education					
22. I feel lecturers should create discussion groups on Facebook					
23. Addiction to online social networks is a problematic issue that affects my academic life.					
24. I engage in academic discussions on Facebook and this has improved my academic performance.					
25. I skip classes when I know materials of courses will be available online					
26. There is no improvement in my grades since I became engaged into social networking sites.					
Communication:	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
27. I find it easy to use Facebook to communicate with my friends.					
28. I prefer to use Facebook to communicate with my lecturers					
29. I prefer to use Facebook groups to discuss schoolwork and share information with my classmates					
Collaboration:	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
30. I always look for groups to join on topics that are of interest to me.					
31. I always find Facebook study groups helpful during exam preparation.					

Materials and resource sharing: I like the following:	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
32. Sharing educational links with my classmates					
33. Commenting on others' photos and videos.					
34. Responding to event invitations on Facebook.					

Thank you for participating in the Survey.

APPENDIX 2

REQUEST LETTER

The Registrar

Duhok University
Zakho Street 38,
1006 AJ Duhok
Kurdistan Region
Northern Iraq

Dear Sir/Madam

RE: Request for permission to ask the students (both undergraduate and postgraduate) to answer a research survey

My name is Nashwan Abdulkareem Duhoki. I am doing a Master of Science in Computer Information Systems in the School of Applied Sciences in Near East University, Nicosia, Cyprus. I am doing a research report on **"students' perceptions on using Facebook to enhance learning in Higher Education: Case study of Duhok University, Northern Iraq".**

I kindly request your permission to ask the students (both undergraduate and postgraduate) to answer my research survey. If possible you can send the following link to all the students and those who have time can respond to the survey https://esurv.org/?u=FacebookEdu

Kind Regards

Nashwan Abdulkareem Duhoki
Computer Information Systems Department
School of Applied Sciences
Near East University,
Nicosia,
Cyprus
nashwan.abdulkareem@gmail.com