

**YANGON UNIVERSITY OF ECONOMICS
MASTER OF PUBLIC ADMINISTRATION PROGRAMME**

**A STUDY ON THE EFFECTS OF SMARTPHONE
USAGE ON STUDENTS
(CASE STUDY: YANGON UNIVERSITY OF ECONOMICS)**

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MPA – 9 (18th BATCH)**

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A STUDY ON THE EFFECTS OF SMARTPHONE
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A thesis submitted as a partial fulfillment of the requirements for the degree of
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ABSTRACT

The use of smartphone among students in the 20th century is seen as an important part of their life because of its advanced features. Students use their smartphone to accomplish their various daily tasks. Students utilize smartphones for various objectives. This study aims to examine the usage of smartphone among students and to analyze all the positive and negative effects of smartphone usage on students. A descriptive study was conducted on the total of 224 respondents in Yangon University of Economics (Kamayut, Hlaing and Ywathagyi). This study found that 86.2% of the respondents favorite the internet features and 89.3% of the respondents used the smartphone to use social media (such as Facebook, Twitter, Gtalk and Chatting). It also found that 67.4% of the respondents use online application and 36.6% of the respondents use phone bills with the amount between 10000-20000kyats. Respondents in this study have knowledge about the effects of smartphone usage but 74.1% of the respondents use the smartphone for long hours which cause negative effects.

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LIST OF ABBREVIATIONS

2G	Second Generation
3G	Third Generation
4G	Fourth Generation
ASEAN	Association of Southeast Asian Nations
CBM	Central Bank of Myanmar
CDMA	Code Division Multiple Access
CEO	Chief Executive Officer
CSO	Central Statistical Organization
FDI	Foreign Direct Investment
FY	Fiscal Year
GDP	Gross Domestic Product
GPS	Global Positioning System
GSM	Global System for Mobile (communications)
HD	High Density
HEV light	High Energy Visible light
HRD	Human Resource Development
ICT	Information and Communication Technology
iOS	iPhone Operating System
ISPs	Internet Service Providers
KDDI	Kokusai Denshin Denwa Corp., and IDO Corp
KSGM	Kuch Stephenson Gibson Malo (Canada)
MCIT	Ministry of Communications and Information
MCRC	Myanmar Communications Regulatory Commission
MEC	Myanmar Economic Corporation
MNTC	Myanmar National Tele & Communications
MOTC	Ministry of Transport and Communications
MPT	Myanmar Posts and Telecommunication
OS	Operating System
SIM Card	Subscriber Identify Module Card
SMS	Short Message Service
UNESCO	United Nations Educational, Scientific and Cultural

CHAPTER I

INTRODUCTION

1.1 Rationale of the Study

Smartphone is one of the most ubiquitous, dynamic and sophisticated trends in communication. Smartphone is a mobile phone running a complete operating system in a manner similar to a traditional computer. These features enable new kinds of mobile services that in turn shape the usage habits of smartphone users. Smartphones were released in year 2000. With the help of mobile users, a smartphone has become a very desirable device.

Nowadays, smartphones have been used to replace desktop or mobile computers. All activities which can be performed on normal computers such as sharing information, sending and receiving emails, chatting, opening and editing documents, paying for products, browsing and shopping can be done using smartphones. Smartphone is a small device which can be kept inside a pocket of a trouser or a shirt. As smartphones provide more and more applications for an increasingly a wider range of usage situations, they have become an increasingly integrated part of people's everyday life.

Myanmar Post and Telecommunication had a monopoly in the country. In 2013, the fixed-line telephone penetration rate stood at 1%, mobile penetration at 12.83% and Internet users at 12.5% while all of Myanmar's ICT connection benchmarks are relatively low and then the government started taking steps to open up the telecommunications market, issuing licenses to new service providers. In 2014, Qatar-based Ooredoo and Norwegian Telenor Group entered the market, resulting in the reduction of consumer prices and a rapid growth in the number of subscribers.

The telecom sector has been transformed through the issuance of two new licenses (granted through a competitive process to Ooredoo and Telenor), flow of Japanese funds and management expertise into the incumbent government operator (MPT). In November 2015, Ericsson named Myanmar the world's fourth fastest-growing mobile market. As of June 2015, Myanmar has a mobile phone penetration

rate of 54.6%, up from less than 10% in 2012. On 12 January 2017, Mytel (Telecom International Myanmar Co., Ltd.) received License for the provision of telecommunication services, officially became the 4th operator in Myanmar.

Today, Myanmar is possibly the most exciting telecommunication market in the world. In May 2018, smartphone usage rate increased to over 110.48% in Myanmar. It was increased by 22% while there was only 86.2% of smartphone usage rate in 2016. The increasing trend of smartphones among students is the main reason that has amplified my interest to research on this topic. The intention of this study is to examine the usage of smartphone among students and to analyze all the positive and negative effects of smartphone usage on students. The paper will also recommend solutions, in order to reduce the negative effects of smartphone and realize more benefits of this existing technology.

1.2 Objectives of the Study

The objectives of the study are to examine the usage of smartphone among students and to analyze all the positive and negative effects of smartphone usage on students.

1.3 Method of Study

A quantitative case study research design and descriptive method are used for this study. The structured questionnaires are used to gather data from the respondents who are students in Yangon University of Economics (Kamayut, Hlaing and Ywathagyi). The study population consists of 6175 students and 224 students out of these are selected through sampling.

In addition, individual face-to-face interviews were conducted with students in Yangon University of Economics to validate data obtained. Primary data are obtained from the survey and secondary data are obtained from relevant sources, CSO, previous research papers and internet websites.

1.4 Scope and Limitation of the Study

The survey was conducted from February to March, 2019. The research study focuses on students in Yangon University of Economics (Kamayut, Hlaing and Ywathagyi). Thus, the data or results cannot represent the general population of smartphone usage on students.

1.5 Organization of the Study

There are totally five chapters in this research paper. Chapter one starts with introduction and follows by rationale of the study, objectives of the study, method of study, scope and limitation of the study and organization of the study. Chapter two is literature review. Chapter three describes the overview of telecommunication sector in Myanmar. Chapter four presents the analysis on survey data about the usage of smartphone and effects of smartphone usage on students. Chapter five is conclusion which is included findings and recommendations.

CHAPTER II

LITERATURE REVIEW

2.1 History of Smartphone

Telephones have not only come a long way, but may one day be completely obsolete. Motorola introduced some of the first cellphones to the public during the 1980s. These cellphones were completely unlike the cellphones of today since they were not at all compact nor by any means cost effective. Some of these cellphones cost as much as \$4,000 and weighed over 2 pounds.

The first smartphone was developed by IBM. In 1992, IBM revealed a revolutionary device that had more capabilities than its preceding cell phones. This prototype smartphone was known as the Simon Personal Communicator (Andrew, 2018). Simon also featured many applications and services including email, calendar, calculator, address book, world time clock, notepad, multiple on-screen keyboards, and even the ability to send and receive faxes. In 1996, Nokia introduced the Nokia 9000 Communicator. It could do everything that Simon could but had even more capabilities including a graphical web browser (Pothitos, 2016).

In early 2000, the Ericsson R380 was released by Ericsson Mobile Communications. In 2002, RIM entered the mobile phone market with its BlackBerry 5810 device, a phone with the ability to get e-mail and surf the Web. RIM would not release a proper headset-free smartphone until the BlackBerry 6210 came out in early 2004 (Reed, 2010). When Apple company introduced the iPhone in 2007, it was the first real change (McCarty, 2011).

Apple's unique iOS operating system allowed for a wide range of intuitive gesture-based commands and eventually a rapidly growing warehouse of downloadable third-party applications. Most importantly, the iPhone reoriented people's relationship with smartphones. The iPhone has been generally geared toward businesspeople and enthusiasts who saw then as an invaluable tool for staying organized, corresponding over email and boosting their productivity.

Apple's version took it to a whole other level as a full-blown multimedia powerhouse, enabling users to play games, watch movies, chat, share content and stay connected to all the possibilities that we're all still constantly rediscovering (Nguyen, 2018).

2.1.1 The Evolution of Smartphone

From biometric and facial recognition features, to quicker wireless connections and greater memory storage, to clear images and the ability to run a wide array of apps, the smartphone has progressed at a brisk pace over the last 25+ years.

All it takes is a look at a few for the major development that have materialized since the first smartphone made its way into the marketplace to appreciate just how far these mini computers with telephone, email, messaging, and all sort of other capabilities have come.

That distinction belong to IBM's Simon Personal Communicator, which was unveiled in 1992 and then made available to consumers in 1994. It came at a hefty price tag of \$1,100, and 50,000 units were sold within six months of it being available.

Nowadays, most consumer think of the likes of Apple and Samsung when listing off the best smartphone manufactures, but that wasn't always the case. There was a time when Blackberry, then known as Research In Motion, was the leading name when it came to cutting-edge technology and innovation in the smartphone space. In 1999, in fact, the Waterloo, Ontario-based company announce RIM 850, a wireless handheld computer that made waves.

In early 2008, then Apple CEO Steve Jobs, a tech visionary who has since passed away, unveiled the iPhone, the smartphone brand that has captured the imagination of many millions of people. With each new model release for the ultra-population mobile device, there is mass hysteria virtually worldwide, and this enthusiasm appears to be insatiable.

It was in December 2013 that smartphone shipments surpassed the 1 billion mark for the first time ever. This market a notable development in the smartphone marketplace as it showed what pretty much everyone known by now the smartphone is definitely not a fad.

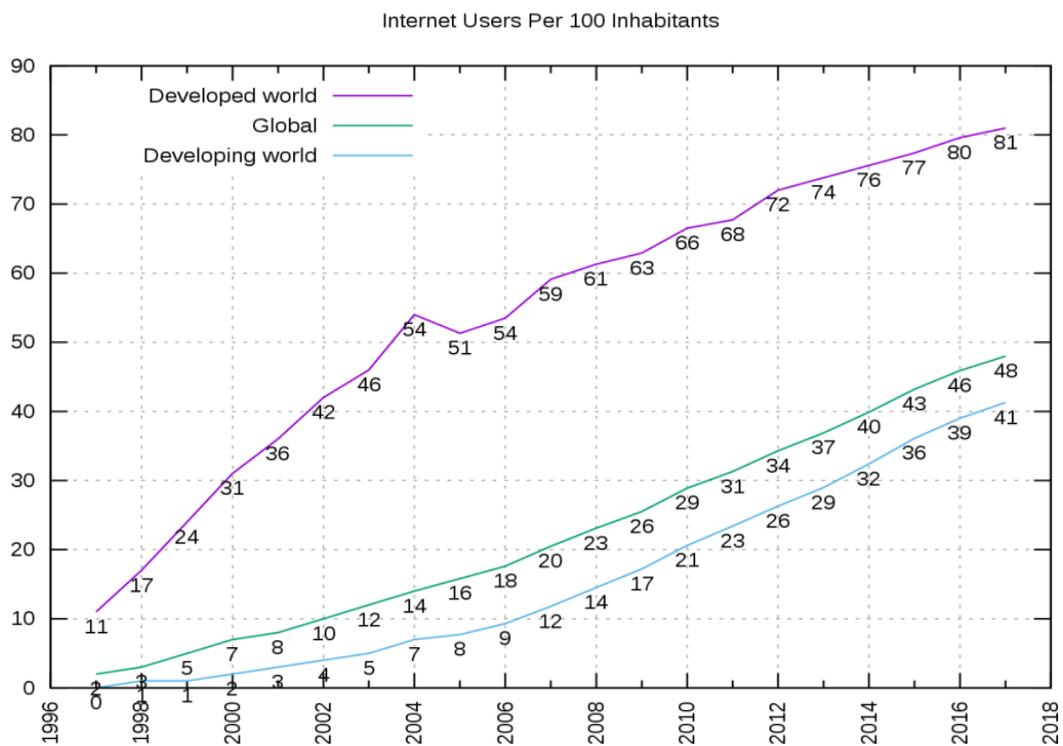
The evolution of smartphones has been substantial. Current models have higher powered cameras-with HD quality-than do earlier model. Other improvements

in smartphone today versus smartphone of the past include better price points, better battery life, and a whole lot more apps in a wide range of categories. It'll be interesting to see how smartphones evolve going forward (Blog, 2017).

2.1.2 Global Internet Usage

In 2015, the International Telecommunication Union estimated about 3.2 billion people, or almost half of the world's population, would be online by the end of the year.

Figure (2.1) Global Internet Usage (1996-2018)



Source: International Telecommunication Union, 2019

As of April 2019, 56.1% of the world's population has internet access, and 81% of the developed world. Of them, about 2 billion would be from developing countries, including 89 million from least developed countries. As a result of figure, internet users are increasing year by year.

Table (2.1) Internet Penetration in Southeast Asia (2017)

Country	Internet users (%)
Philippine	58
Singapore	82
Thailand	67
Vietnam	53
Indonesia	51
Brunei	86
Cambodia	45
Laos	26
Malaysia	71
Timor-Leste	33
Myanmar	26

Source: Internet in Myanmar, 2017

Myanmar now counts 17 millions internet users which represent 26% of the country population. Myanmar remains the least penetrated country in the region (26%) but caught up on Laos with an impressive 97% growth within one year. In Table (2.1), Brunei is the highest percentage (86%), followed with Singapore (82%), Malaysia (71%), Thailand (67%), Philippine (58%), Vietnam (53%), Indonesia (51%), Cambodia (45%), Timor-Leste (33%) and Myanmar and Laos are (26%) (Kanale, 2017).

2.2 Functions and Usage of Smartphone

A smartphone is a cellular telephone with an integrated computer and other features not originally associated with telephones, such as an operating system, web browsing and the ability to run software applications. Smartphone was capable of sending emails as well as keeping a calendar of events for the user, as opposed to simply making calls and sending messages.

One of the most important features of a smartphone is its connection to an app store. As app store is a centralized portal where users can search for and download software applications to run on their phones. A typical app store offers thousands of mobile app for productivity, gaming, word processing, note-taking, organizing, social media and more.

Some of the other key features of a smartphone are internet connectivity, a mobile browser, the ability to sync more than one email account to a device, embedded memory, wireless synchronization with other device (such as laptop or desktop computers, the ability to download applications and run them independently, support for third-party applications, the ability to run multiple applications simultaneously, touchscreen, Wi-Fi, a digital camera, gaming, unified messaging and global positioning system (GPS).

A smartphone also has the ability to support accessories, including Bluetooth headphones, power charging cables and extra speakers. Because users run an OS and applications, smartphone get consistent software updates. As of April 2018, Android leads the OS market share worldwide with about 40% of the market.

Many consumers use their smartphones to engage with friends, family and brands on social media. Social media platforms such as Facebook, Instagram and Twitter have mobile apps that a user can download from their phone's app store. These apps make it easier for smartphone users to post personal updates and photos while on the go rather than at their desktop.

Another common use for smartphones is health and wellness tracking. The health app for iOS, for instance, can keep track of sleep behavior, nutrition, body measurements and more. Mobile payment is another popular use for smartphones. Wallet features all users to save credit card information on their phones to use when purchasing items at retail stores.

App such as Apple Pay also enables users to pay other iOS users directly from their phones. Because the smartphone form factor is typically smaller than a desktop computer, business users typically use it for quick tasks, such as sending an email (Rouse, 2018).

2.3 Effects of Smartphone Usage

Smartphones have radically changed people's lives (Munoz, 2017). Smartphone are included into people's daily lives because of the multiple uses (Felecia, 2019). Revolutionary technology keeps getting smarter and smarter every day. Smartphone has positives effects and negative effects (Munoz, 2017).

2.3.1 Positive Effects of Smartphone Usage

Positive effects of smartphone usage are instant communication, web surfing, camera, entertainment, education, productivity apps, GPS and privacy.

(a) Instant Communication

Smartphones evolved from the earliest communication devices. Thus, it has been created to primarily improve people's way of communicating with each other. The advent of smartphone technology modernized communications. It has paved the way to SMS, text messaging, call, video chat and apps that allow people to instantly communicate to everyone across the globe.

(b) Web Surfing

The smartphones also make it convenient for people to surf the web. These devices are integrated with mobile browsers that enable them to research and access websites anytime and anywhere. With this, people have easy access to information.

(c) Camera

In this "selfie" generation, the camera is so important. It saves people from buying a separate digital camera to take photos and videos. Especially now most of people are fond of posting photos in the social media. With this, smartphone giants make sure their phones are equipped with the best camera.

(d) Entertainment

Smartphone are also viewed as a source of entertainment – games, music, movies and books. Watching movies and reading e-books are also convenient through smartphones.

(e) Education

Smartphones can do aid education, especially in children. With easy access to information and helpful content, children can have a more interactive learning through watching education videos and playing education applications. Children can also easily surf the internet if children want to search something about a topic.

(f) Productivity Apps

Smartphones can do almost everything with the help of apps. There are over 2 million apps in Google Play Store while over 1.5 million apps in Apple App Store. The functionality of apps varies from each other – photo and video editor, ticket booking, online store, payment system, data analysis, personal assistant, etc.

(g) GPS

Most smartphones now are equipped with Global Positioning System (GPS). This technology allows people to locate certain addresses and area all around the world. This helped improved not just communication, but most especially, transportation (Munoz, 2017).

(h) Privacy

With the invention of smartphones, people don't have to worry about messages and love letter being discovered by family members. Smartphones allow to store and secure this information. Most smartphones are designed with a phone lock system. People can use a pin, code or even fingerprint to lock the phone (Felecia, 2019). Online transactions can also be done through smartphones (Munoz, 2017).

2.3.2 Negative Effects of Smartphone Usage

Negative effects of smartphone usage are costly, poor social interaction, distraction, health issues, addiction, privacy threats and wrapping up.

(a) Costly

Smartphones can be expensive, especially those high-end phones with great specs and features. Apart from the smartphone itself, some applications require being purchased in order to fully use the other functionalities offered by the app. If people also want data connectivity, people need to maintain a data plan.

(b) Poor Social Interaction

With smartphone, the real social interaction degrades. People no longer interact with people outside as people tend to spend more time with smartphones (Munoz, 2017).

(c) Distraction

People can be easily distracted with a smartphone. People have to be careful because accidents can occur. If people are driving then put the phone away and concentrate. Whatever is on smartphone can wait until people are home. Do not risk the life with these handheld devices. Social etiquette is another concern. If people are in an important meeting, remember to put the phone on silent. Also, it can be disrespectful when someone is talking (Felecia, 2019).

(d) Health Issues

Smartphones are also found to have a negative impact on health. Smartphones emit radiofrequency energy which can be absorbed by the tissues in the body. Sleep deprivation is also one of the common bad effects of using smartphones. Moreover, phones produce HEV light which can damage eye's retina.

(e) Addiction

When people wake up in the morning, do the people find the phone first than anything else? If people do, this is an early sign of smartphone addiction. This problem may lead to a serious addiction. This may include addiction to games, social media, etc.

(f) Privacy Threats

Even if smartphones are made private, there are still security risks and threats everywhere. Hackers are always present and virtual viruses are potent. Smartphones are vulnerable to these threats when access the internet. Thus, people need to be extra cautious of opening sites and links (Munoz, 2017).

(g) Wrapping Up

Smartphones have unlimited benefits and some of people cannot function without it. Always bear in mind that there are negative effects associated with the extensive use of smartphones. To be on the safe side, use it in moderation at the appropriate time (Felecia, 2019).

2.3.3 Effect of Smartphone on Education

Over the past decades, teaching and learning in education have incorporated information and communication technology (ICT) as it is seen as a crucial component to be adapted in the development of social environment (Rung, 2014). The most popular trend in term of ICT use can be seen by the growth of dependency on mobile-connected devices as it is not limited for daily tasks but also been utilized in educational environments.

Educational activities that incorporate smartphone use are accessing of course content, inspiring sharing and discussion session between teachers and students and retrieving information regarding students' performances (Cochrane, Koszalka & Kuswani, 2010). Therefore, smartphone use may lead to important influence in enhancing students' performance as this device might boost teaching and learning experience.

Moreover, students have difficulty in balancing their study life. Students seem to be motivated on updating their status on Facebook rather than downloading their class assignments.

However, utilizing the smartphone for a long period or continuously might affect a person health; the person might experience headache and frequent messages and calls lead to interruption on student concentration and focus on completing their coursework which will effect negatively on their academic (Shanab, 2015).

2.3.4 Effect of Smartphone on Psychological Health

Problematic smartphone use might lead to development of certain behavior and mental problems. Students tend to surf internet and play online games as way to release their mental stress from the stress that students experience in term to escape from problems that students face their friends or their school work. Students in the pass depend on computer to surf internet to cope with their stress problem however in today's society, students tend to depend more on smartphone due to the easy accessibility of internet (Singh, Manvin, Samah & Narina, 2018).

Study conducted on smartphone users revealed that users that overuse smartphone experience higher level of depression, trait anxiety and state anxiety compare to normal smartphone users. The increasing frequency and time spend beside of dependency on smartphone among students can be seen as an indicator of development of smartphone use from a habit to an addition (Roberts, 2014).

2.3.5 Effect of Smartphone on Social Interaction

Communication plays a vital part of human life. This indicates technology changing rapidly to match human necessities. In the modern society, communication becomes easier with the development of technology and it influences the style of communication between individuals. The unique and multiple features of smartphones make it different from other phones.

However, social engagement between individuals is jeopardized with its unique application by limiting face to face interaction and develops more chat rooms communication. It might cause lack of real life social interaction that contributes to relationship to arise and interference in students' academic work.

Society is moving towards smartphone world therefore obviously it can be seen that individuals are investing most of their time on the screen chatting and engaging in social media. Although the application of smartphones increases the ability to interact with social mates easily and freely but it poses danger on relationship between human.

Even though individuals are able to create groups of friends and communicate through various social platforms but oral communication is seen to be lack (Singh, Manvin, Samah & Narina, 2018).

CHAPTER III

OVERVIEW OF TELECOMMUNICATION SECTOR IN MYANMAR

3.1 Current Status of Communication Sector in Myanmar

Five years ago, Myanmar remained one of the last underdeveloped telecommunication markets in Asia, however this gap is being bridged quickly with a focus on mobile and mobile broadband services and exploding growth in that sector. By 2018 Myanmar was four years into a telecoms boom that has dramatically changed the physical and technological landscape of the country, since the sector was opened to foreign competition in 2014.

Fixed broadband penetration in Myanmar remains extremely low mainly due to a limited number of fixed lines as well as the dominance of the mobile platform and an unwillingness by operators to invest in fixed broadband infrastructure. However, by 2018 a number of new fixed broadband service providers were emerging, installing fiber below or above ground for fixed line broadband access.

One factor behind this fall is the entry of the telecommunications into the home broadband market to compete directly with existing ISPs. Over the next years to 2023 the market is expected to grow very strongly but overall market penetration will remain extremely low compares to other nations. Myanmar's mobile market has experienced very rapid from 2013 to 2017, driven by the entry of three new competitors in the market, increasing the number of operators from just one of four. This has dramatically increased market competition.

By 2018 the mobile market was approaching saturation and was seeing increased competition over data prices. Average revenue per user dropped further with the entry of a fourth operator – Mytel, in 2018. Mobile broadband has experienced rapid growth over the past five years, driven by rapid growth in the mobile sector.

Because telecommunication reform came very late Myanmar, it has essentially leap frogged past fixed broadband access to mobile devices access for internet

services. Strong growth is predicted over the next five years however at a slower rate due to increasing maturity in the market (Harpur, 2019).

3.2 Telecommunication Sector in Myanmar

Myanmar telecommunications sector is expected to be among the handful of sectors yielding opportunities for growth in the coming fiscal year. The Myanmar telecommunication sector has made progress year after year. For businesses to be able to operate efficiently, telecommunications services are essential. As market demand rises, there will be more foreign direct investments as well as local investments into this sector.

According to a government survey in the previous fiscal year, there were 56.8 million mobile phone users in 2017-18 against a total population of 54 million, implying a penetration rate of more than 100 percent. In fact, 4G availability in Yangon is currently the fourth highest in ASEAN at over 80 percent, trailing Bangkok, Singapore and Jakarta but ahead of Kuala Lumpur, Phnom Penh, Ho Chi Minh City and Manilla, according to a May report by OpenSignal (Saw Yi Nanda, 2018).

Myanmar Speed Net was charging customers US\$95 a month for 2mbps and a US\$250 set up fee. Today, customers pay just K28,000 per month for the same amount of data. Meanwhile, set up fees have dropped to US\$90 and customers who commit to a six-month contract do not have to pay any set up fee.

Myanmar Speed Net is competing against the likes of Amara, which charges customers K35,000 per month for unlimited data. Myanmar's telecom and internet sector improve. As the number of operator increases and competition intensifies, customers stand to benefit.

(a) The Contribution of Telecommunication Sector to GDP

The expansion of Myanmar's telecommunication sector continues to live up to its early promise, with the reform of the industry. The Telecom sector has been booming since the liberalization in 2012-13 Fiscal Year and is likely to do so in the near future. As the telecom sector has attracted the second-largest amount of foreign direct investment (FDI) after oil and gas, the contribution of Telecommunication sector to GDP has increased rapidly year by year.

(b) The Increase of Telephone Penetration

According to the Directorate of Telecommunications in 2017, the Myanmar Post and Telecommunications (MPT) has sold 23.18 million Sim cards, Telenor has sold 18.8 million and the Ooredoo has sold 8.11 million Sim cards.

Therefore, the percent of mobile phone penetration becomes higher, but this number likely does not reflect the real penetration rate as many users own more than one SIM card, so the real penetration rate would be 79.5% in 2016-17 Fiscal Year.

(c) SIM Cards by Operators

In Myanmar telecommunication market, the majority of mobile phones use GSM type of SIM card, which is provided by two foreign operators Ooredoo and Telenor and local MPT. Local service providers (MPT and MEC Tel) also use CDMA system. In FY 2016-17, the leading operator was MPT, followed by Telenor, Ooredoo and MEC Tel. According to survey data, 14 % of mobile subscribers are CDMA users and 86% of subscribers are GSM users.

(d) Internet Connection Bandwidth Increase

Internet connection bandwidth is a key factor for providing high-speed internet access to an increasing number of users, and it has dramatically increased in 6 years (from 2011 to 2017). It increased from 3.92 Gbps to 200 Gbps. It is due to the technologies brought by new operators (Ooredoo and Telenor) and increasing competition in internet services market.

(e) Internet Penetration Trend in Myanmar

After 2014, the cheaper cost of mobile SIM cards and availability of mobile internet have triggered a dramatic increase of internet users. There are approximately 27.7 million internet users (including mobile users) in 2016-17 Fiscal Year in Myanmar. About 99% of internet subscribers use mobile internet services, and the rest are broad band internet services users. Urban areas (particularly Yangon and Mandalay) have the biggest market share of internet users.

(f) Top Internet Service Providers (ISPs)

More than one quarter of the population in Myanmar is using Internet every day. In 2013, the government allowed foreign investors to bid for two out of four

mobile telecommunications licenses. After that, Norwegian multinational telecommunication company, Telenor, and Qatar owned international telecommunication company, Ooredoo, started operations in 2014. While mobile data is picking up at an incredible pace, fixed broadband has not yet met the same success.

Myanmar has reached a pivotal point in its technological evolution, and data providers are eager to invest in a sector that continues to rapidly expand. Myanmar Telecom sector is one of the fastest growing economies in the world. Successful implementation of a carefully planned spectrum roadmap is critical for the long-term development of the sector.

While the cost for internet services, mobile data and phone bills are quite expensive, the arrival of new operators like, MyTel, and new internet services providers, Ananda, is likely to trigger a new round of price cuts with efficient services. Therefore, customers will benefit from better coverage and lower prices in the near future (Saw Yi Nanda, 2018).

3.2.1 Telecoms Laws and Regulations in Myanmar

Telecommunications are currently a central issue in Myanmar. Telecoms laws and regulations are shown below.

(a) Telecoms Laws

The Telecommunications Law No. 31/2013 “Telecoms Law” was introduced on 8 October 2013, providing a modern regulatory framework for Myanmar’s telecommunications sector. The Telecoms Law regulates network facility services, network service providers and application service providers. The Telecoms Law is supplemented by Notification No. 16/2014 (Licensing Rules) issued by the then Ministry of Communications and Information Technology of the Union Government (MCIT), which introduced rules and regulations in respect of licensing as well as the implementing regulations to the Telecoms Law. The Telecoms Law and Licensing Rule have been augmented by the following legislation.

Table (3.1) Telecoms' Legislation in Myanmar

	Legislation	Date
Notification No. 1/2015	Interconnection and Access Rules	6 January 2015
Notification No. 21/2015	Telecoms Competition Rules	9 June 2015
Notification No. 49/2015	The Numbering Rules	3 December 2015
Notification No. 10/2016	The Spectrum Rules	7 March 2016
MCIT reorganized as Ministry of Transport and Communications (MOTC) Notification No. 9/2016 (25 May 2016)		
MOTC Notice	Technical Specifications for Short Range Device	17 July 2016
MOTC Notice	Guidelines on the Provision of International Gateway Services	8 September 2016
MOTC Notice	Telecommunications Numbering Plan	31 January 2017
MOTC Notice	The Technical Specification and Quality of Service for International Gateway Service	5 April 2017
MOTC Notice	Draft Myanmar Communications Regulatory Commission Law (MCRC Law)	15 May 2017
Law No – 26, 2017	The Law Amending the Telecommunication Law	18 August 2017

Source: Myanmar Telecoms, 2018

(b) Telecoms Regulation

The Posts and Telecommunications Department “Telecommunications Department” under the Ministry of Transport and Communications (MOTC) is the

telecommunications regulator in Myanmar. The responsibilities of the Telecommunications Department include:-

- (i) The issuance and renewal of service provider licenses;
- (ii) Regulation of the frequency spectrum and numbering plans;
- (iii) Ensuring consumer protection;
- (iv) Inspection and supervision of service providers; and
- (v) Initiating administrative actions against service providers.

Table (3.2) Myanmar's Telephone Service Development in (2013-2018)

Telephone service	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	Average annual growth rate
Telephone in use	8,259,456	28,095,036	49,936,297	55,300,256	56,868,439	66.24
Mobile Phone in use	7,725,573	27,568,244	49,414,671	54,783,426	56,348,067	69.96
Union	15,985,029	55,663,280	99,350,968	110,083,682	113,216,506	68.06

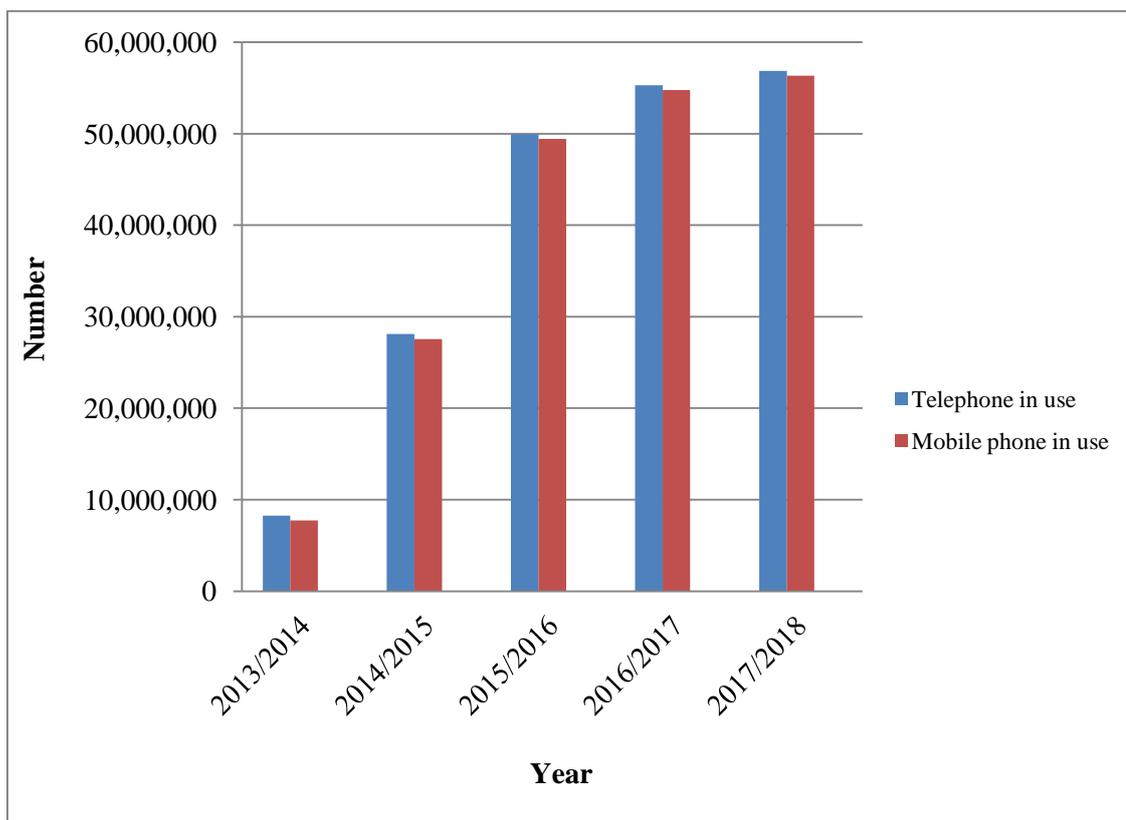
Source: CSO, 2018

In table (3.2), Myanmar's telephone and mobile phone penetration were increased by year by year. In 2013-2014 financial year, the number of telephone penetration amounted to (8,259,456), the number of mobile phone penetration amounted to (7,725,573), total number of telephone and mobile phone amounted to (15,985,029).

At the end of 2017-2018 financial the number of telephone penetration amounted to (56,868,439), the number of mobile phone penetration amounted to (56,348,067), total number of telephone and mobile phone amounted to (113,216,506).

The average annual growth rate of the total number of telephone and mobile phone penetration was (68.06%). As a data result, the average annual growth rate of mobile phone penetration was higher (3.72%) than the average annual growth rate of telephone penetration.

Figure (3.1) Myanmar's Telephone Service Development in (2013-2018)



Source: CSO, 2018

3.2.2 Entrance of New Mobile Operators

Previously, Myanmar Post and Telecommunication had a monopoly in the country. In 2013, the government started taking steps to open up the telecommunications market, issuing licenses to new service providers. In 2014, Qatar-based Ooredoo and Norwegian Telenor Group entered the market, resulting in the reduction of consumer prices and a rapid growth in the number of subscribers, as well as the expansion of the country's infrastructure.

In November 2015, Ericsson named Myanmar the world's fourth fastest-growing mobile market. As of June 2015, Myanmar has a mobile phone penetration rate of 54.6%, up from less than 10% in 2012. On 12 January 2017, Mytel (Telecom International Myanmar Co., Ltd.) received License for the provision of telecommunication services, officially became the 4th operator in Myanmar.

Table (3.3) The Market Shares of Various Operators in 2018

Operator	Mobile subscribers (million)
MPT	22
Telenor	19
Ooredoo	9
Mytel	3.2

Source: Myanmar Times, 2019

Table (3.3), MPT led in the mobile share and had 22 million mobile subscribers, Telenor had 19 million mobile subscribers, Ooredoo had 9 million mobile subscribers and Mytel had 3.2 million in 2018.

MPT monopolized the telecoms market in Myanmar until the government under the presidency of U Thein Sein granted permits to Telenor and Ooredoo to do business in the country. The Directorate of Telecommunications selected Telenor and Ooredoo to conduct telecom operations and services on June 27, 2013 and gave out the working licenses in February 2014. After new operators entered the market, competition increased and brought with its advantages and changes.

When Ooredoo and Telenor started selling their prepaid were purchasing them frantically. People, unsatisfied with MPT's services, were curious and excited about what the two new operators had to offer. For many years before the entry of the new service providers, MPT charged for local calls to K50 per minute and K25 SMS per message. However, after launching their services, Telenor and Ooredoo charges K25 per minute for local calls and K10 for SMS. Moreover, their internet data rates were also lower.

The Ministry of Transportation and Telecommunications granted operation licenses to Telenor and Ooredoo. Telenor and Ooredoo bid US\$500 million and US\$1.05 billion, respectively for 15-year contracts for telecom development in the country. The newest entry My Tel, owned by Myanmar National Tele & Communications (MNTC) Co, was set up in January this year after bidding US\$300 million.

Mytel is a partnership between Vietnam-based Viettel Co and Myanmar National Telecom Holding Public Ltd, a consortium of local firms and Star High Co owned by the Ministry of Defense. Commander-in-chief senior General Min Aung Hlaing stated on the opening ceremony of Mytel on 11 February 2018 that it will

cover 93 percent of the 2G networks and 60 percent of the 4G networks of Myanmar after installing towers and stations across the country (Saw Yi Nanda, 2018).

Table (3.4) Myanmar’s Mobile Phone Users in Per 100 Population by States and Regions (2016-2018)

States and Regions	2016-2017	2017-2018	Annual Growth Rate
Kachin State	110	116	5.5
Kayah State	130	161	23.9
Kayin State	73	87	19.1
Chin State	59	105	78
Sagaing Region	99	106	7.1
Tanintharyi Region	95	98	3.2
Magway Region	97	101	4.1
Bago Region	84	83	-1.2
Mandalay Region	117	123	5.1
Mon State	108	108	0
Rakhine State	54	58	7.4
Yangon Region	172	161	-6.4
Shan State	75	80	6.7
Ayeyarwady Region	78	80	2.6
Nay Pyi Taw	153	146	-4.8
Union	1504	1613	7.3

Source: CSO, 2018

According to the table (3.4), the total number of mobile phone user by states and regions is (1613) in 2017-2018 and the annual growth rate is (7.3%). The highest annual growth rate is (78%) in Chin state.

In 2016-2017, the largest number of mobile phone users is (172) in Yangon region. In 2017-2018, the largest number of mobile phone users is (161) in Kayah state and Yangon region. Now, it is popular communication device in Myanmar.

Table (3.5) Myanmar's Internet Users in (2013-2018)

Year	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	Average annual growth rate
Number of internet users	2,777,218	17,988,570	39,438,758	37,847,723	47,821,316	137.84

Source: CSO, 2018

According to the table (3.5), the number of internet users in Myanmar was (2,777,218) in 2013-2014 financial year. In 2017-2018 financial year, the number of internet users in Myanmar was (47,821,316). The average annual growth rate of internet users was (137.84%).

Table (3.6) Myanmar's Fixed Broadband Internet Subscribers in Per 100 Population by States and Regions (2016-2018)

States and Regions	2016-2017	2017-2018	Annual Growth Rate
Kachin State	0.25	0.36	44
Kayah State	0.84	0.97	15.5
Kayin State	0.15	0.17	13.3
Chin State	0.35	0.34	-2.9
Sagaing Region	0.17	0.17	0
Tanintharyi Region	0.38	0.36	-5.3
Magway Region	0.28	0.27	-3.6
Bago Region	0.11	0.12	9
Mandalay Region	0.25	0.20	-20
Mon State	0.39	0.42	7.7
Rakhine State	0.10	0.11	10
Yangon Region	1.19	1.17	-1.7
Shan State	0.36	0.33	-8.3
Ayeyarwady Region	0.17	0.18	5.9
Nay Pyi Taw	1.53	1.19	-22.2
Union	6.52	6.36	-2.5

Source: CSO, 2018

According to the table (3.6), the total number of fixed broadband internet subscriber by states and regions was (6.36) in 2017-2018 and the annual growth rate was (-2.5%). The highest annual growth rate was (44%) in Kachin state.

In 2016-2017, the largest number of fixed broadband internet subscriber was (1.53) in Nay Pyi Taw. In 2017-2018, the largest number of fixed broadband internet subscriber was (1.19) also in Nay Pyi Taw.

3.3 Smartphone Usage in Myanmar

The expansion of Myanmar's telecoms market continued to live up to its early promise with industry reform viewed as the most significant economic success since the military ceded power in 2011. In the relatively short period of time following this, the sector has become an important enabler of socio-economic development by attracting billions of dollars in investment, fostering the emergence of tech start-ups and connecting rural communities to the outside world for the first time. While the majority of the country is now served by existing operators and the rate of subscription growth is slowing, investor interest continues to build.

Since the entrance of international telecoms operators, sizeable investments have been channelled into technology development. In 2014, the awarding of two national telecommunications licenses out of 91 competing firms to Norwegian firm Telenor and Qatar-headquartered Ooredoo served as the primary catalyst for mobile network expansion. Prior to liberalization, the market was essentially monopolized by two companies: the state-run Myanma Posts and Telecommunications (MPT) and on a smaller scale since 2013 the military-backed operator MECtel, owned by the Myanmar Economic Cooperation (MEC).

Due to increased competition and in efforts to bridge the financial and technological gap between MPT and their international counterparts, the public operator entered into a \$2bn joint venture with KDDI Summit Global Myanmar (KSGM) – a collaboration between Japanese giants KDDI and Sumitomo – to form the MPT-KSGM joint operation.

After months of negotiations, the sector is once again heading towards transformation. In January 2017 the Ministry of Transport and Communication formally awarded a fourth mobile operator license to Myanmar National Tele& Communications under the brand name MyTel. The consortium is headed by the Vietnamese military-backed Viettel and includes 11 local firms as well as the Star

High Public Company which is a subsidiary of the MEC. Through Star High, MyTel have access to approximately 1000 towers and over 13,000km of fibre, as well as other telecoms assets.

Despite the variety of obstacles, the telecoms industry continues to expand and is considered one of the nation's greatest economic successes since the transition towards civilian rule began. Evidence of growth is clearly visible with telecoms towers now spread across the majority of the country. According to official statistics from the Ministry of Transport and Communication, Myanmar had 14,872 telecoms towers as of April 2017, with an additional 1623 towers under repair and a further 44 new ones under construction.

The arrival of international operators has increased the affordability of mobile accessibility, as well as fostering better service levels and network coverage. A single MPT SIM card cost upward of \$3000 in the early 2000s. During this time the cost prohibitiveness of mobile phones meant it was common practice for some landline owners to run extensions from their homes into the streets for passers-by to use at a few cents per minute.

In 2017, a SIM card cost around \$1 with smartphones available for less than \$20. Better affordability has seen the mobile subscriber base skyrocket. In the second quarter of 2017, Myanmar had the world's fastest-growing mobile subscription rate, expanding by 68.5% between 2014 and 2017, more than four times that of Niger – the market with the second-fastest rate.

By the first half of 2017, MPT led the market by size with 25m users, followed by Telenor in second place with a registered 19m. The fastest-growing provider, Ooredoo, surpassed 9m subscribers in May 2017, a 35% year-on-year expansion in the first quarter of 2017, driven mostly by its decision to launch a 4G network before its competitors with additional 3G site rollouts.

In terms of average daily data consumption, Telenor's utilization rate grew from 70 TB in the third quarter of 2015 to 350 TB in the same quarter of 2016. Over the same one-year period, Ooredoo increased consumption from 45 TB to 180 TB, while MPT grew from 110 TB to 250 TB (The Report Myanmar, 2018).

While the mobile segment continues to grow, operators are rolling out 4G services to boost internet speeds. According to the Huawei Global Connectivity Index 2017, Myanmar's average mobile internet speed stood at 5Mbps, well below the ASEAN average of 18 Mbps.

MPT announced that its customers could exchange their 2G and 3G SIM cards for 4G-ready cards free of charge and keep the same phone numbers. Ooredoo accounted for 19% of the total domestic market share in the second quarter of 2017 with approximately 54% of its base using 4G services. Telenor had a market share of around 37% with 500,000 4G users, according to industry media.

With the expansion of 4G technology and smartphone adoption, the average mobile user has quickly become a data-centric consumer. As of mid-2017 mobile penetration had reached 104.6% up dramatically from 86.2% the previous year and 10% in 2013. According to a survey conducted by the Myanmar ICT for Development Organization, 93% citizens aged between 15 and 24 have smartphones.

The price and quality of video streaming has been a key factor determining customer satisfaction levels. To accommodate the demands of a growing subscriber base while increasing Data-use-free revenue, operators have been engaged in back-and-forth data price battles, leading to lower costs for customers.

In March 2017, Ooredoo partnered with Malaysian video streaming company iflix, allowing users to have free access to streamed videos for six months, after which a flat monthly rate of MMK3000 (\$2.30) was applied. Within a few months MPT began offering discounted data plans for YouTube and local TV channels through the Pyone Play app.

Under this arrangement, MPT charges customers a daily rate of MMK399 (\$0.30) for 150 MB, with a further 200 MB of data allocated to mobile users to use Facebook, Viber, YouTube and Pyone Play. These additional benefits and services for customers serve as proof that price battles have provided a healthy amount of competition to the market.

With smartphones being widely adopted since the fall of SIM prices and the entrance of low-cost phones manufactured in China, internet penetration has grown from 1% to 89% in less than four years. However, laptops and computers are still rarely used.

The market is saturated with affordable smartphones, although higher-end brands, such as the latest iPhone and Samsung models, can only be found in shops spread across the commercial centers of Yangon and Mandalay. Accordingly, the majority of the population have skipped fixed-line telephones and gone straight to mobile devices, which are often their first gateway to the internet. Likewise, after a

significant string of investments in technology and communications, opportunities have opened up in e-commerce.

Given the rise in smartphone usage, various local banks have teamed up with solutions providers to offer digital wallet services, while mobile money providers have joined up with telecoms operators in the hope of capturing a portion of the existing unbanked population – estimated at 94% in 2016.

The introduction of digital money is gradually affecting day-to-day transactions, though various issues must be addressed before rural communities can fully reap the rewards of e-money. Only around 30% of the population has the valid identification required for digital financial transactions. Another obstacle is low consumer trust in digital products. Legislative gaps and capacity constraints at the Central Bank of Myanmar (CBM) also somewhat hinder the development of the domestic digital economy.

While some banks have successfully launched digital wallets, as of August 2017 only two mobile money operators had received a mobile financial services licenses. The first was Wave Money had extended its reach through agents into 255 out of 330 townships, obtaining 400,000 customers in the process. The second was granted in July 2017 to M-pitesan, a partnership between Ooredoo and the Co-operative Bank. MPT announced it would enter the mobile money market before the end of 2017, but there were no further updates by early 2018.

While the country legally mandates obtaining a mobile financial services license, the CBM does not strictly enforce it. This has allowed unregulated entities to enter, such as OK Dollar, which reportedly provided financial services to more than 100,000 customers between June 2016 and early 2018.

In a bid to strengthen procedures, the Ministry of Transport and Communication invited feedback from industry experts on a draft telecoms law issued in early 2017. One of the more talked-about features is the establishment of the Myanmar Communications Regulatory Commission (MCRC), an independent, autonomous and impartial regulatory body to govern the telecoms industry.

According to the draft legislation, the commission would be in charge of issuing telecoms licenses and future spectrum allocation, especially combining the roles of the Ministry of Transport and Communication and the Posts and Telecommunications Department. In addition, the MCRC will act as an advisory body

to the government on all matters relating to telecoms, as well as promote a fair market by protecting the industry from anti-competitive practices.

This should ensure services are accessible to the wider population. At the same time, the MCRC will be responsible for the monitoring and enforcement of laws stipulated under operating licenses. Broadly speaking, the law will also cover the transition of authority from the Posts and Telecommunications Department to the new MCRC.

Greater smartphone penetration has improved access to communications technology. Extending coverage to unconnected rural communities remains both a priority for the government and a challenge for internet providers. Existing operators are gearing up for a more competitive environment with the imminent arrival of MyTel set to shake up the market.

Cost reductions and more competition can be achieved by sharing resources and infrastructure. With 3G and 4G coverage on the rise and ongoing efforts to improve the network, Myanmar's ICT capacity is receiving a significant push forward (The Report Myanmar, 2018).

CHAPTER IV

SURVEY ANALYSIS

4.1 Survey Profile

The Yangon University of Economics is a State University which is under the Department of Higher Education (Yangon Region, Myanmar), Ministry of Education. The University was established as a professional institute to train economist, statisticians, accountants, and management personnel, and to do research on economic, business and statistical issues related to the Myanmar Economy.

The University is organized with the Rector, Pro-Rector and Head of Departments forming the Administrative Board and the Academic Board. There are at present a total of 420 full-time staffs, out of which 230 are engaged in teaching and research. The rest are administrative and support personnel.

Courses in Economics, Statistics, Commerce, and Management are offered at the Bachelors, Honors, Masters and Diplomas levels. At present, the University is offering the courses for 9 bachelor degree, 9 master degrees, 11 post graduate diploma degrees and 3 doctoral degrees. The University has nurtured more than 60,000 graduates who specialized in Economics, Statistics, Commerce and Business Studies.

The University has three Campuses: Kamayut Campus, Hlaing Campus and Ywathagyi Campus. The Kamayut Campus, the Original Campus, located on the shores of Inya Lake at the corner of Inya Road and Pyay Road. The Hlaing Campus is situated about one mile from the Kamayut Campus. The Ywathagyi Campus, the newly Campus established in 2000, is located 13 miles away from Kamayut Campus.

The undergraduate courses are being offered in Ywathagyi Campus and Master courses and PhD courses are being conducted in Kamaryut Campus. In Hlaing Campus, Yangon University of Econimics has been offering the courses under the Human Resource Development (HRD) programme and has established Myanmar-India Entrepreneurship Development Center since 2009. Also in 2013, Center of Excellence for Business Skills Development has been established in Hlaing Campus

in cooperation with the United Nations Educational, Scientific and Cultural Organization (UNESCO) and Pepsico.

4.2 Survey Design

The survey was conducted in Yangon University of Economics (Kamayut, Hlaing and Ywathagyi) during February to March 2019. The total population size of these three areas is 6175. The sample size of the research study is 224. The purpose of choosing this area is to study the effects of smartphone usage on students as a student at this university.

The survey was conducted students of these three areas that include students of eight majors from first year to master degree in which respondent in these target areas were approached and selected by two stage sampling design. In line with this sampling design, first stage units were selected all students in Yangon University of Economics such as first year, second year, third year, fourth year, honours, qualified and master like educational level. In each educational level includes 32 respondents.

In the second stage sample from the selected educational levels, 224 students were selected by sample random sampling method. The smartphone surveys were implemented in questionnaire format. The questionnaires were implemented in Myanmar Language and then translated back into English.

The survey questionnaire consisted of three sections. The first section was to obtain personal information based on demographic data such as gender, age and educational level. The second section was about the information of smartphone usage by students such as number of handsets, types of SIM Card, phone's memory card, favorite feature of smartphone, primary purpose of using internet on smartphone, types of phone's accessories, brand name of smartphone, reasons for choosing the smartphone, time spend on smartphone, always on smartphone, hours for one day use on smartphone, places where smartphones are used, reason of using smartphone and using phone bills of the respondents. The last or third section was getting the opinions about smartphone. It is important to note that the fourth section contained questions to be related based on the scale.

4.2.1 Number of Students Attending at Yangon University of Economics

In 2017-2018, total population of Yangon University of Economics was 6175 of which 1572 were males and 4603 were females. The sex ratio was 34 males per 100 females.

Table (4.1) Number of Students Attending at Yangon University of Economics in (2017-2018)

Years	Males	Females	Total
First year	364	909	1273
Second Year	232	795	1027
Third year	216	745	961
Fourth year	179	732	911
Honors (1 st year)	2	36	38
Honors (2 nd year)	5	37	42
Honors (3 rd year)	2	26	28
Qualified	13	53	66
Master (1 st year)	217	448	665
Master (2 nd Year)	307	679	986
PhD	9	86	95
Diploma	26	57	83
Total	1572	4603	6175

Source: Academic Affairs Office in Yangon University of Economics, (2017-2018)

4.3 Survey Results

Survey results consisted of four sections: demographic characteristics of the respondents, information about smartphone's characteristics, information about smartphone usage and opinions about the effects of smartphone usage.

4.3.1 Demographic Characteristics of the Respondents

According to survey result, total of 224 respondents participate in this study. Table (4.2) shows that the gender and age segments are revealed according to statistical point of view.

Table (4.2) Demographic Characteristics of the Respondents

No.	Descriptions	Characteristics	Respondents	Percentage (%)
1	Gender	Male	55	24.6
		Female	169	75.4
		Total	224	100.0
2	Age	Under 16 years	1	0.4
		Between 16 to 18 years	44	19.6
		Between 18 to 20 years	83	37.1
		Between 20 to 22 years	71	31.7
		Between 22 to 24 years	20	8.9
		Over 24 years	5	2.2
		Total	224	100.0

Source: Survey Data, 2019

In table (4.2), the total samples collected from students are 224, out of which (24.6%) are male and (75.4%) are female students.

When respondents were asked about the age segment, (0.4%) of the students are in the age group under 16 years, (19.6%) in between 16 to 18 age group, (37.1%) in between 18 to 20 age group, (31.7%) in between 20 to 22 age group, (8.9%) in between 22 to 24 age group and (2.2%) in the age group over 24 years.

When respondents were asked about the educational level, (14.3%) of the respondents were enrolled in First year, (14.3%) in Second year, (14.3%) in Third year, (14.3%) in Fourth year, (14.3%) in Honors, (14.3%) in Qualified and (14.3%) in Master.

4.3.2 Information about Smartphone Usage by Students

Types of smartphone usage by students are number of handset, phone's password, types of SIM card, phone's memory card, favorite feature of smartphone, primary purpose of using internet on smartphone, types of phone's accessories, brand name of smartphone, reasons for choosing the smartphone, time spend on smartphone, always on smartphone, hours for one day use on smartphone, places where smartphones are used, reason of using smartphone and using phone bills of the respondents.

Table (4.3) Number of Handset

Number of Handset	Frequency	Percentage (%)
One	203	90.6
Two	20	8.9
More than two	1	0.4
Total	224	100.0

Source: Survey Data, 2019

According to the table (4.3), when students were asked about the number of handsets owned by them, (90.6%) had only one handset and two handsets holder are (8.9%) while (0.4%) of the student owns more than two handsets.

Table (4.4) Phone's Password

Phone's Password	Frequency	Percentage (%)
Yes	194	86.6
No	30	13.4
Total	224	100.0

Source: Survey Data, 2019

The above table (4.4) shows that how private do respondent thinks the information stored in the smartphone so that password service is utilized by them.

By the survey results, (86.6%) of the respondents use the password facility on their smartphone while (13.4%) of the respondents do not consider any private content in the smartphone for which they do not use password facility on their smartphone.

Table (4.5) Type of SIM Card

Particular	Frequency	Percentage (%)
MPT	117	52.2
Telenor	92	41.1
Ooredoo	68	30.4
MEC	1	.4
Mytel	91	40.6

Source: Survey Data, 2019

In table (4.5), when students were asked about type of SIM Card, (52.2%) of the students use MPT, (41.1%) of the students use Telenor, (30.4%) of the students use Ooredoo, (0.4%) of the student uses MEC and (40.6%) of the students use Mytel. According to the survey results, most of the respondents use MPT.

Table (4.6) Phone’s Memory Card

Phone’s Memory Card	Frequency	Percentage (%)
Yes	137	61.2
No	87	38.8
Total	224	100.0

Source: Survey Data, 2019

By the survey results of table (4.6), when students were asked about memory card, (61.2%) of the students have memory cards but (38.8%) of the students don’t have it.

Table (4.7) Favorite Feature of Smartphone

Applications	Frequency	Percentage (%)
Camera	44	19.6
Internet	193	86.2
Game	72	32.1
Text message	16	7.1
Other utilities	9	4.0

Source: Survey Data, 2019

The features of the smartphones are the set of capabilities, services and applications. As a result of that it can be clearly seem that most of the respondent’s favorite feature is internet according to table (4.7).

In overall, 44 respondents (19.6%) favorite the camera feature, 193 respondents (86.2%) favorite the internet feature, 72 respondents (32.1%) favorite the game feature, 16 respondents (7.1%) favorite the text message and remaining 9 respondents (4%)of the sample favorite the other utilities (Facebook, Messenger, Music, Video, Youtube etc.) respect to their smartphone.

Table (4.8) Primary Purpose of Using Internet on Smartphone

Particular	Frequency	Percentage (%)
To browse www	80	35.7
To read news	83	37.1
To read/send mails	48	21.4
To use online application	151	67.4

Source: Survey Data, 2019

According to the survey results, 80 respondents (35.7%) use to browse www, 83 respondents (37.1%) use to read news, 48 respondents (21.4%) use to read/send mails and the remaining 151 respondents (67.4%) use to online application. Most of students used online application.

Table (4.9) Types of Phone's Accessories

Phone's Accessories	Frequency	Percentage (%)
Shell (cover)	163	72.8
Earphone	210	93.8
Charging adaptor	205	91.5
Key chain	28	12.5
Others	43	19.2

Source: Survey Data, 2019

By the survey result of table (4.9), when obtaining the opinion about using types of phone's accessories, 163 respondents (72.8%) use shell (cover), 210 respondents (93.8%) use earphone, 205 respondents (91.5%) use charging adaptor, 28 respondents (12.5%) use key chain and the remaining 43 respondents (19.2%) use others accessories (Bluetooth speaker, Memory stick, Power bank, Selfie stick etc.).

Table (4.10) Brand Name of Smartphone

Brand Name	Frequency	Percentage (%)
Samsung	42	18.8
Sony experia	10	4.5
Oppo	26	11.6
Mi	62	27.7
Huawei	24	10.7
Apple	54	24.1
Others	13	5.8

Source: Survey Data, 2019

According to the table (4.10), most of the respondents in the sample (27.7%) use the Mi brand, secondly 54 respondents (24.1%) use the Apple brand, 42 respondents (18.8%) use the Samsung brand, 26 respondents (11.6%) use the Oppo brand, 24 respondents (10.7%) use the Huawei brand, 10 respondents (4.5%) use the Sony experia and the remaining 13 respondents (5.8%) use the other brand (such as LG, Kambo, Vivo, Meizu and Honor).

As a result, most of the respondents use the Mi brand because its function and price are suitable in Myanmar nationality.

Table (4.11) Reasons for Choosing the Smartphone

Choosing the Smartphone	Frequency	Percentage (%)
Price	45	20.1
Function	118	52.7
Size and Weight	13	5.8
Advertisement	22	9.8
Strong connection	15	6.7
Other	11	4.9
Total	224	100.0

Source: Survey Data, 2019

Today, smartphone market is more mature in Myanmar. While (20.1%) of the respondents choose the phone model because of price, (52.7%) choose the phone model because of function, (6.1%) choose the phone model because of size and

weight, (10.3%) choose the phone model because of advertisement, (6.7%) choose the phone model because of strong connection and the remaining (4.9%) choose the phone model because of other (such as Design and Quality, Easy to carry, Good camera etc.).

As a result, most of respondents choose the phone model because of function. Phone's function is very popular among students.

Table (4.12) Time Spend on Smartphone

Time	Frequency	Percentage (%)
1-3 Months	2	0.9
3-6 Months	10	4.5
1-2 Years	25	11.2
2-3 Years	42	18.8
3-4 Years	43	19.2
More than 4 years	102	45.5
Total	224	100.0

Source: Survey Data, 2019

While obtaining information about the table (4.12), only (0.9%) of the respondent use from 1 to 3 months, (4.5%) of the respondents use from 3 to 6 months, (11.2%) of the respondents use from 1 to 2 years, (18.8%) of the respondents use from 2 to 3 years, (19.2%) of the respondents use from 3 to 4 years and the remaining (45.5%) of the respondents use more than 4 years.

Table (4.13) Always on Smartphone

Always on	Frequency	Percentage (%)
Yes	181	80.8
No	43	19.2
Total	224	100.0

Source: Survey Data, 2019

By the survey results of table (4.13), to understand whether respondent always keep their smartphone on or off, (80.8%) of the respondents never keep their smartphone off while (19.2%) of the respondents prefers to keep their smartphone off

in the places like colleges during lecture, while sleeping and offices where smartphones are not allowed.

Table (4.14) Hours for One day Use on Smartphone

Hours for One day Use	Frequency	Percentage (%)
Less than 1 hour	3	1.3
1-3 hours	55	24.6
3-5 hours	80	35.7
More than 5 hours	86	38.4
Total	224	100.0

Source: Survey Data, 2019

Today, most of people spend much time on smartphone. By the survey results of table (4.14), (1.3%) of the respondents spend the phone for less than 1 hour, (24.6%) of the respondents spend the phone from 1 to 3 hours, (35.7%) of the respondents spend the phone from 3 to 5 hours and the remaining (38.4%) of the respondents spend the phone for more than 5 hours.

Table (4.15) Places Where Smartphones Are Used

Places	Frequency	Percentage (%)
At home	185	82.6
On bus/train	82	36.6
In stores	38	17
At school/work	130	58

Source: Survey Data, 2019

The above table (4.15) shows the common places where smartphones are used, (82.6%) of the respondents use smartphones at home, (58%) of the respondents use smartphones at school/work, (36.6%) of the respondents use smartphones on bus/train while (17%) of the respondents use smartphones in stores.

Table (4.16) Reason of Using Smartphone

Particular	Frequency	Percentage (%)
Just talk on it	140	62.5
To receive/send SMS	67	29.9
To play games	82	36.6
To use social media (such as Facebook, Twitter, Gtalk and Chatting)	200	89.3
Other	29	12.9

Source: Survey Data, 2019

In table (4.16), when students are asked about the reason of using smartphone, (89.3%) of the respondents use the smartphone to use social media (such as Facebook, Twitter, Gtalk and Chatting), (62.5%) of the respondents use the smartphone just talk on it, (29.9%) of the respondents use the smartphone to receive/send SMS, (36.6%)of the respondents use the smartphone to play games and the remaining (12.9%) of the respondents use the smartphone for other reasons (such as Dictionary, Google, Youtube etc.)As a result, most of respondent use social media.

Table (4.17) Using Phone Bills of the Respondent

Phone Bills	Frequency	Percentage (%)
5000-10000kyats	80	35.7
10000-20000kyats	82	36.6
20000-30000kyats	30	13.4
More than 30000kyats	32	14.3
Total	224	100.0

Source: Survey Data, 2019

By the survey result of table (4.17), while obtaining information about using phone bills for a month, (35.7%) of the respondents use phone bills with the amount between 5000 to 10000 kyats, (36.6%) of the respondents use phone bills with the amount between10000-20000kyats, (13.4%) of the respondents use phone bills with the amount between 20000 to 30000kyats and the remaining (14.3%) of the respondents use phone bills more than 30000kyats.

4.3.4 Opinions about the Effects of Smartphone Usage by Students

Effects of smartphone usage are educational effects, communication effects, social effects, health effects and other effects.

Table (4.18) Respondents' Effects of Smartphone Usage

Effects of Smartphone Usage	Agree	Strongly Agree	Neutral	Disagree	Strongly Disagree
Educational Effects					
The phone improves the ability to study.	49.1%	41.5%	8%	0.9%	0.4%
The phone helps me to make works (assignments) on time.	49.1%	40.2%	10.3%	0.4%	-
The phone creates the good ideas among friends.	39.7%	44.6%	14.3%	0.9%	0.4%
The phone improves educational functions.	41.1%	45.5%	12.9%	0.4%	-
Communication Effects					
I easily connect to my family members by phone.	33.5%	62.5%	3.6%	0.4%	-
The messages are easily delivered by phone.	36.2%	57.1%	6.7%	-	-
The phone is very useful in emergency cases.	28.6%	62.5%	7.1%	1.8%	-
The phone connects with foreign friends.	34.8%	52.2%	12.9%	-	-
Social Effects					
The phone promotes social networks.	38.8%	38.4%	21.4%	0.9%	0.4%
The phone interferes with the meetings and the classrooms.	26.8%	34.8%	29%	7.1%	2.2%
By speaking loudly through the phone, it annoys to people.	33.5%	40.2%	20.5%	4.9%	0.9%

Health Effects					
The electronic shock causes by using the phone while the battery is charging.	38.4%	34.8%	15.2%	8.5%	3.1%
It causes accidents by using phone while walking.	34.4%	46.4%	11.2%	7.1%	0.9%
It causes accidents by using phone while driving.	29.5%	53.1%	8.9%	7.1%	1.3%
The hand or shoulder pain causes by long use of the phone.	33.5%	37.5%	21%	6.3%	1.8%
Headache causes by long use of the phone.	34.8%	40.2%	16.1%	8%	0.9%
Eyestrain causes by long use of the phone.	29.5%	42.9%	17.9%	8.9%	0.9%
Other Effects					
It is used for listening to the music or playing games.	38.8%	50.4%	10.7%	-	-
On the phone, I shopped online.	40.2%	42.4%	16.5%	0.4%	0.4%
The phone is used as a notebook for birthdays or a calendar for every year.	41.5%	48.2%	9.4%	0.4%	0.4%

Source: Survey Data, 2019

From the survey results on the question concerning of “Educational Effects”, four questions were implemented in order to get response of relationship between smartphone and education. The detailed responses from this section are shown in table (4.18).

With regard to the question of whether to agree with the statement of “The phone improves the ability to study”, 41.5% of the respondents were “Strongly Agree” and 0.4% was “Strongly Disagree”. With regard to the question of whether to agree with the statement of “The phone helps me to make works (assignments) on time”, 40.2% were “Strongly Agree” and none for “Strongly Disagree”.

However, with regard to the statement of “The phone can create the good ideas among friends”, 44.6% were “Strongly Agree” and 0.4% was “Strongly Disagree”. With regard to the question of the statement “The phone improves educational

functions”, 45.5% were “Strongly Agree” and 0.4% was “Strongly Disagree”. Many respondents implied “job creations” of smartphone, the production benefits gained due to the smartphone.

In the sub-section of “Communication Effects”, four questions were implemented. The detailed results were shown in table (4.18). With the question concerning to the statement of “The phone is easy to connect with family members”, (62.5%) of respondents were “Strongly Agree” and none for “Strongly Disagree”. With the question concerning to the statement of “The phone can easily send messages”, (57.1%) for “Strongly Agree” and none for “Strongly Disagree”.

With the question concerning to the statement of “The phone is very useful in emergency cases”, (62.5%) judged for “Strongly Agree” and none for “Strongly Disagree”. With the question concerning to the statement of “The phone can communicate with friends abroad”, (52.2%) judged for “Strongly Agree” and none for “Strongly Disagree”.

According to the survey result, most of respondents now get the incremental benefits. This is because many respondents suggested that smartphones can provide them with faster communication with save time and money.

This table (4.18) also shows the opinions on the “Social Effects” of smartphone. With the question concerning to the statement of “The phone promotes social networks”, (38.4%) rated “Strongly Agree” and (0.4%) judged for “Strongly Disagree”.

With the question concerning to the statement of “The phone will interfere with the meetings and the classrooms”, (34.8%) were “Strongly Agree” and (2.2%) judged for “Strongly Disagree”. With the question concerning to the statement of “By speaking loudly through the phone, it annoys to people”, (40.2%) judged for “Strongly Agree” and (0.9%) judged for “Strongly Disagree”.

At the social level, many of respondents use their smartphones because smartphones can improve their social network. These social networks are new trends in online communication. Therefore, Facebook, Instagram and Twitter apps have become a standard requirement for people who would like to own a smartphone and teenager are among those people.

This table (4.18) also indicates “the Effects of Health Sector” caused by smartphone. With the question concerning to the statement of “The electronic shock

will be caused by using the phone while the battery is charging”, (34.8%) judged for “Strongly Agree” and (3.1%) judged for “Strongly Disagree”.

With the question concerning to the statement of “It causes accidents by using phone while walking”, (46.4%) judged for “Strongly Agree” and (0.9%) judged for “Strongly Disagree”. With the question concerning to the statement of “It causes accidents by using phone while driving”, (53.1%) judged for “Strongly Agree” and (1.3%) judged for “Strongly Disagree”.

With the question concerning to the statement of “The hand or shoulder pain will be caused by long use of the phone”, (37.5%) judged for “Strongly Agree” and (1.8%) judged for “Strongly Disagree”. With the question concerning to the statement of “Headache will be caused by long use of the phone”, (40.2%) judged for “Strongly Agree”, and (0.9%) judged for “Strongly Disagree”.

With the question concerning to the statement of “Eyestrain will be caused by long use of the phone”, (42.9%) judged for “Strongly Agree” and (0.9%) judged for “Strongly Disagree”. According to the survey result, most of the respondents have a good level of knowledge (aware of the side effects of smartphone) however their practices have been inappropriate.

Finally, this table (4.18) also indicates “Other Effects” caused by smartphone. With the question concerning to the statement of “You can use the phone for listening to the music or playing games”, (50.4%) judged for “Strongly Agree” and none for “Strongly Disagree”.

With the question concerning to the statement of “You can shop online on the phone”, (42.4%) judged for “Strongly Agree” and (0.4%) commented either “Disagree” or “Strongly Disagree”. With the question concerning to the statement of “The phone can be used as a notebook for birthdays or a calendar for every year”, (48.2%) judged for “Strongly Agree” and (0.4%) commented either “Disagree” or “Strongly Disagree”.

According to the survey result, most of students used the applications of smartphone. So, students can relax just by having a phone, can save time by using online shopping and save the papers by using a notebook or a calendar for every year.

CHAPTER V

CONCLUSION

5.1 Findings

This study was aimed to examine the usage of smartphone among students and to analyze the positive and negative aspects of smartphone usage on students. The survey was conducted by 224 respondents in selected area: Yangon University of Economics (Kamaryut, Hlaing and Ywarthagy). The study explored the significant association between age, educational level, smartphone's characteristics, smartphone usage and effects of smartphone.

This study found that (24.6%) were male while (75.4%) were female. This study found that (37.1%) were between 18 to 20 years and (31.7%) were between 20 to 22 years while just (2.2%) were over 24 years.

This study found that 90.6% of students in Yangon University of Economics own a smartphone, 8.9% of students own two smartphone while 0.4% of student owns more than two. The results indicate that smartphones are popular among students.

Accordance to the survey data, (86.6%) of students used the password facility on smartphone, majority of students (52.2%) used MPT and (61.2%) of students use memory cards. This study found that most of students (86.2%) favorite the internet feature, (67.4%) of students used to online application and (93.8%) of students used earphone.

Accordance to the survey data, majority of students (27.7%) used Mi brand and followed by (24.1%) of students used Apple brand while (18.8%) of students used Samsung brand. Most of students (52.7%) chose the phone model because of the function. By the survey results, (45.5%) of students used the smartphone more than 4 years.

This study found that (80.8%) of students never keep the smartphone off, most of students (38.4%) spent the phone for more than 5 hours and (82.6%) of students used the smartphone at home. By the survey results, majority of students (89.3%) used the smartphone to use social media (such as Facebook, Twitter, Gtalk and

Chatting) and (36.6%) of students used phone bills with the amount between 10000-20000kyats and followed by (35.7%) of students used phone bills with the amount between 5000-10000kyats.

This study found that (41.5%) of students were strongly agree about the phone improves the ability to study, (40.2%) of students were strongly agree about the phone helps me to make works (assignments) on time, (44.6%) of students were strongly agree about the phone create the good ideas among students and (45.5%) of students were strongly agree about the phone improves educational functions.

Accordance to the survey data, (62.5%) of students were strongly agree about the phone is easy to connect with family members, (51.7%) of students were strongly agree about the phone can easily send messages, (62.5%) of students were strongly agree about the phone is very useful in emergency cases and (52.2%) of students were strongly agree about the phone connects with foreign friends.

This study found that (38.4%) of students were strongly agree about the phone promotes social networks, (34.8%) of students were strongly agree about the phone interferes with the meetings and the classrooms and (40.2%) of students were strongly agree about by speaking loudly through the phone, it annoys to people.

By the survey results, (34.8%) of students were strongly agree about the electronic shock causes by using the phone while the battery is charging, (46.4%) of students were strongly agree about it caused accidents by using phone while walking, (53.1%) of students were strongly agree about it causes accidents by using phone while driving, (37.5%) of students were strongly agree about the hand or shoulder pain causes by long use of the phone, (40.2%) of students were strongly agree about headache causes by long use of the phone and (42.9%) of students were strongly agree about eyestrain causes by long use of the phone.

This study found that (50.4%) of students were strongly agree about you use the phone for listening to the music or playing games, (42.4%) of students were strongly agree about you shop online on the phone and (48.2%) of students were strongly agree about the phone uses as a notebook for birthdays or a calendar for every year.

Based on survey findings, all students in Yangon University of Economics recognized that the production benefits gained due to the smartphone and smartphone provides them with faster communication with save time and money. Students in this

study have knowledge about the effects of smartphone usage but students use the smartphone for long hours which cause negative effects for them.

5.2 Recommendations

.With the advent of advanced technology, growing use of smartphones and other gadgets are considerably harming the younger generation. Students are developing a strong connection with their smartphones, which is leading to a massive loss in their connection and time spent in studies.

Use of technology has direct implication on education, be it positive or negative. If a teacher is using technology in the classroom, it will benefit a student. However, if a student chatting for long hours on phone, it will definitely leave a negative effect.

Myanmar smartphone subscribers and internet uses will be increased year by year in the future. Smartphone is one the technology of our time. It has its positive and negative effects on education, communication, social and psychological health. In the end, it all depends on our usage. Most of student favorite the internet feature. Internet enables students to search and access websites anytime and anywhere. With this, students have easily access to information.

This study demonstrated that most of students in Yangon University of Economics use the social media (such as Facebook, Twitter, Gtalk and Chatting). So, students become lonely with their smartphone and didn't want hang out with their friends, family and community. But social media are new trends in online communication. Therefore, Facebook, Instagram and Twitter apps have become standard requirement for people who would like to own a smartphone and teenager are among those people.

Majority of students use phone bills with the amount between 10000-20000kyats. The cost of procuring a smartphone is high especially because students mostly do not earn a living. This cost is a constant burden on phone users especially students that depend on a stipend from their parents.

Smartphone usage by students is very effective for their daily life. First of all, in the education section, students make their works (assignments) by using their smartphone such as by searching the answer of homework on website.

In the communication section, students easily communicate with their family members even in an emergency situation. Then, the phone connects with foreign friends in anywhere and anytime.

Majority of students use the phone for listening to the music or playing games, online shopping and as a notebook for birthdays or a calendar for every year. So, students can relax just by having a phone, can save time by using online shopping and save the papers by using a notebook or a calendar for every year.

By the other side, the phone gives a lot of harm to students. One of the obvious disadvantages is the bad health. This study demonstrated that majority of student use the phone for long time. Thus, it causes eyestrain, headache and the hand or shoulder pain. It causes accidents because students use the phone while driving or walking. This study demonstrated that it annoys to people by speaking through the phone and then the phone interferes with the meeting and the classrooms.

Most of students use the smartphone for long hours. Overuse of smartphone will certainly affect student's education, communication, social and health. This study found that the use of smartphone is uncontrollable among students which are the leading cause of poor education, communication, social and health among students. The future of nation is in the hands of the young generation (students) that needs proper discipline, guidelines, rules and regulations.

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APPENDIX A

ကျောင်းသူ/သားများ၏ စမတ်ဖုန်းအသုံးပြုမှုအပေါ် အကျိုးသက်ရောက်မှုဆိုင်ရာ

ဆန်းစစ်လွှာ (ဖေဖော်ဝါရီလ၊ ၂၀၁၉ခုနှစ်)

အောက်ပါမေးခွန်းများသည် ရန်ကုန်စီးပွားရေးတက္ကသိုလ်တွင် ပညာသင်ယူနေဆဲဖြစ်သော ကျောင်းသူ/သားများ၏ စမတ်ဖုန်းအသုံးပြုမှုအပေါ် အကျိုးသက်ရောက်မှုများကိုလေ့လာသော သုတေသနစာတမ်းဖြစ်သည်။ သုတေသနလုပ်ရန်အတွက်သာဖြစ်သဖြင့် လွတ်လပ်စွာဖြေဆိုနိုင်သည်။

အပိုင်း (၁) ဖြေဆိုသူ၏ကိုယ်ရေးအချက်အလက်များ

၁။ ကျား/မ

(က) ကျား

(ခ) မ

၂။ အသက်

(က) ၁၆ အောက်

(ခ) ၁၆-၁၈

(ဂ) ၁၈-၂၀

(ဃ) ၂၀-၂၂

(င) ၂၂-၂၄

(စ) ၂၄နှင့်အထက်

၃။ လက်ရှိတက်နေသောအတန်း

(က) ပထမနှစ်

(ခ) ဒုတိယနှစ်

(ဂ) တတိယနှစ်

(ဃ) စတုတ္ထနှစ်

(င) ဂုဏ်ထူးတန်း

(စ) အရည်အချင်းစစ် မဟာတန်း

(ဆ) မဟာတန်း

အပိုင်း (၂) ကျောင်းသူ/သားများ၏ စမတ်ဖုန်းအသုံးပြုမှုများ

၄။ သင့်မှာ စမတ်ဖုန်း ဘယ်နှစ်လုံးရှိသလဲ။

(က) တစ်လုံး

(ခ) နှစ်လုံး

(ဂ) နှစ်လုံး နှင့်အထက်

၅။ သင့်ဖုန်းမှာ password ထားသလား။

(က) ထားပါတယ်

(ခ) မထားပါ

၆။ သင်အသုံးပြုနေသောဆင်းကဒ်က ဘာအမျိုးအစားလဲ။ (မှတ်ချက်။ ။ တစ်ခုထက်ပို၍ဖြေဆိုနိုင်ပါသည်။)

(က) MPT

(ခ) Telenor

(ဂ) Ooredoo

(ဃ) MEC

(င) Mytel

၇။ သင့်ဖုန်းမှာ memory card ကိုအသုံးပြုပါသလား။

(က) အသုံးပြုပါတယ်

(ခ) အသုံးမပြုပါ

၈။ ဘာတွေကသင့်အကြိုက်ဆုံးလဲ။ (မှတ်ချက်။ ။ တစ်ခုထက်ပို၍ ဖြေဆိုနိုင်ပါသည်။)

(က) ကင်မရာ

(ခ) အင်တာနက်

(ဂ) ဂိမ်း

(ဃ) မက်ဆေ့ချ်

(င) အခြား-----

၉။ သင့်ရဲ့ဖုန်း အင်တာနက်အသုံးပြုခြင်းမှာ အခြေခံအကျဆုံးကဘာလဲ။(မှတ်ချက်။ ။ တစ်ခုထက်ပို၍

ဖြေဆိုနိုင်ပါသည်။)

(က) www.web page တွေရှာရန်

(ခ) သတင်းတွေဖတ်ရန်

(ဂ) E-mail တွေပို့ရန်နှင့်လက်ခံရန်

(ဃ) အခြား Online application တွေသုံးရန်

၁၀။ သင့်မှာရှိသောဖုန်း Accessories တွေကဘာတွေလဲ။ (မှတ်ချက်။ ။ တစ်ခုထက်ပို၍ ဖြေဆိုနိုင်ပါသည်။)

(က) အခွံ (cover)

(ခ) နားကြပ်

(ဂ) ဘတ်ထရီအားသွင်းကိရိယာ

(ဃ) သော့ချိတ်

(င) အခြား (ကျေးဇူးပြု၍ ဖြေပေးပါ)-----

၁၁။ သင်၏ လက်ရှိစမတ်ဖုန်းအမည်ကဘာလဲ။ (မှတ်ချက်။ ။ တစ်ခုထက်ပို၍ ဖြေဆိုနိုင်ပါသည်။)

Samsung

Sony

Oppo

Mi

Huawei

Apple

(ဆ) အခြား (ကျေးဇူးပြု၍ ဖြေပေးပါ)-----

၁၂။ ဒီမော်ဒယ်ကိုဘာကြောင့်ရွေးချယ်ခဲ့တာလဲ။

(က) ဈေးနှုန်းကြောင့်

(ခ) လုပ်ဆောင်ချက်များကြောင့်

(ဂ) အရိယံအစားနှင့်အလေးချိန်ကြောင့်

(ဃ) ကြော်ငြာကြောင့်လှိုင်းဆွဲအားကောင်းသောကြောင့်

အခြား-----

၁၃။ သင်စမတ်ဖုန်းအသုံးပြုတာဘယ်လောက်ကြာပြီလဲ။

(က) ၁လမှ ၃လ

(ခ) ၃လမှ ၆လ

(ဂ) ၁နှစ်မှ ၂နှစ်

(ဃ) ၂နှစ်မှ ၃နှစ်

(င) ၃နှစ်မှ ၄နှစ်

(စ) ငှန့်အထက်

၁၄။ သင့်ရဲ့ စမတ်ဖုန်းကိုအမြဲတမ်းဖွင့်ထားလား။

(က) ဖွင့်ထားပါတယ်

(ခ) မဖွင့်ထားပါ

၁၅။ သင် စမတ်ဖုန်းကိုတစ်ရက်မှာအချိန်ဘယ်လောက်အသုံးပြုသလဲ။

(က) ၁နာရီအောက်

(ခ) ၁ နာရီမှ ၃နာရီ

(ဂ) ၃နာရီမှ ၅နာရီ

(ဃ) ၅နာရီအထက်

၁၆။ သင် စမတ်ဖုန်းကိုဘယ်နေရာမှာအသုံးပြုသလဲ။(မှတ်ချက်။ ။ တစ်ခုထက်ပို၍ ဖြေဆိုနိုင်ပါသည်။)

(က) အိမ်မှာ

(ခ) ကားပေါ်မှာ/ရထားပေါ်မှာ

(ဂ) ဆိုင်ထဲမှာဈေးဝယ်ရင်း

(ဃ) ကျောင်းမှာ/အလုပ်မှာ

၁၇။ သင် စမတ်ဖုန်းကို ဘာအကြောင်းကြောင့်အသုံးပြုပါသလဲ။ (မှတ်ချက်။ ။ တစ်ခုထက်ပို၍ ဖြေဆိုနိုင်ပါသည်။)

(က) စကားပြောရန်အတွက်

(ခ) SMS ပို့ရန်အတွက်

(ဂ) ဝမ်းဆော့ရန်

(ဃ) လူမှုကွန်ရက်မီဒီယာများအသုံးပြုရန် (Facebook, Twitter, Gtalk and Chatting)

(င) အခြား(ကျေးဇူးပြု၍ ဖြေပေးပါ)-----

၁၈။ဖုန်းဘေကြိုတင်ဖြည့်ရာတွင် တစ်လကိုမည်သည့်ပမာဏ သုံးစွဲလေ့ရှိသနည်း။

(က) ငွေကျပ် ၅၀၀၀ မှ ၁၀၀၀၀ ထိ

(ခ) ငွေကျပ် ၁၀၀၀၀ မှ ၂၀၀၀၀ ထိ

(ဂ) ငွေကျပ် ၂၀၀၀၀ မှ ၃၀၀၀၀ ထိ

(ဃ) ငွေကျပ် ၃၀၀၀၀ အထက်

အပိုင်း(၃) စမတ်ဖုန်းအသုံးပြုခြင်း၏အကျိုးသက်ရောက်မှုများအပေါ်

ကျောင်းသူ/သားများ၏ ထင်မြင်ယူဆချက်

- +၁ သဘောတူသည်
- +၂ လုံးဝသဘောတူသည်
- ၀ သာမန်
- ၁ သဘောမတူပါ
- ၂ လုံးဝသဘောမတူပါ

စမတ်ဖုန်းအသုံးပြုခြင်း၏အကျိုးသက်ရောက်မှုများ	+၁	+၂	၀	-၁	-၂
ပညာရေးအကျိုးသက်ရောက်မှုများ					
၁၉။ ဖုန်းသည် လေ့လာမှုစွမ်းရည်များတိုးတတ်စေသည်။					
၂၀။ ဖုန်းသည် အလုပ်တာဝန်များ(assignments)အချိန်မှီပြီးမြောက်ရန်ကူညီသည်။					
၂၁။ ဖုန်းသည် သူငယ်ချင်းများကြား အကြံဉာဏ်ကောင်းများ ဖန်တီးသည်။					
၂၂။ ဖုန်းသည် ပညာရေးနှင့်ဆိုင်သောလုပ်ဆောင်ချက်များကိုတိုးတက်စေသည်။					
ဆက်သွယ်ရေးအကျိုးသက်ရောက်မှုများ					
၂၃။ ဖုန်းဖြင့် မိသားစုမိတ်ဆွေများနှင့် အလွယ်တကူဆက်သွယ်သည်။					
၂၄။ ဖုန်းဖြင့် စာတို(messages) များကို အလွယ်တကူပေးပို့သည်။					
၂၅။ ဖုန်းသည် အရေးပေါ်ကိစ္စရပ်များတွင် အလွန်အသုံးဝင်သည်။					
၂၆။ ဖုန်းသည် နိုင်ငံရပ်ခြားမှ မိတ်ဆွေများနှင့် ဆက်သွယ်ပေးသည်။					
လူမှုရေးအကျိုးသက်ရောက်မှုများ					
၂၇။ ဖုန်းသည် လူမှုဆက်သွယ်ရေးကိုတိုးတက်စေသည်။					
၂၈။ ဖုန်းသည် အစည်းအဝေးနှင့် စာသင်ခန်းများတွင် အနှောက်အယှက်ပေးသည်။					
၂၉။ ဖုန်းနှင့် စကားကျယ်ကျယ်ပြောခြင်းဖြင့် ပတ်ဝန်းကျင်မှ လူများကို အနှောက်အယှက်ဖြစ်သည်။					

ကျန်းမာရေးအကျိုးသက်ရောက်မှုများ					
၃၀။အားသွင်းစဉ်ဖုန်းအသုံးပြုခြင်းဖြင့်လျှပ်စစ်ရှော့ဖြစ်သည်။					
၃၁။လမ်းလျှောက်နေစဉ်ဖုန်းအသုံးပြုခြင်းဖြင့်မတော်တဆ(accident)ဖြစ်သည်။					
၃၂။ကားမောင်းနေစဉ်ဖုန်းအသုံးပြုခြင်းဖြင့်မတော်တဆ(accident)ဖြစ်သည်။					
၃၃။ဖုန်းကြာရှည်စွာအသုံးပြုပြီးနောက်လက်(သို့မဟုတ်)ပခုံးနာကျင်မှုဖြစ်သည်။					
၃၄။ဖုန်းကြာရှည်စွာအသုံးပြုပြီးနောက်ခေါင်းကိုက်မှုဖြစ်သည်။					
၃၅။ဖုန်းကြာရှည်စွာအသုံးပြုပြီးနောက် မျက်စိညောင်းမှု၊အိပ်မပျော်မှုကိုဖြစ်သည်။					
အခြားအကျိုးသက်ရောက်မှုများ					
၃၆။ဖုန်းကိုသိချင်းနားထောင်ခြင်းနှင့်ဝိမ်းကစားခြင်းများအတွက်အသုံးပြုသည်။					
၃၇။ဖုန်းဖြင့် online မှဈေးဝယ်သည်။					
၃၈။ဖုန်းကိုမှတ်စုများ၊မွေးနေ့များနှင့်နှစ်စဉ်ပြက္ခဒိန်များအတွက်မှတ်စုစာအုပ်(notebook)ကဲ့သို့အသုံးပြုသည်။					

APPENDIX B

“Smartphone Survey Questionnaire”

I. Demographic or Personal Information

1. Gender
 - a. Male
 - b. Female
2. Age Segment
 - a. Under 16 years
 - b. Between 16 to 18 years
 - c. Between 18 to 20 years
 - d. Between 20 to 22 years
 - e. Between 22 to 24 years
 - f. More than 24 years
3. Educational Level
 - a. First year
 - b. Second year
 - c. Third year
 - d. Fourth year
 - e. Honors
 - f. Qualified
 - g. Master

II. Information about Smartphone Usage by Students

4. How many do you have a smartphone?
 - a. One
 - b. Two
 - c. More than two
5. Do you have password your smartphone?
 - a. Yes
 - b. No
6. What kinds of Sims Card do you use? (You can tick more than one option)
 - a. MPT
 - b. Telenor
 - c. Ooredoo
 - d. MEC
 - e. Mytel
7. Do you use memory card on your smartphone?
 - a. Yes
 - b. No
8. Which of these are your favorite features? (You can tick more than one option)
 - a. Camera
 - b. Internet
 - c. Game
 - d. Message
 - e. Other
9. What is your primary purpose for using internet on your smartphone? (You can tick more than one option)
 - a. To browse www
 - b. To read news
 - c. To send/receive mails
 - d. To use online applications
10. What phone's accessories do you have? (You can tick more than one option)
 - a. Shell (cover)
 - b. Ear phone
 - c. Charging adaptor
 - d. Key chain
 - e. Others

11. What brand of smartphone are you using now? (You can tick more than one option)
- a. Samsung
 - b. Sony
 - c. Oppo
 - d. Mi
 - e. Huawei
 - f. Apple
 - g. Others
12. Why do you choose this model?
- a. Price
 - b. Function
 - c. Size and weight
 - d. Advertisement
 - e. Strong connection
 - f. Others
13. How long have you been using smartphone?
- a. 1 to 3 months
 - b. 3 to 6 months
 - c. 1 to 2 years
 - d. 2 to 3 years
 - e. 3 to 4 years
 - f. More than 4 years
14. Do you always open your smartphone?
- a. Yes
 - b. No
15. How much hours a day do you use your smartphone?
- a. Less than 1 hour
 - b. From 1 hour to 3 hours
 - c. From 3 hours to 5 hours
 - d. More than 5 hours
16. Where do you use your smartphone? (You can tick more than one option)
- a. At Home
 - b. On Train/Bus

- c. In Stores
- d. At School/Work

17. What do you use your smartphone for? (You can tick more than one option)

- a. Just talk on it
- b. To receive and send SMS
- c. To play games
- d. To use social media (such as Facebook, Twitter, Gtalk and Chatting)
- e. Others

18. How much do you use phone bill for a month?

- a. Between 5000 to 10000ks
- b. Between 10000 to 20000ks
- c. Between 20000 to 30000ks
- d. More than 300000ks

III. Opinions about the Effects of Smartphone Usage by Students

Please rate the followings statement with your preferences by rating the scales like this.

- +1 Agree
- +2 Strongly Agree
- 0 Neutral
- 1 Disagree
- 2 Strongly Disagree

Effects of smartphone usage	+1	+2	0	-1	-2
Educational Effects					
19. The phone improves the ability to study.					
20. The phone helps me to make works (assignments) on time.					
21. The phone creates the good ideas among friends.					
22. The phone improves educational functions.					
Communication Effects					
23. I easily connect to my family members by phone.					
24. The messages are easily delivered by phone.					

25. The phone is very useful in emergency cases.					
26. The phone connects with foreign friends.					
Social Effects					
27. The phone promotes social networks.					
28. The phone interferes with the meetings and the classrooms.					
29. By talking over the phone, it annoys to people.					
Health Effects					
30. The electronic shock causes by using the phone while the battery is charging.					
32. It causes accidents by using phone while walking.					
33. It causes accidents by using phone while driving.					
34. The hand or shoulder pain causes by long use of the phone.					
35. Headache causes by long use of the phone.					
36. Eyestrain and insomnia causes by long use of the phone.					
Other Effects					
37. It is used for listening to the music or playing games.					
38. On the phone, I shopped online.					
39. The phone is used as a notebook for birthdays or a calendar for every year.					