Master's Thesis

Managerial Digital Literacy in Myanmar:
Focus on Information and Communication Literacy of Myanmar
Executives

by

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Certification Page

I, <u>PWINT Mon Thein</u> (Student ID 52114612) hereby declare that the contents of this Master's Thesis is original and true, and have not been submitted at any other university or educational institution for the award of degree or diploma.
All the information derived from other published or unpublished sources has been cited and acknowledged appropriately.

PWINT Mon Thein
2016/05/31

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Summary

Title

Managerial Digital Literacy in Myanmar: Focus on Information and Communication
Literacy of Myanmar Executives

Idea of Study

This research is to determine the Managerial digital literacy of Myanmar executives.
Information and Communication Technology plays crucial role in modern business
world. Many new devices and software systems are introduced in the market, to
enhance the daily activities of business procedure.

The main purpose of this study is making sure to understand Digital Literacy and
different levels of ICT proficiency among executives. This study is focusing to provide
suggestion foreign companies and MNCs, in order for them to identify the average
Digital Literacy of Myanmar executives and also helpful to emphasize on the best
training approach in future.

Research Background

The original meaning of 'literacy' is the ability to read and write. However,
'Information and communication technologies (ICTs) have penetrated all areas of
contemporary life.', 'the considerable effort being invested in many international
organizations for measuring the information society'. (UNESCO, 2011).

"IT skills and competencies, as well as business acumen to creatively combine IT
knowledge with business opportunities are representative of such critical assets and
need to be acquired, developed, and nurtured appropriately". (Eschenbrenner, 2010).

Therefore, Digital Literacy plays crucial role for the business activities and operation, especially for the executives and managers.

In this current study, the background learning of Myanmar managerial digital literacies, their current traits and forces will be included, in order to make comparison with global practice, and hypothesis and analysis in the research, future.

Research questions

1. What is the digital literacy level of Myanmar Executives?

(To what extent Myanmar Executives are able to cope with the new technologies.)

Methods

For detail understanding of the Myanmar Managerial Digital Literacy, I used Qualitative data collection methods. I conducted interviews, Focus group studies and participant observation. Interview questions are based on the European e-Competence Framework, adjusted accordingly for Myanmar Executives. All the interviews and focus group studies are recorded and conducted in Myanmar Language.

Interpretation and Analysis

According to my data collection, there are some gaps exists between one to another executives, regarding their digital literacy. The effect of reforms in Myanmar, most of the executives are enhancing their skills and learning digital technology compared to previous years. However, average level of the managerial digital literacy still lower compared to most of the Asia Countries.

Application of data and outcomes

Recording: First I will translate all the recorded interviews into English and prepare interview transcript.

Arrangement of Information: According to data, I will divide the Managerial digital literacy of executives into three different groups; local company, MNCs and government sectors.

Problems and Barriers: I will discuss about the problems and barriers of Managerial digital literacy of Myanmar.

Suggestion: According to the details information and outcome of my data analysis, suggestion of suitable training for companies where they need to enhance the digital literacy and proficiency skills of their executives.

Abstract

This thesis studies the digital literacy of managerial level executives in Myanmar focusing on the profession of finance and account. The theoretical frame work used for this thesis are Digital Literacy Framework developed by Ng (2012) and European e-Competency Framework. The data required for this research is collected through qualitative research method. Interviews, participant observations and focus group studies are used in collecting the data. The sampling used for this research is convenience sampling. The detail digital literacy level of the managerial level executives, their proficiency in IT usage for both personal and work related as well as their views on the future aspect of the importance of the digital literacy in the growth of Myanmar economic sector for the development of the country are observed. In addition to that the interviewees' views on the digital literacy of 'their colleagues and subordinates are also discussed. This thesis will provide insight into the digital literacy requirement for business matters of the current firms in Myanmar. The suggestions concerning with the future training of digital literacy which might be required for the working efficiently in firms are also recommended. It will also supplement informative considerations for the future research focusing on the digital literacy of managerial level executives in Myanmar.

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Chapter 1

Introduction

1.1 Significance of the Study

Nowadays, society is changing, and innovation of digital technologies plays crucial role for those changes. Technological advance has been both rapid and consistent. (Giselle, 2012). 'In the digitized world, businesses cannot survive without computer application services, and other digital technology for the support of business operation.' (Sen, 2011). Therefore, technologies involve as essential particles and acts as a primary tools for business network and business activities. In recent era, understanding the advance technologies and digital literacy of business managers are very important for organization's business strategy and technology implementation to create competitive advantage.

Recently, Myanmar's economy has become emerging very rapidly because of the economy reform and major policy of reforms including anti-corruption, currency exchange rate (Allchin, J. 2011). Since 2010 November, when military rule was replaced by a new military-backed civilian government, many economic policies have been revised by government in order to enhance Myanmar economy and to gain global competency in foreign investment sectors. Dramatic increase of foreign investment drives for local executive to upgrade their qualification and skills in order to gain better position in MNC's. Proficiency in Information and Communication Technology (ICT) has become one of the supportive factors for global companies' recruitments since ICT plays very important role in International business.

In recent years, Myanmar telecommunications sector has developed dramatically

after decades of poor connectivity. 'By inviting competition in the country's telecommunications sector, Myanmar's government wants to move the country into the 21st century and many foreign telecommunication firms are competing aggressively to enter to Myanmar market.' (Heinrich, 2014). Dramatic improvement in telecommunication sectors push Myanmar to go for advanced digital technology and internet usage. Especially for executives and professional are now required to learn digital technology to connect efficiently with the global market.

Understanding of the average level of managerial digital literacy of Myanmar executives is very important for the foreign and local firms to enhance their business performance in order to create competitive strategy and e-business policies.

In this current study, the background learning of Myanmar managerial digital literacies, their current traits and forces will be included, in order to understand strength and weakness of Myanmar executives regarding digital literacy. The main purpose of this study is making sure to understand Digital Literacy and different levels of ICT proficiency among executives. This study is focusing to provide the picture of managerial digital literacy and digital trends in Myanmar, in order for local and foreign firm to identify the average Digital Literacy of Myanmar executives, so that firms are able to create the best training approach in future.

1.2 Research Question

What is the managerial digital literacy level of Myanmar Executives?

(To what extent Myanmar Executives are able to cope with the new technologies.)

The research question will determine (3) different categories of digital literacy.

1) *technical digital literacy* – which will determine the technical proficiency,

2) *social digital literacy* – which will determine proficiency of using digital technology for social activities and

3)*information digital literacy* – which will describe ability of accessing information with the help of digital technology .

The research question will be answered the following research objectives.

1.3 Research Objective

1. To identify the digital literacy level of Myanmar Executives

2. To identify the frameworks regarding the standardization of digital literacy

3. To identify the recent digital technology trends of Myanmar and ASEAN countries

4. To provide hypothesis for future trend digital technology

1.4 Scope and Limitation

Scope

This study focus only focus on *professional of accounting and financial* background to limited the scope of research. Furthermore, the study is focus on three

main digital literacy's categories, technical, social emotional and information literacy, which will provide answers for the main research questions.

Research conducted only in Yangon, former capital city of Myanmar, and all participants for the interviews are *senior and middle level executives*, and their interview answers are not only for their digital literacy but also provide their point of views for their subordinate and lower level executives.

Limitation of the studies

The research is conducted only in Yangon, which is urban area, and it is not covered for the whole nation, Myanmar, and variation may occur.

As author mentioned above, results of the studies may be different with other studies which focus on overall digital literacy, since current studies is focus only on executives of middle and senior management.

Moreover, interviewees represented their companies and provided their own points of view behalf of their subordinate, therefore, the collected information may have very general in terms of subordinates' digital literacy.

Only private companies, local and MNC's firms are involved in this research, therefore, public and government sectors need to determine in future, for details picture of Myanmar Managerial digital literacy.

The number of participants involved in data collection is very few, compare to the total population of Myanmar.

1.5 Benefits of the Study

This study will give insight of the managerial digital literacy of Myanmar Executives. In addition it will provide contributing factors for the digital literacy level in Myanmar. Hence, this study is able contribute for the economic infrastructure for the implementation of digital technology.

This study will also assist local and global firm for their HRM practice, especially in designing training programme for their executives, as the study provide the professionals' ability regarding their digital literacy in different categories.

1.6 Structure of the Study

This study is divided into four main parts;

1) *Literature review* - history of literacy, digital literacy and its attributes will discussed in details with the theoretical frameworks of digital literacy which are contributing as a measurement tools for results and finding of data collection.

2) *Research Methodology* – data collection methods used for research, constructing of interview questions and its attribute and types data analysis for results and finding.

3) *Results and Finding* – finding results of the research will be provided in details by using primary and secondary data.

4) *Discussion*- details discussion regarding managerial digital literacy and reasons for the different level of digital literacy in Myanmar and future trend of digital literacy of Myanmar will be discussed.

Chapter 2

Literature Review

2.1 Literature Review

According to the author's knowledge, there is no prior study or research, which focuses on Managerial Digital Literacy in MYANMAR. Managerial digital literacy studies had been done by many scholars, however, their studies have focused on other related aspects, focusing more on technology competency perspective. For example, 'IT competence in business managers' by Bassellier, Reich, & Benbasat (2001), which explain the ICT proficiency of business managers. Most of the prior studies are focused on the relationship between professional and Information technology (IT), which provide the insight understanding of user competency in only Information System, rather than overall Digital Literacy which including all the components of digital technology and awareness of professionals and executives.

2.1.1 Literacy

The meaning of literacy has been consistently changing with the innovation of new technologies in modern society. Prior to 1970s, before the era of digital technologies, literacy was determined only as one's ability to read and write. However, since then definition of literacy has been shaping accordingly with the evolution of digital technologies. Many scholars argued that the meaning of literacy is wider than the original meaning, 'literacy is change along with the society and technology.' (Wang, Com, Myers, & Sundaram, 2013, Ng, 2012; Poore, 2011). Hence, evolution of digital and mobile

technologies forces society to learn additional factors to become literate person. Tyner 1998 also mentioned that, 'media literacy or media education is more about education than it is about media.' According to International Literacy Association, 'literacy is the ability to identify, understand, interpret, create, compute, and communicate using visual, audible, and digital materials across disciplines and in any context.' (ILA, n.d).

National Council of Teachers of English (NCTE) claimed that meaning of literacy is widen from its original meaning and adding following criteria to determine the literacy.

1) *'Build intentional cross-cultural connections and relationships with others so to pose and solve problems collaboratively and strengthen independent thought,*

2) *Design and share information for global communities to meet a variety of purposes,*

3) *Manage, analyze, and synthesize multiple streams of simultaneous information,*

4) *Create, critique, analyze, and evaluate multimedia texts,*

5) *Attend to the ethical responsibilities required by these complex environments.'*

(The NCTE Definition of 21st Century Literacies, 2013)

Hence, cross-cultural adoption and digital technologies awareness issue has been accounted as a parameter for the measurement of modern literacy and in order to become and literate person, he or she must fluent in digital technologies which is keep on changing day by day. Therefore, fluency of digital literacy becomes contributing factor for determining of one's literacy.

2.1.2 Digital Literacy

Digital literacy is determined by fluency of information access which solely depends on modern digital technology. The meaning of digital literacy is wider than the capability of using IT functional technology. According to Beetham and Sharpe (2010), 'digital literacy is considered beyond functional IT skills to describe a richer set of digital behaviors, practices and identities'. Hence, digital literacy represents understanding, accessing, utilizing and sharing information and knowledge with the help of digital technologies and also, communicating and creating networks for both professional and personal purposes.

Beetham and Sharpe (2010) also mentioned that 'digitally literate changes over time and across contexts' and it may change accordingly with the changes of technology trends. The following attributes are *seven elements of Digital Literacy*, developed by Beetham, Sharpe and De Freitas (2010).

1) '***Media Literacy***: *read and producing effective communications in a range of media*

2) ***Information Literacy***: *accessing, evaluating and sharing information*

3) ***Digital Scholarship***: *research practices for both academic and business by using digital system*

4) ***Learning Skills***: *studying emerging technology*

5) ***ICT Literacy***: *Adoption and utilizing of digital technology, both hardware and software*

*6) **Career and Identity Management***: *Managing digital reputation and e-identity*

*7) **Communication and Collaboration***: *Contributing in digital networks '*

(Sharpe, Beetham, & De Freitas, 2010)

2.1.3 Managerial Digital literacy

Nowadays, digital technologies are implemented align with the business strategies. (Bassellier, Reich, & Benbasat 2000). However, although digital world is substantially different to that of a decade ago, yet organizations still struggle to fully exploit the real business potential that IT can offer. (Livingstone 2016). In that case, understanding the digital literacy level of professional will give core advantage to enhance the productivity of the business. According to UNESCO, 'the considerable effort being invested in many international organizations for measuring the information society'. (UNESCO, 2011).

Regarding Boudreau 2003, 'a state institution's successful implementation of an enterprise system is depends on different degrees of usage.' (Boudreau, 2002) IT skills and competencies, as well as business knowledge to combine with business opportunities are representative of essential assets and need to be acquired, developed, and nurtured appropriately'. (Eschenbrenner, 2010)

On the other hand, 'foreign investors in manufacturing industry are very sensitive to human capital considerations and they projected more investment in the provinces with the highest literacy rates.' (Anh and Meyer 1999), that literacy included digital literacy.

According to Auer (1998),' Digital technology and Information System usage are

multi-dimensional with different variations.' In most of the developed countries, the average proficiency level of the executives is advanced user level since computing now accounts for more than half of the capital investment made by US firms, costing business worldwide an estimated trillion dollars per year. The other reason is because in those counties, ICT has been widely implemented since 1980s and many executives from those countries aware the important role of ICT in business and decision making, especially in internationalization and communication for their business activities.

However in developing countries like Myanmar, digital technology is not widely implemented as in developed country and the proficiency level of user is still unidentified. However, organizations and business firm in Myanmar are recognizing that critical success factors of the business is highly depends on a competent workforce and that can be achieved by giving proper training to build or re-develop their knowledge capital in digital age. (Naquin & Holton, 2006)

2.1.4 Current ICT trend in Myanmar Management

Since 2000s, Myanmar IT status is emerging slowly and after 2012, an Information and Communication Technology (ICT) sector is developing rapidly because of the encouragement of the government and new economy reform. Currently, ICT is positioning as one of the most important issue in business process. There is a very good chance that Myanmar can compete effectively in the international ICT industry especially in Software industry because of the availability of open sources software from internet. People are able to access many pirated software with a mere price compared to international market of original software. Although, copyrighted law for software are planning to implement in near future, meanwhile, Myanmars are enjoying almost free

access to many types of software.' (Kyi, 2015).

Although ethically wrong, easy access of pirated software will create high opportunities in socio-economic organizations to increase the productivity, market penetration, reducing cost and improving services so that they can compete in the global market. On the other hand, government support and systematic efforts on development of ICT will create future opportunities to advance and catch up with the developed countries since Myanmar still has capacity for expansion in ICT sector as well as many other business sectors.

Myanmar Government is now trying to sign agreement regarding Myanmar and Japan co-operation in ICT development (MICT annual report, 2014) for mutual benefits of both parties for their Economic and technology growth.

2.1.5 Myanmar Managers and their ICT proficiency

As mentioned above, the availability of software with mere charges, Myanmar managers have chances to learn those software to enhance their business performance. In order to get competitive advantages to apply for MNC's and local companies, managers are forced to learn new technological trends. Since opening up the market to foreign investors, Myanmar has awarded telecom licenses to two foreign companies, Telenor and Ooredoo, planting the seeds of growth for the entire mobile industry. 'Myanmar's mobile market is estimated to expand six million smartphones by 2017, along with about 5.5 million feature phones.' (Sakawee, 2013)Social media trend is flowing together with the implementation telecommunication in Myanmar. Many business trends are forced to

change because of social media development in Myanmar. Myanmar managers are also forced to adapt with the new business trend with the development of telecommunication in Myanmar. The opportunities of higher salary and better future career are depends on the proficiency level of ICT and other business skills, however, ICT competency has become essential skills that a manager should have better career.

According to the literature reviews for general Global Digital Literacy concepts and Myanmar Digital Literacy situation, **firstly**, because of the highly demands in the technology proficiency in business sectors, many executives are aggressively improves their digital literacy level in highly competitive situation. (Thein 2014; Hays 2014)

Secondly, reform of political and economic sectors of Myanmar creates attraction for the foreign firms to invest highly in Myanmar (MMRD 2015; Myanmar ICT Market 2012), and on the other hand Myanmar is improving dramatically in Mobile digital sectors create better communication with other nations (Bushell-Embling 2016; Deloittee 2013). Therefore, Myanmar digital literacy level must be level with Global, especially neighbors ASEAN countries.

In that case, identifying of the average level of digital literacy of Myanmar manager has to be done, in order to compare with global digital literacy level and to analysis the requirements of the improvement of Myanmar manager skills in terms of global competency.

Therefore, in order to determine the framework of Myanmar digital literacy, authors refers two different theoretical frameworks for her research. (details will explain in following section of theoretical frameworks), which assists to answer the research

questions of her research of digital literacy level of Myanmar executives in three different issues; technical, social emotional and information literacy.

2.2 Theoretical Frameworks

Setting evaluation criteria for skill sets and the level of competency that should be demonstrated to successfully perform for particular function tasks is important to identify for training of professional. Assessments, which are based on the evaluation criteria, are performed such that gaps can be identified and specific training or interventions are conducted to reduce the gaps.

Although there are many frameworks and theories for assessment of digital literacy, author is using two different frameworks which will give insight values of digital literacy components to determine the digital literacy level of Myanmar Executives.

2.2.1 Digital Literacy Framework

This framework is developed by Ng (2012), by modifying of specific digital literacy concept of Eshet-Alkalai (2004) and multi-literacy concept of New London Group (1996). This is able to use a general guide to measure one's digital literacy level. This framework is providing inside knowledge to determine digital literacy for both individual personal and business professional.

This framework include three input dimensions which are; 1) Technical, 2) Cognitive and

3) Social-emotional value of digital literacy.

1) Technical dimension is determining one's capability of handling the technical and operation of digital technology including ICT capability. Although Ng (2012) determine only for ICT capability in this framework, mobile technology is also counted as digital technology for this research. Technical and operational literacy included using 1) digital devices like computers, i-pod, tablet, smart phone, and other digital gadgets. 2) software and system like computer software and mobile applications. In addition, it also included the trouble shooting by using manual or help functions or by getting support from web-based resource for solution. Moreover, it also measure ability using web-based data backup programme like Dropbox, Google Drive and so on.

2) Cognitive dimension is determining one's ability to handling of digital information. This dimension included accessing, retrieving, sharing and utilizing information via digital tools like internet, e-journals, websites to perform specific tasks related to business activities. However, ethical issues are applied for information, especially giving credits for the main sources and owners of retrieved information. Proficiency of multimedia tools as audio, video, images are also counted in this measurement. In addition, using online map for location sharing are also part of this dimension, for example using Google Map for direction and location sharing.

3) Social-emotional dimension is determining one's performance of communication and social activities using digital medium. This dimension focuses on ability and frequency social media website usage like Facebook, Tweeter, etc. The ability of protecting one's online privacy and individual, personal information are also counted in this dimension. It also determines the response from individual once their personal or business information has been stolen. Although this framework focuses on both social and business sectors, in this study most of the values of measurement are focusing on social media issue regarding business activities.

The intersection between technical and cognitive dimensions is the reproducing literacy combining of technical capability and knowledge gained from accessed information, produce deep understanding to apply digital technology effectively in business operation.

The intersection between technical and social-emotional dimension produces social networking functional literacy which is proficiency of using social network applications and its details function, for example posting new feeds, photos, and actively comments or tweets for the feeds.

The intersection between cognitive and social-emotional dimension is online etiquette literacy, which focus on ethical attitude online and social media usage of and cyber safety literacy, which focus on capability of preventing possible security threat on social media.

The intersection between three dimensions is digital literacy, where all the technical, cognitive and social emotional factors are counted.
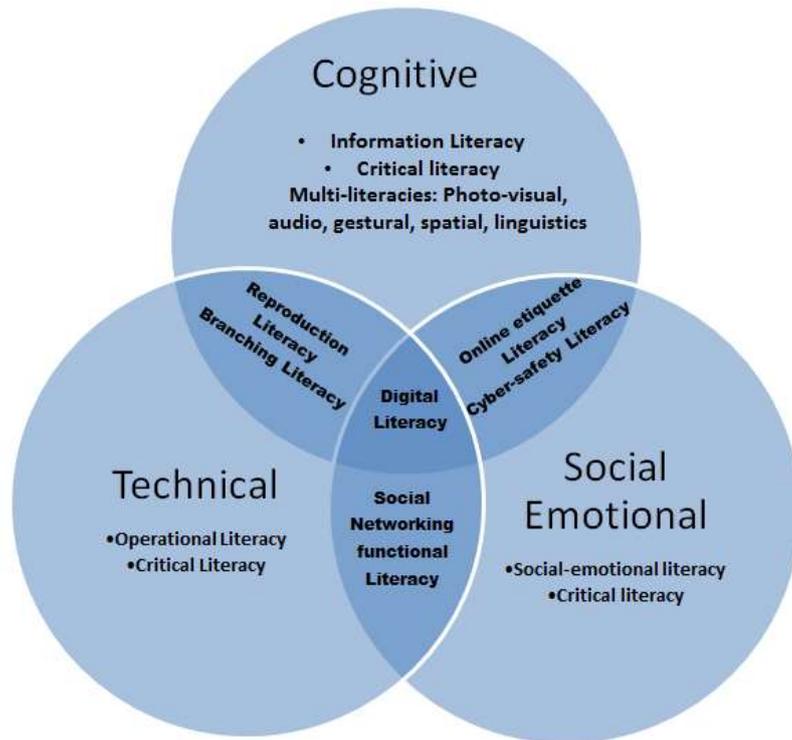
Figure 2.1: Digital Literacy Framework by Ng 2012

2.2.2 European e-Competency Framework (e-CF)

Although Ng (2012)'s Framework of Digital Literacy is focus for general digital literacy (both social and business digital literacy), European e-Competency Framework (e-CF) is focusing only for business professional and business firm.

The European e-Competence Framework (e-CF) is a tool for assisting common understanding and providing transparency of digital capability for implementation of

digital technology approach in business operation.

It is 'a reference framework of competences applied within the Information and Communication Technology (ICT) sector that can be used and understood by ICT user and supply companies, ICT practitioners, managers and Human Resources (HR) departments, the public sector, educational and social partners across Europe'. (European E-Competences Framework 3.0, 2013). However, currently, this framework is widely used in some of the ASEAN countries, like Singapore and Malaysia. (Enterprise Products Integration, 2016). This frame work will help for standardization for measurement of digital literacy of managers and executives. It will provide 'clearer understanding of competence needs from ICT organizations, professions and professional perspective.' (European E-Competences Framework 3.0, 2013)

The European e-Competence Framework is composed with four layers of dimensions. Each layers of dimension identify the different requirements to determine the competency level of each employee (professional) and ICT adoption of business (frim).

Dimension 1 includes 5 different e-Competence components which are primary issue to measure ICT proficiency of professional in their business operation. The components are, 1) Plan, 2) Build, 3) Run, 4) Enable and 5) Manage.

Dimension 2 is providing a set of references of determining e-Competences for each dimension 1's components, providing details measurement as a reference definition for each component. In dimension 2, total of 40 competences are providing in the e-CF reference definitions of version 3.0.

Dimension 3 is setting proficiency levels for each e-CF reference definition, by

setting levels e-1 to e-5. In this dimension, the competency level of Organization or professional will be categorized accordingly with the set levels.

Dimension 4 is the last dimension and most details for determining proficiency level by comparing with samples of knowledge and skills provided by the framework. These sample skills relate to dimension 2, but provided in more details.

Therefore, *competence definitions* are assigned to dimension 2 and 3, *knowledge and skills samples* are assigned in dimension 4 of the framework.

Chapter 3

Research Methodology

3.1 Data Collection

In this study, the author use mainly qualitative research methods and also, some secondary data is applied to compare global (especially ASEAN Countries') digital trends with Myanmar, and to find out the recent digital demands of Myanmar.

Qualitative research method is used for this research data collection in order 'to discover true inner meaning and new insights', 'it is less structured than most quantitative approach' and author needed 'to provide elaborate interpretations' of each categories of digital literacy framework' to interviewee and get back details responses. (Zikmund, Babin, Carr & Griffin 2013).

The study has been conducted in Yangon, main business city where many companies are located, the former Capital City of Myanmar. Sampling method is *convenient sampling*, from different districts of Yangon; Lanmataw, Dagon, Insein, 8 Miles, Kabaaye and Kamaryut. 'Convenient sampling refers to sampling by obtaining people or units that are conveniently available.' (Bryman & Bell, 2015). In this study, all the participants are middle and senior executives, and who response to author's request for interview.

In this study, three different types of qualitative research methods is conducted to answer the primary research question. 1*) participant observation*, 2) *in-depth interview*, 3) *Focus group studies.*

First of all, in order to understand the current digital usage and technology trend of Myanmar, author performed the participant observation in a trading company, to find out the digital literacy of executives. Observation involved two departments, operation and account departments. The author also conducted five informal interviews and discussions with the employees within her observation period.

As a focus group discussion, the author invited 3 professionals for different industries to discuss regarding digital literacy of Myanmar and to find out professionals' digital literacy related to business activities. The focus studies are discussion and case study type regarding the current technology trends of Myanmar and improvement in professional skills regarding digital technology proficiency.

Details of the data collection activities are as follows;

Type	Location	Industry	No. of Participant
Participant Observation	1) Lanmataw, Yangon	Trading	-
Focus Group Studies	1) Dagon, Yangon	Finance Logistic	3
In-depth Interview	1) Insein, Yangon	Logistic	1
	2) 8 Miles, Yangon	Logistic	1
	3) Lanmataw, Yangon	Trading	1
	4) Kabaaye, Yangon	Logistic	2
	5) Kamaryut, Yangon	Steel-Distributor	1

Table 3.1 Data Collection Activities

3.2 Construction of Questions

After the details learning of the literatures which are related to understand the digital literacy skill set required for business to determine the average global managerial digital literacy, the author find out the standard framework to measure the digital literacy of managerial level professionals.

The research questions are based on *European e-Competence Framework* (e-CF), well known frame work of ICT implication for business and e-skills standardization of business professional, as a benchmarking framework of the research. In addition to that framework, author constructed interview and focus group questions based on *Digital Literacy Framework* developed by Ng, W 2012 (*details of the frameworks are discussed in literature review's theoretical framework section.*)

Furthermore, author modified digital literacy questionnaire of the Open University (2012) accordingly with the frameworks, to create details questions for the interviews. The interview questions are categorized into 6main issues which align with the theoretical frameworks and sample personal assessment questionnaires of Open University.

1) Functional software/system : e-CF guidelines for account manager is mainly used for that measurement

2) Internet technology

3) E-banking

4) Information Accessing

5) Communication Tools

6) Social Media.

However, other related issues are also discussed according to the interviewee response, if the issue raised by interviewee is influence for the measurement of digital literacy.

3.3 Data Analysis

Content analysis used for the data analysis process of this study. 'Content Analysis is 'a procedure for the categorization of verbal or behavioral data, for purposes of classification, summarization and tabulation.' (Bryman & Bell, 2015). Qualitative content analysis was considered a strategy for the analysis of qualitative descriptive studies. (Sandelowski, 2000)

'Content analysis involves coding and classifying data, also referred to as categorizing and indexing and the aim of context analysis is to make sense of the data collected and to highlight the important messages, features or findings.' (Bryman & Bell, 2015).

According to Bryman and Bell, Content analysis can be an effective tool for data collection, 'when combined with other research methods such as interviews, observation, and use of archival records.' In addition 'it is very useful for analyzing documenting trends over time.' (Bryman & Bell, 2015).

The author is using content analysis for this study because she needs to categorize the interview answers, especially for measuring the proficiency level of digital technology, accordingly with the existing frameworks of digital literacy. Moreover, the author needs to analyze the digital technology trends and it usage trends, over the time for this study.

Chapter 4

Findings

According to the collected data from interviews, the author finds out the following information regarding managerial digital literacy of Myanmar executives. A significant result is that the digital literacy may be varies accordingly with the knowledge background of the professional as well as the firm they worked before or working recently.

As author mentioned above in her research questions, Digital Literacy of Myanmar executives are determine in three main issues, technical proficiency, social emotional proficiency and information proficiency. In this chapter, author will provide **technical proficiency**; such as *software, multimedia tools and internet*, **Information proficiency**; *information accessing* and **social emotional proficiency**; such as *communication tools and social media*. Finding categories are arranged according with the Digital Literacy frame work developed by Ng 2012 and European e-Competence framework. (Ng 2012; European e-Competence Framework 2016)

Details finding is presented in below, by separating different categories that involve in identifying the level digital literacy.

4.1 Functional software/system competency

First to measure Managerial Digital Literacy of Myanmar Executives, the author asked questions regarding functional software used in daily operation. As author mentioned in research methodology section, author focus on Financial and Accounting professionals, in order to find out the functional software and application literacy of executives.

4.1.1 Financial and accounting software

As the executives who involved in interviews are accountants and finance professional, they are more capable in finance and accounting software as SQL, MYOB and Peachtree. According to the interview results, most of the Myanmar Companies are using Peachtree, for their company accounts management. 'Peachtree is accounting software of Sage Group U.S, which assists accountants and manager to control the company account and inventory as well.' (Sage Group, 2007).

While conducting interviews, the author asked questions regarding the functional capability of those software in details. All the executives are proficient in operating accounts and financial software which are used in their companies. However, they are not aware of some standard accounting software used for finance activities. For example SAP which is well known finance software widely used in many countries.

The other issues author find out is that the executives' managerial digital literacy level is differ accordingly to their firm type. Executives from MNCs has more proficient in using digital technology, and functional software for their business tasks while executives from local firm are less capable of operating those software. An accounting manager from a local firm admitted that 'I am not good in using software and I rarely use difficult function of Peachtree, apart from the software functions that I have to use daily data entry'.

4.1.2 Basic software

The author also found out, the companies are expected for their

employee to have certain level proficiency in operating basic software which are necessary for business. For example. Microsoft Office software. Therefore, executives are forced to learn basic software and application before and even after joining to companies.

According to interview results, although executives are able to use basic software, their proficiency level are very basic, which means they are able to handle for the basic function of the software (such as creating files, saving files and etc..) and they are not able to handle most of the advanced function (such as creating coding and retrieving data from database).

4.1.3 Other multimedia tools

The author also conducted interview questions regarding the executives' awareness of using multimedia tools, such as graphical support for the presentation, video creating and photo editing for the business activities. Only few executives are capable of using multimedia tools like video and images for business and they are not familiar with using graphical support like chart and graphs, for presentation.

In overall, most of the Myanmar executives are capable of using functional software, for example, accounting and financial software which are necessary for their daily business operation. However, their capability of using other related software, for example multimedia and presentation software is still lacking.

The following table shows the digital literacy of executives regarding functional software/system competency.

Interviewee	Core	Related	Firm type	Level
1	Proficient	intermediate	MNC	senior
2	Proficient	intermediate	MNC	senior
3	Proficient	basic	Local	senior
4	Proficient	basic	Local	middle
5	Proficient	basic	MNC	middle

Table 4.1 Functional software/system competency

4.2 Internet technology

Myanmar internet usage has been increased dramatically within last two years. Myanmar's economic reforms provided better opportunities for foreign telecommunication firms to invest in Myanmar. Prior to year 2012, there is only one Telecommunication Company which is Myanmar Posts and Telecommunications (MPT), run by government. As of year 2015, there are three main telecommunication firms Myanmar, MPT, Telenor and Ooredoo. According to Telecomasia, 'Japanese telecommunication company KDDI will be joint venturing with MPT and Vietnamese military-run operator Viettel will also enter to the Myanmar mobile market, in 2017.' (Bushell-Embling, 2016). The increase numbers of telecommunication companies in the market creates more mobile subscribers with lesser price'. (MMRD, 2015)

The dramatic upward trend of telecommunication industry creates more internet user in Myanmar. The following table shows the internet usage of Myanmar (both broadband and mobile internet) from year 2000-2015. (Internet Usage Statistic,

2016)

Year	User	Population	Penetration %
2000	1,000	54,021,571	0.002%
2008	40,000	47,758,181	0.1%
2009	108,000	48,137,741	0.2%
2010	110,000	53,414,374	0.2%
2015	7,100,000	56,320,206	12.6%

Source: Internet World Stats, n.d.

Table 4.2: Myanmar Internet Usage 2000-2015

According to the interview results, all of the executives are using internet technology for their daily business activities, however most of them are using for only e-mail sending purposes, using PC or smart phones. According to the research, the author realized that web-browsing for business activities is not widely using yet in Myanmar. Most of the local companies do not have their own websites, to promote their business.

4.3 E-Banking

E-Banking activities are important for finance and accounting professional for convenience of business transaction, locally and globally. In addition, 'Myanmar is launching its first stock exchange on December, 2015', 'setting a milestone for the rapid modernization, which has been opening up its economy following decades under military rule'. (Chandran, 2015). Therefore, awareness of online transaction and ability to use online services for e-banking and e-transaction become important for professional

from financial sector. In order to identify executives' managerial literacy, author conduct questions regarding online banking. Although internet is widely used for online banking in many countries, in Myanmar executives are reluctant to internet for online transaction and financial activities, unless the activities are unavoidable. Therefore, their online banking proficiency level is very lacking, and most of the interviewee do not have clear knowledge regarding e-banking and online transaction. According to research author find out two reasons behind this issue;

1) *the electricity supply of Myanmar is not sufficient and reliable*

The poor supply of electricity issue is one of the most significant challenges for the Myanmar Government. The power supply is severely shortage even in big cities like Yangon, Mandalay and Nay Pyi Taw, '70% of power for electricity is comes from hydroelectric dams. A few months into the dry season, capacity drops sharply, resulting in frequent and long-lasting power cuts.' (Burma's power supply problems hurt growth, 2013)

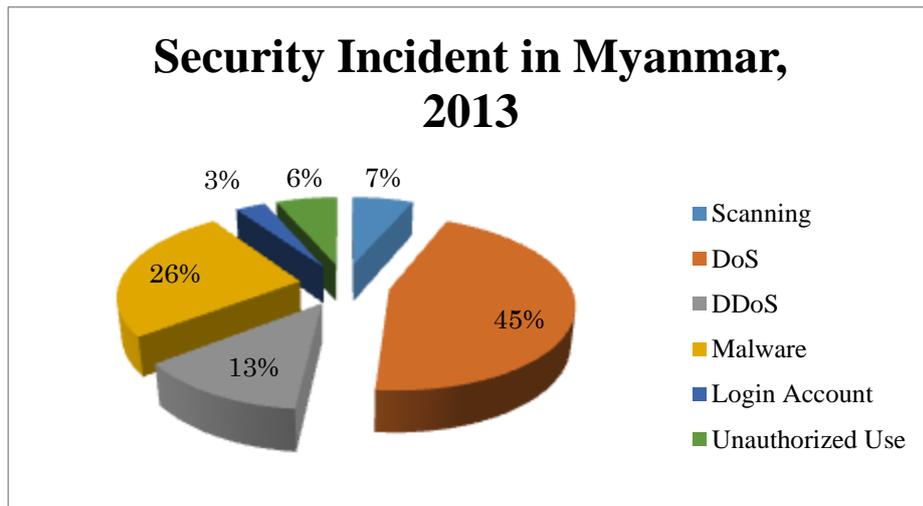2) *trust issue of the security system for online banking provided by Banks*

Since E-banking also known as i-banking is introduced to Myanmar only in the end of year 2013, most of the citizens are still unaware of the online transaction. On the other hand, the security issue becomes concern for the online banking users. Regarding interview results, the only digital transaction that executives use for banking is ATM, especially to withdraw their salaries. Most of them only use physical banking for the financial transaction and other financial activities because of the lack of trust for the

digital systems, E-banking.

There are many security issue happened in Myanmar E-banking system. According to ASEAN-Japan Symposium on Cyber Security 2013, Six main types of security incidents are commonly encountered in Myanmar.

1) Scanning - An attacker launches a port scan to see what ports are open, with a listening service, on targeted machine.

2) DoS – Denial of Service which is an attempt to make a machine or network resource unavailable to its intended users.

3) DDoS - a type of DOS attack, program/software infected with a Trojan, are used to target a single system causing a Denial of Service (DoS) attack and intervening the target machine or system.

4) Malware – also known as malicious software, which disrupt computer operations, gather sensitive information, gain access to private computer systems, or display unwanted advertising

5) Login Account - is an 'attempt to discover a password by systematically trying every possible combination of letters, numbers, and symbols until you discover the one correct combination that works.' (Login page password-guessing attack, 2016)

6) Unauthorized use – unauthorized access of the system or machine

The following chart indicates the breakdown of security incidents happened in 2013, when digital and i-banking entered to Myanmar.

Security Incident in Myanmar, 2013

- Scanning — 7%
- DoS — 45%
- DDoS — 13%
- Malware — 26%
- Login Account — 3%
- Unauthorized Use — 6%

Source: ASEAN-Japan Symposium on Cyber Security "ICT Usage & Cyber

Security Issues in Myanmar" 2013

Figure 4.1 ICT Usage and Cyber Security Incident in Myanmar 2013

The other incident happened in 2014 December, at Co-operative Bank (CB) ATM. Two spate ATM scams and hacking are happened in banks operating Yangon region. Five foreigners involved in this incident and one of the senior industry figures stated that 'the incidents highlight security risks in the country's banking sector.' (Kyaw, 2014)

4.4 Information accessing

Regarding information accessing through digital technology is very poor in Myanmar. Most of the interviewees are not aware of using internet as a source of information. According to the interview results, necessary information for business and decision making solely depends on the physical information which gains only from personal and business connection and networks.

One of the interviewees, responded that 'the information posted online is always outdated compared to the physical information' where he can collect from the physical information, which can collect through human channel by using personal or business relationships. He also mentioned that 'it is always late to get tenders when you rely on online posted information, once the information is posted online, that tender has been taken by somebody else since they gained particular information through physical channel which means information are distributed only among partners who have good relationship to one another', 'Newspaper advertisement is more reliable than official online post', he added.

The interviewees mentioned that the other sources to collect information is getting internally from company database, by retrieving the data record of previous business transaction, data of clients and customers, and the previous records of business activities for the decision making for existing and new business plan.

Only few executives are using search engine for checking and comparing quotation and price comparison purposes. However, they are only using for very basic search engine function which is just simply typing in google search box without using any coding, and they are not able to use advance search engine, which needs to provide proper coding, for the information searching.

In addition Myanmar executives are not aware of reading journals on online library, for example World Bank Library which is useful for finding economic or business trends of the country or neighboring countries.   According to the interviews,

the ethical issue has been raised regarding proper referencing online sources and giving credits and referencing is a part of the business ethic. All interviewees do not have clear ideas regarding online referencing, and giving credits for using information gathers from internet.   An interviewee answered that 'We, Myanmar People, rarely use proper referencing for both online and physical information and rarely give credit for those information. Those are only use for academic paper and in other purposes like business, normally we just simply use information without giving any credit to original author.' After conducting interviews, author found out that, most executives are not able to write proper reference format because that ethical norm is not widely adopted in the Myanmar business society.

The following table indicates the result of interview, regarding using internet or online as sources of business information and executives' awareness of online referencing.

Interviewee	Websites	Search engine	Online articles	Referencing
1	Yes (seldom)	Yes	Yes	No
2	Yes	No	Yes	No
3	No	Yes	Yes	No
4	No	No	No	No
5	No	No	Yes	No

Table 4.3 Information Accessing Activities

4.5 Communication tools

The other measurement for the Managerial digital literacy of Myanmar Executives is their usage of digital communication tools for their daily business activities. As other countries, all Myanmar Executives are able to operate e-mail to communicate with their business partners and colleagues and e-mail is the primary use of official business communication. After interviewing, author find out they all are capable to use all basic functions for e-mail; sending, forwarding, attaching files and adding other multimedia support for emails.

Although e-mail is the official business communication tools, the most frequent use for the prompt communication is Viber, 'An instant messaging and VoIP app for various mobile operating systems which provide functions to exchange images, video and audio media messages through online' (Viber, n.d.). As author mentioned above, the dramatic increase in smart phone usage boosts Viber user in Myanmar. Through interviews, executives claims that, they prefer to use instant messaging system rather than e-mail, because they can get and reply prompt message, convenient to use, free of charges for making calls (audio, video) as long as internet connection is available.

Video conferencing and meeting is not usually used in Myanmar, for the time being. A director of the one of the MNC's claimed that 'although we would like to have video conferencing with our foreign business partners, the internet connection is not strong enough to do video calls'. According to interview result, Myanmar executives are using instant video messaging system like Skype, a software through which video chat, make international calls, screen share, instant message are able to perform, for personal use only and almost half of them do have account for either Skype or VZO which is

software similar to Skype. Interviewee replied that 'it is not necessary because they will not do video calls.'

The following table indicates the result of interview, regarding using communication tools for business activities and personal use of Myanmar Executives.

Interviewee	Email	Viber	Skype	Other
1	Yes	Yes	Yes	VZO
2	Yes	Yes	Yes	Messenger, Line
3	Yes	Yes	Yes (personal)	Messenger, Line
4	Yes	Yes	No	Line
5	Yes	Yes	No	None

Table 4.4 Communication tools for business activities

4.6 Social media

Social media is 'tools for communication', involving 'activities, practices, behaviors among communities of people who gather online to share information, knowledge, and opinions using conversational media.' (Safko & Brake, 2009). Although Social Media are using for communication and social activities, nowadays, it widely used as a tool for marketing and other business communication.

The most significant result that the author found out through her research is that, social media is the most popular online activities in Myanmar. According to statsmoney.com, 'Facebook ranked number one in social media usage of Myanmar with 98.68%.' (Mobile Facebook, Twitter, Social Media Usage Statistics in Myanmar, 2015).

'From March 2014 to March 2015, the number of Facebook users in Myanmar grew by 204 percent to reach between 6-7 million monthly users, according to Facebook figures.' (Macdonald, 2015). Hence, social media trend in Myanmar is highly upwards and many businesses are using social media as marketing tools.

According to the interviews results, all executives are using social media for both business and personal purposes. They all are capable of using Facebook, proficiently and using 2-4 hours daily for business and personal purposes. One of the interviewees mentioned that 'although Myanmar people are not web-browsing, they are using Facebook on daily basic. Therefore, most of the companies are focus more on Facebook and other social media for advertising. Although they do not set-up their own website, they all have Facebook page for company.'

Through interviews, the author figures out that Myanmar Executives are using social media for many business purposes, rather than communication. Most of them are users of LinkedIn which is 'a business-oriented social networking service, mainly used for professional networking'. According to the interview sources, most of the executives admitted that they had been reviewed through their Link-in account, before hiring from their current companies.

While interviewing, author tested the proficiency of the executives by asking them to operate some function of social network applications and there are able to use all the basic and some advance function provided by social network applications.

The following table shows the different social media used by the Myanmar Executives.

Interviewee	Facebook		Twitter	Link-in
	Business	Personal		
1	Yes	Yes	No	Yes
2	Yes	Yes	Yes	Yes
3	No	Yes	No	No
4	No	Yes	No	Yes
5	No	Yes	No	Yes

Table 4.5Type of Social Media used by Myanmar Professional

4.7 Foreign Language Proficiency

According to the Ng (2012) framework of digital literacy, foreign language proficiency is not included in one of the measurement tools to determine digital literacy. Although foreign language proficiency seems not import issue for digital literacy, author found out through her interview, that foreign language proficiency (especially English) is hugely contributed for the different levels of managerial digital literacy in Myanmar.

After conducting interview, author realized that almost all of the executives are poor in English, and they feel tense for having long conversion in English. 'The education system event at the school level is so terrible and this led to a rapid decline in English proficiency among the Myanmar'. (Hays, 2014). Interviewee also admitted that

they need to improve their English language proficiency level.

The relationship between English and digital literacy is that, the professional are not able to use all the functions provided by digital and ICT technology because they are not able to understand the meaning of each function. Furthermore, computer windows system, *for example Microsoft Windows 7* is not provided in Myanmar Language. Although, *Microsoft Windows 10's* operating system is provided in Myanmar Language, it is not widely use yet in Myanmar. In addition, only few mobile applications are provided in Myanmar Language. Therefore, without intermediate level of English, which means one's has ability to use English for daily conversation and understanding common words of English, it is difficult to operate application functions which are provided in English.

Through interview, an account who working in local company mentioned that her subordinate cannot able to perform some function from accounting software, just because of language barrier.

Chapter 5

Discussion

Digital literacy issue is one of the most important issues for Myanmar to focus for the country development. Executives' awareness of digital technology is still lacking in many perspective. After analyzing the collected primary and secondary data, their digital literacy level is still basic to intermediate, because of the following reasons;

5.1 Information transparency

Information transparency is essential for the business to operate fairly without any types of bias. However Myanmar had been ruled by the military government and some privileges are reserved only for the businesses which has a good relationship with the government. Business information only going through a certain channel and business opportunities from those information given only to a particular firms and company.

Although Myanmar has been adopting new economic reforms, the practice of information distribution is still follows the same practice as before. Many local SMEs and MNCs that recently enter to Myanmar feels demotivation for the lacking of information transparency. Executives are only relied on personal relationship with other business partners and government to get information necessary for the business operation. For the time being, only physical information channel is applicable for Myanmar.

Myanmar Executives are discourage to access information through online and

other digital source in many reasons,

1) Updated information are not properly provide in websites and other online sources,

2) many local companies does not have their own websites to provide information regarding business activities and

3) Although telecommunication sectors are better assessable than prior years, the internet technology is expensive to use in Myanmar.

5.2 Individual skills

Digital literacy and skill set of executives is differ according to the educational and knowledge background of each individual. Basically, Executives with high digital proficiency level are graduated from computer universities or other technical institute. Many executives are only capable of using primary function of digital technology, which they learned through their jobs. Age of the executives also contribute for the capability of digital technology. Most of the senior executives, with the age above 50 are not familiar with the advanced and new digital technology.

In addition, executives' interest of using digital technology is driven differently and it is mainly depends on the industry and nature of the work they are working. As author mentioned above, most executives of the local companies are not strong enough in using digital technology, their motivation of learning new technology lower than that of who working in MNCs, and foreign firm. Also their digital literacy is differ because the industry of the companies they are working. Although, most of the interviewees are working in financial department, their sill set and level of proficiency is different, for

example, executives who working for the logistic company's literacy is better in overall than the executives working in audit firm. Executives who working for audit firm only using finance software and other related software are not necessary for them to use, while executive from logistic firm must have all the knowledge of related software including digital media software and advance web browsing as they required as a part of their business activities.

5.3 Limitation of country infrastructure in digital technology

Many limitations are still remained in Myanmar, regarding digital services provided by government. As author mentioned above, the internet usage in Myanmar is still below the average level of South East Asia Countries' inter usage. The following graph shows the internet user in South East Asia, as of November 2015.
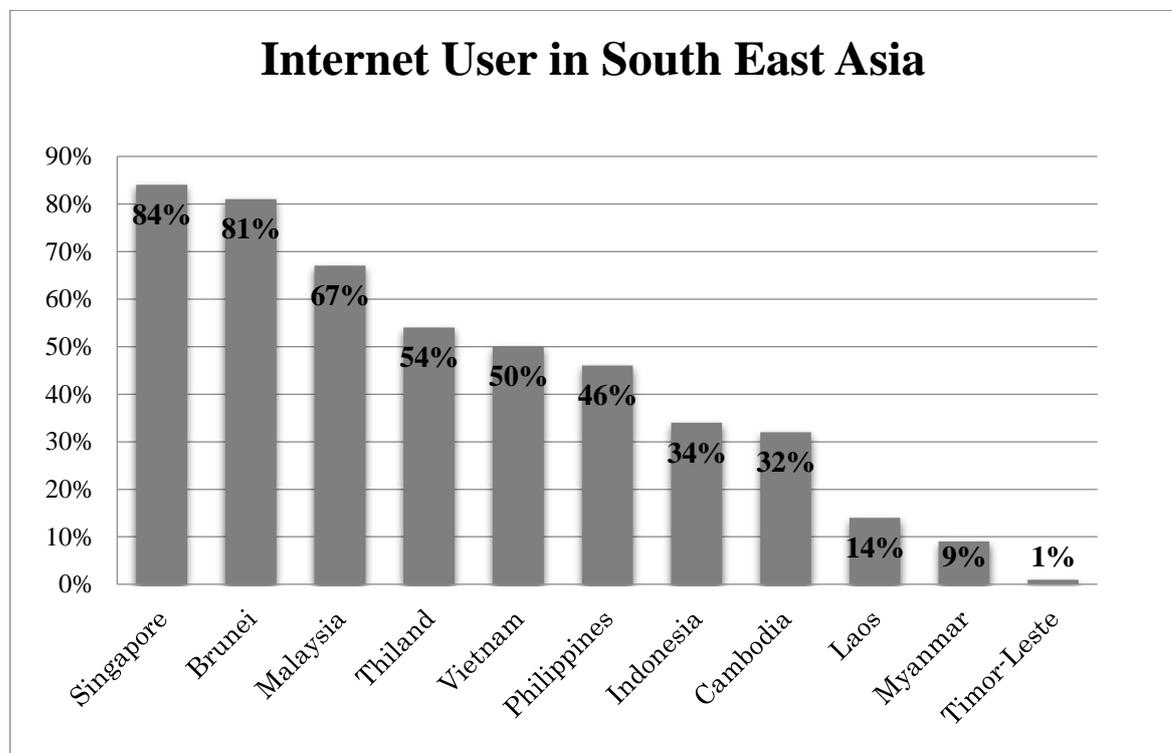

Figure 5.1 Internet Users in South East Asia

The cost for the usage of internet is still expensive, compared to other ASEAN countries. The average income of Myanmar is the lowest rate in ASEAN countries, hourly wage of USD 0.46, while Brunei stands with the highest rate with USD 5.76. The following table shows the comparison on the ASEAN country in terms of the internet and mobile data cost.

Country	Mobile Data Price (1G)	Hourly wage	Cost and Wages ratio
Brunei	7.09	5.76	1.23
Singapore	7.11	4.03	1.76
Cambodia	1.50	0.66	2.27
Thailand	3.29	1.15	2.86
Malaysia	4.56	1.18	3.86
Laos	4.11	0.84	4.89
Indonesia	2.84	0.54	5.26
Philippines	3.71	0.69	5.38
Vietnam	3.58	0.59	6.07
Myanmar	3.68	0.46	8.00
Timor-Les	10.00	0.60	16.67

Table 5.1 Mobile and Internet Data Cost of ASEAN Countries

Although telecommunication industry in Myanmar is dramatically booming and intense competition among key players industry create cheaper price for internet usage in Myanmar, since the average hourly wage of Myanmar is second lowest in

South East Asia, the cost of the internet usage is still very expensive and become unaffordable.

5.4 Training

As author discussed before, the ICT infrastructure in Myanmar is developing after 2013, as the government is focusing on ICT and mobile technology development by setting new policy for digital sector.

Since 2013, entering of foreign firms and multinational companies (MNCs) to Myanmar created many job openings and human capital are required to fill in those job positions. According to results of the study, the digital literacy level of Myanmar executives varies depends on the firm they are working. As mentioned in finding section, the digital literacy of most of the executives from MNCs is higher than that of local firms.

This is happened because MNCs are concerning for the standard requirements for their new recruit in terms of their capability accordingly with global standard, including their digital literacy level. Most of the MNC's are providing training especially computer and software/systems training once new recruits are hired. They are also providing training for existing employees, especially for executives for the effective management and business operations. In addition, professional are willing to learn digital technologies as technologies help them create more opportunities for them to getting better job opportunities in MNCs.

On the other hand, MNC's are performing Corporate Social Responsibility activities in Myanmar by providing digital center for Myanmar to promote its digital literacy. Recently Telenor is opening about 50 Digital Centers in Myanmar, 'to close the gap between rural and urban digital capabilities by introducing these centers to teach citizens on computer usage and responsible internet browsing.' (Murphy, 2016).

Hence, MNCs are not only performing in-house training for employee, they also contribute training for the Myanmar Citizens and it will promote the digital awareness of whole nations and later it will contribute to increase digital literacy of country.

Although most of the local firms are currently not providing training programme for their employee, expect from On Job Training, recently, they are now interesting to provide training for their employee, externally, by sending them to short programme of computer training and etc., because of the increased awareness of digital technology.

Therefore, the digital literacy gaps between local and foreign firms will reduce as the country is developing in awareness of digital technology and local firm are now focusing in improving of employees digital literacy for better business performance.

5.5 Future trends of Digital Literacy

Myanmar is practicing aggressive movement for the reform of ICT and Mobile industry. 'Myanmar's IT spending is expected to have a growth rate of 14.8%' from

2012-2016, (Myanmar ICT Market, 2012), as government invested a lot in ICT sector and reforming of infrastructure.

Reform of Myanmar economic created a green-field market for ICT investments, foreign ICT players, currently they are aggressively trying to have an first mover advantage in the Myanmar business. Many foreign investments in Mobile sectors are entering to the country, start from the end of 2013. (Deloittee, 2013)

Many professionals are enhancing their skills in many perspectives in order to create their own core competencies as the competition among professionals are getting stronger, especially in completion for better job opportunities. (Thein, 2014). Not only in digital proficiency, also in language proficiency which is related for having better digital literacy level, 'there is an increasing demand for English, especially for those who want to climb the corporate ladder' (Wong, 2016).

Hence, the trend of the digital technology improvement is getting higher, as well as, the willingness of professional to improve their skill set is also getting higher. Therefore, no assumption for digital literacy of the country and obvious upward trend is visible for the digital literacy of Myanmar.

5.6 Recommendations

First of all, providing proper training for the existing and new executives are most critical issue to perform to enhance the managerial digital literacy of Myanmar. In order to reduce the gaps of managerial digital divide within country, both local and global firms should provide training regarding digital technology.

Although, many different training of digital technology are required to promote the skill sets of professional, firms have to concentrate more on providing the training of functional systems/software, which contributes most for the effectiveness of business operation for middle level executives. On the other hand, internet and web-browsing and basic software operating training should provide for all level executives to enhance the average managerial digital literacy.

In addition, English language training should provide for executives to promote their understanding on functions of applications and software, and to eliminate the language barrier for the operation of software.

As country's ICT and digital sectors is developing, banks from financial sectors must increase their performance by enhancing their security of E-banking and online services. This approach may have some difficulties local banks as series of procedure involve for the performance enhancement. However, foreign banks are able to perform that approach because of their standardization of security measure. By enhancing the performance, banks are able to increase the trust from the business customers, and promote the awareness of the E-banking system.

Conclusion

This research efforts to explore the level of Managerial Digital Literacy of Myanmar Executives by using two different frameworks of Ng (2012)'s Digital Literacy framework, which is focus on general measurement of Digital Literacy and European e-Competency Framework, (e-CF) which focus on standardization of professional's ICT proficiency level.

Although author was forecasted that the Managerial Digital Literacy level of Myanmar is significantly lowered compared to other ASEAN countries as a hypnotical idea, after conducting the research, author found out that Myanmar's Managerial Digital Literacy can be level with other ASEAN country in some areas as social media literacy area because of the dramatic increase of Mobile Industry and internet usage.

However, the overall *technical literacy* is still behind on the standard, compared to e-CF framework's standard. The gaps between professional of MNCs and professional of local firms exist in technical aspects of digital literacy.

E-banking sectors is still lacking significantly in terms of digital technology implication, customer trust and awareness issue. It creates drawbacks to enhance the managerial digital standard, especially for the finance and accounting professionals' literacy.

Information literacy and information accessing is still behind than the other ASEAN nations as most of the information sources are only depends on the physical sources for performing business activities.

On the other hand, dramatic increase of ***social media*** usage in Myanmar encourages Myanmar executives to improve their digital skills and create different approach in way business activities. This factor will create upward trend in digital literacy of Myanmar in very near future.

To conclude, Myanmar's overall managerial digital literacy level is still basic level, however, with huge potential for the upwards in near future as the dramatic increase in ICT and mobile sector.

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Appendix

Standard Basic Skills of Microsoft Office
(to determine related software proficiency)
Source: Collin College, 2009

	Excel	**Word**	**Outlook**	**Power point**
BASIC SKILLS	- Create a new workbook -Enter cell values and labels -Modify a wordsheet -Use formulas -Use a function -Modify page layout Printing and publishing documents -Create a chart	-Create new document -Open and edit an existing document -Move, copy, find and replace text -Format characters and paragraphs -Create and edit tables -Modify page layout -Printing and publishing documents -Correcting documents	-Set up a new account -Perform basic email tasks -Manage contacts -Configure and organize outlook -Manage tasks -Manage calendar -Manage appointments and events -Manage meetings	-Create a new presentation -Open and edit presentation' -Format a presentation -Construct a table in presentation -Construct a chart in presentation -Add objects in presentation -Create drawn object -Refine a presentation -Print or export a presentation -Deliver a presentation
INTERMEDIATE SKILLS	-Maintain a large worksheet -Work with multiple worksheet -Work with data -Advanced charts skills -Work with data lists -Document and audit a worksheet -Printing options	-Work with document sections -Format tables -Work with excel data -Use a macro -Work with columns -Use graphics -Use document templates -Work with styles	-	-
ADVANCE SKILLS	-Use advance skills -Manage data -Conditional formatting -Work with pivot tables and pivot charts -Use analytical add-in -Macros and VBA editing	-Use mail merge -Work with forms and fields -Work with a large document -Manage document revisions and comments	-	-Incorporate Audio in a presentation -Incorporate video in a presentation -Use templates and themes -Incorporate contents from other programs -Create an interactive presentation -Use animation in a presentation

Standard Basic Skills of Microsoft Office

Interview Criteria for Information Accessing Capability
(Source: Open University 2012)

Understanding digital principles
Knowing what categories of users you can expect to find online
Explaining what happens to information you put online: your digital footprint
Choosing the right tool to find, use, or create information
Presenting yourself online: your digital identity
Finding a person online, for example an expert in your discipline, and establishing their contact details
Using online tools and websites to find and record information online
Establishing who owns information and ideas you find online
Establishing what online information you can legally re-use

Finding information
Knowing what information you can find on the web
Knowing what information you can find in an online Library
Using advanced search options to limit and refine your search
Using keywords commonly used in your discipline to search for information online
Using social networks as a source of information
Knowing when to change your search strategy or stop searching
Filtering large numbers of search results quickly
Scanning / skimming a web page to get to the key relevant information quickly
Keeping up-to-date with information from authoritative people or organisations by subscribing to RSS feeds

Using Information
Using information in different media, for example, podcasts or videos
Assessing whether an online resource (e.g. web page, blog, wiki, video, podcast, academic journal article) or person is credible and trustworthy
Using other people's work (found online) without committing plagiarism
Citing a reference to an online resource (e.g. in an assignment) using the correct format
Keeping a record of the relevant details of information you find online
Using social bookmarking to organise and share information
Sharing files legally with others

Finding information
Knowing what information you can find on the web
Knowing what information you can find in an online Library
Using advanced search options to limit and refine your search
Using keywords commonly used in your discipline to search for information online
Using social networks as a source of information
Knowing when to change your search strategy or stop searching
Filtering large numbers of search results quickly
Scanning / skimming a web page to get to the key relevant information quickly
Keeping up-to-date with information from authoritative people or organizations by subscribing to RSS feeds

Using Information
Using information in different media, for example, podcasts or videos
Assessing whether an online resource (e.g. web page, blog, wiki, video, podcast, academic journal article) or person is credible and trustworthy
Using other people's work (found online) without committing plagiarism
Citing a reference to an online resource (e.g. in an assignment) using the correct format
Keeping a record of the relevant details of information you find online
Using social bookmarking to organize and share information
Sharing files legally with others

Creating Information
Adding comments to blogs, forums or web pages, observing netiquette and appropriate social conventions for online communications
Writing online for different audiences, e.g. a web page or blog entry for private use, for reading by your fellow students, for reading by your tutor, or for reading by anyone in the world
Writing in different media for people to read on-screen
Communicating with others online (forums, blogs, social networking sites, audio, video, etc.)
Working with others online to create a shared document or presentation
Using media-capture devices, e.g. recording and editing a podcast or video

The guidelines questions (technical litreacy) of the interview are as follows;

How important digital technology for your daily business activities? (Intro)
- ☐ Essential
- ☐ Very important
- ☐ Important
- ☐ Not important

What types of system/software are you frequently using for daily business?
- ☐ Word processing software (E.g. Microsoft Word, Adobe Page Maker)
- ☐ Basic Database software (E.g. Microsoft Excel, Access)
- ☐ Advanced Database software (E.g. SQL software, MS SQL Server)
- ☐ Data processing software (E.g. Microsoft Excel,)
- ☐ Designing Software (E.g. Adobe Photoshop, Flash, etc.)
- ☐ Financial Software (E.g. MYOB, SQL, SAP, UBS, etc.)
- ☐ Web browsing and Internet (E.g. Companies' website, business data browsing, Google search, etc.)
- ☐ Project Management software (E.g. Microsoft Project, Web Resource, Kanbanery)
- ☐ Knowledge software (E.g.)

How do you retrieve data, information and knowledge for effective business activities?
- ☐ Company documents (E.g. papers and physical documents)
- ☐ Online business databases
- ☐ Online business organization and consultancy
- ☐ Web browsing