THE INFLUENCE OF DIGITAL TECHNOLOGY TOWARDS THE WORKING ENVIRONMENT OF TEACHERS IN MELAKA.

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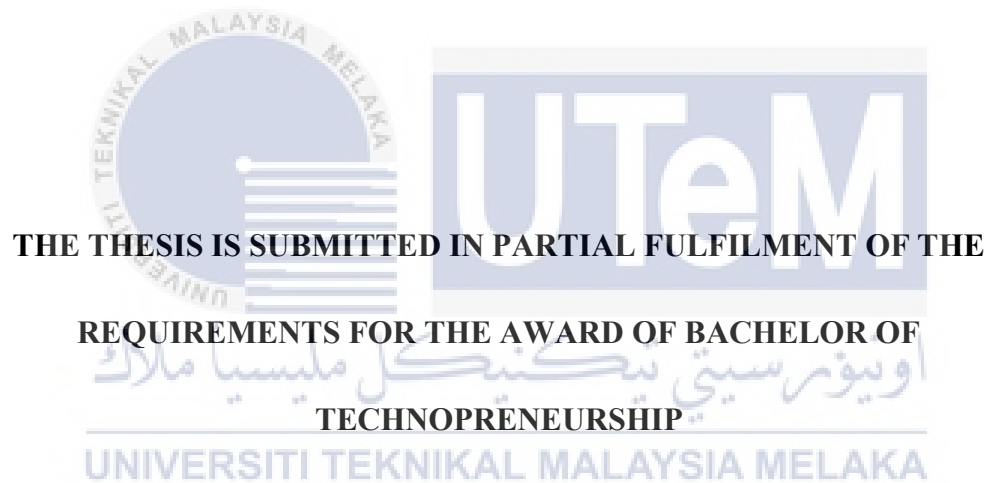
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DECLARATION OF ORIGINAL WORK

"I hereby declare that this dissertation entitled 'EFFECT OF DIGITAL COMMUNICATION TECHNOLOGY TOWARDS EMPLOYEES' WORKING ENVIRONMENT DURING COVID-19' is the result of my own, except certain explanations and passages where every of it is cited with source clearly."

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DEDICATION

I would like to express my dedication by appreciating my beloved family members who support me in education aspect as well as motivated me to achieve my degree level. I would like to express my deepest gratitude to my supervisor for my final year project, Dr Murzidah binti Ahmad Murad who has helped me to understand my assignment and helped me to grow even further. They have been provide me with full support and advice throughout this research. I am able to finish this research in short amount of time with everyone's helping hand.

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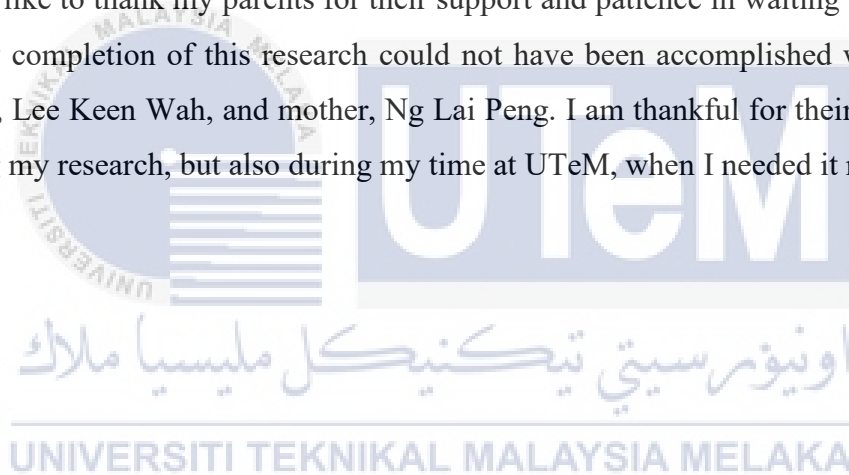
Finally, I am grateful to all of my friends for being a continual source of inspiration and motivation in helping me complete this project. They are sharing a lot of knowledge related to proceed this research project. It helps me to complete this research project more efficiently.

ABSTRACT

Communication technology has a heavy impact towards employees working environment during covid-19 period. Communication technology is technologies that help people to gather information, learning new AI as well as connect themselves with other people far away despite the location and time. Examples of communication technology are computers, the internet, television, radio, phones, and podcasts, etc. There are four main impacts that cause the use of digital technology such as working from home due to the covid-19 and digital technology has enable the method of working from home. Secondly, communication conflict happened without proper contact with employees which cause quite a misunderstanding which make the working environment bad. Therefore, there is a need of using communication digital technology. Thirdly, technology adaptation which how an employee is able to adapt to new environment of working using digital technology. Lastly, the efficiency of using digital communication technology. In this research, quantitative research method will be chosen, and survey (google form) will be given to specific number of respondents regardless the location and time. The finding of this study will contribute to employer that want to expand their company or having communication conflict. This finding of the study will also help entrepreneur to understand the importance of using digital technology during covid-19 as many businesses are down because lack of adaptation skill and knowledge.

Keywords: communication technology, work from home, communication conflict, technology adaptation, efficiency, quantitative method, covid-19, working environment.

ABSTRAK (BAHASA MALAYSIA VERSI)

Teknologi komunikasi mempunyai kesan yang besar terhadap persekitaran kerja pekerja semasa tempoh covid-19. Teknologi komunikasi ialah teknologi yang membantu orang ramai mengumpul maklumat, mempelajari AI baharu serta menghubungkan diri mereka dengan orang lain yang jauh walaupun lokasi dan masa. Contoh teknologi komunikasi ialah komputer, internet, televisyen, radio, telefon, podcast, dan lain-lain. Terdapat empat impak utama yang menyebabkan penggunaan teknologi digital seperti bekerja dari rumah akibat covid-19 dan teknologi digital telah membolehkan kaedah bekerja dari rumah. Kedua, konflik komunikasi berlaku tanpa hubungan yang sewajarnya dengan pekerja yang menyebabkan salah faham yang menyebabkan persekitaran kerja tidak baik. Oleh itu, terdapat keperluan untuk menggunakan teknologi digital komunikasi. Ketiga, adaptasi teknologi iaitu bagaimana seseorang pekerja dapat menyesuaikan diri dengan persekitaran baharu bekerja menggunakan teknologi digital. Akhir sekali, kecekapan menggunakan teknologi komunikasi digital. Dalam penyelidikan ini, kaedah kajian kuantitatif akan dipilih, dan tinjauan (borang google) akan diberikan kepada bilangan responden tertentu tanpa mengira lokasi dan masa. Dapatan kajian ini akan menyumbang kepada majikan yang ingin mengembangkan syarikat mereka atau mempunyai konflik komunikasi. Dapatan kajian ini juga akan membantu usahawan untuk memahami kepentingan menggunakan teknologi digital semasa covid-19 kerana banyak perniagaan mengalami kejatuhan kerana kekurangan kemahiran dan pengetahuan penyesuaian.

Kata kunci: teknologi komunikasi, kerja dari rumah, konflik komunikasi, penyesuaian teknologi, kecekapan, kaedah kuantitatif, covid-19, persekitaran kerja.

CONTENTS

CHAPTER 1

INTRODUCTION

1.1   Introduction

The research commences with chapter one which explain on the background of the study related to the effect of improvement of technology towards employees' working environment. Followed by the development of problem statement, research questions, and research objective, scope, limitation of research, significant of study and an overview of the study.

1.2   Background of Study

Technology has been constantly improving and making out life easier each day. It is undeniable that technology lift our workload as well as rapidly increases our productivity. Despite of the convenience that the technology given to us, we cannot ignore the fact technology slowly replacing human workforce. During the outbreak of covid, many people lost their jobs and many big companies especially tourism companies such as flight airline and hotels since government restricted contact with other countries. Wayne F Cascio (2016) stated that 'With the rapid rate of development and ever-increasing reliance on technology, it is without a doubt that organization need to adapt alongside with the technology to survive.'

This research is mainly about how digital communication technology can cause impact to employees' working environment. Technology has been improving in every different age and era. This is an infuriated fact that cannot be change because humanity is constantly evolving ever since they were born. Currently, most of the work are fully technology-orientated or being replaced by technology because it can easily increase the productivity and the efficiency of a product.

Most of the companies had replaced their working environment style by using technologies such as laptops and mobile phone with internet access. This definitely decreased the workload and make employee and employer's work more convenient and efficient because employees are able to work regardless their location as long they have internet connection. Many companies adapted work from home strategy during covid-19 pandemic by using online meeting platform such as Webex, Microsoft Team, Google Meet, etc. Lina Vyas and Nantapong Butakhieo (2013) says that work from home bring huge motivation on worker and their efficiency of work and life domains, such as flexibility are at their highest peak. Balazs Aczel (2014) mentioned about working from home provides numerous obvious advantages, like not having to commute, managing domestic obligations and family needs more easily, better control over time usage, and less distractions.

There is an undeniable connection between working environment and online technology improvement since almost all the companies around the world uses online technology to work regardless of what type of work form such as retail store, management, logistic, etc. Therefore, one must adapt to the situation in order to success which mean that every company should change their working style based on the development of the technology to reach their goal and success. Ramiro Montealegre (2016) stated that living in a global world where technology, especially information and communication technology, is changing the way businesses create and capture value, how and where we work, and how we interact and communicate.

As Murray (2015, p. 6) contends, 'These developments are accelerating us toward a new industrial revolution. Corporate executives that are astute understand that they must either find out how new technologies will revolutionize their company or risk being disrupted by those who do.' Therefore, head of the organization should exercise to scout latest technologies that are available in the market to further help their company to improve based on the global situation or market in order to survive in the business.

Amit Prasad (Oct 2018) mentioned that technology aids in the organization of the company. Project Management Software aids in the creation, delegation, review, and evaluation of tasks. Employers and supervisors may simply monitor workplace operations, ensuring that everything stays on track. It establishes accountability, efficiency, and timely completion of duties allocated to individuals. Many new devices and software are now available in the modern workplace to improve productivity and efficiency. Project Management Software aids in the improvement of the quality and quantity of work, as well as risk assessment by raising a red flag if a job deviates from the plan, potentially resulting in project failure. Space management software aids in the organization of your office, resulting in better space usage.

1.3   Problem Statement

It is obvious that after the outbreak of covid-19, everyone has been using online technology more frequently compared to old method. There are many problems arise regarding the online technology since everything were new and many companies need to adapt new method of working during the covid-19. Therefore, it heavily impacts the working environment of the employees because they will need to adapt to new things that they never learn before especially old employees.

Online working has become a norm for everyone, and it is the only way to continue working during the pandemic. Despite of that, Malaysia currently is opened to work in public but there are many companies still adapt to working from home which using online platform or using their online technology such as software in their laptops. The problem is, can all employees adapt to this new environment so that it can continue contribute to their company?

It is hard for old employees as they are not expert in technology but in fact good at practical work. They are all accustomed to old working method and environment. If they were unable adapted to this new environment, they were unable to survived in the new working environment. This is a huge advantage for youngster as they are very well-versed at online technology as they learn and use it in their everyday life.

Currently, many companies started to use online platform such as Webex, Microsoft Team, and Google Meet. Employees may feel lectured rather than engaged. If team communication devices are used, there may be a lack of questioning, tone, body language, and excellent discussion. This will result in a superficial discourse, which will have an effect on employee engagement. Young individuals have been shown to be at ease with text-based communication. However, they lose their capacity to talk spontaneously as a result of this. Face-to-face communication is needed for organizational effectiveness, especially in managerial and leadership roles.

Despite having such convenient of technology given to the employees, they tend to exploit the advantage of the convenient of online technology by taking their leisure time doing their work. They do not engage or motivate doing their work because they have extra time to do their job. Despite the additional freedom provided by working from home or freelancing in the gig economy, some people are working longer hours, well beyond their normal working hours, on weekends, or even when unwell.

Because employees may work from anywhere at any time, it takes longer to complete tasks. They may feel as if you never leave the workplace if work from home. It might feel hard to ever truly be off the clock when carry a computer in their pocket that is continuously connected to their work email. Workers are continually drawn back to their duties by flashing, buzzing, and "pinging" signals. This mindset does not lead to improved performance; rather, it leads to fatigue, sleep deprivation, and even mild melancholy. When employees are unable to disconnect, their performance suffers as a result of the stress of always being in work mode.

Digital technology is very convenient but not everyone has the access to use it. For example, software like adobe illustrator needs to be subscribe yearly which need to be pay to use. Therefore, everyone must at least be affordable to buy the subscription in order to use the online technology software.

Wages aren't keeping up with productivity, which is increasing at an exponential rate. Expectations for continued production are unchanged. This might make employees feel like they're always behind, even while their job improves thanks to better online technology. They may believe that online technology is transforming everything around them while they remain unchanged.

This is causing concern about the future workplace and whether people who may one day be replaced by technology will still have jobs. Certain positions have already vanished. A single individual may administer a piece of software instead of a whole department. Entire professional pathways may become outdated in the future.

1.4   Research Questions

The research questions proposed in this study are as below:

1.   What is the significant factor influencing the use of digital technology?

2.   What are the reasons that causes increase or decrease in efficiency of the employees' work?

3.   What is the limitation of a digital communication technology?

4.   What is inter-relationship of digital technology that enable the adoption of new method of working environment

1.5   Research Objective

1.   To determine the factors of utilization of digital communication technology

2.   To identify the most significant factor of utilizing digital communication technology inthe working environment

3.   To determine the limitation of digital communication technology.

4.   To determine the relationship between factor of using digital technology and communication conflict in workplace.

1.6   Scope of Study

This research is mainly about how technology improvement can cause impact to teachers' working environment during covid 19 and how will they adapt to the situation by using advanced technologies that are available. Questionnaires is distributed through google form to everyone who are currently working.

1.7   Significant of Study

'With great power comes with great responsibility' can inter-relate with technology and employees which they should not misuse the technology in an inappropriate way for their own self-benefit. Technology has been improving to enhance the quality life of human and as well as productivity in the industry. Technology changes everyone's life as the reliance of technology is simply as important as their daily needs. This research may provide some insight of technology influence the working environment of employees which manager is able to use to adapt or understand more about different methods that can be use in future for their business and their employees.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

A literature review is a search and evaluation of the existing literature in the selected topic area or subject. It summarizes the current state of knowledge in the field of the subject or issue. The reason of writing a literature review is that I can further refine my research finding by creating more advanced questions to obtain more information and answers that helps to complete this research. There are many studies out there can be used as reference in order to define online technology and working environment which definitely benefit to everyone. In this research, it is about the effect of online technology towards employee's working environment during covid-19. Hence, all the literature are related to the scope of this research.

2.2 Digital communication technology, teachers, and employees.

Digital communication technology is basically digital technology which defined as a worldwide computer network made up of linked networks that use standardized communication protocols to provide a range of information and communication services (Oxford dictionary). Teacher is defined as a person who teaches, especially in a school (Oxford dictionary) Employee is defined as a person who works for a pay or compensation, particularly at a non-executive level (Oxford dictionary). Digital technology can refer to software, information, multimedia as so on.

8

2.3 Working environment

The employee's work environment might be anything that surrounds him and influences how he executes his tasks. Working environment, according to Alex S. Nitisemito (1992), is both an external and internal situation that can impact working spirit and result in quickly completed projects. A respectable working environment, according to Sedarmayanti (2003), is one in which people can execute their duties in an optimal, secure, healthy, and comfortable manner.

As a result, numerous studies have classified the workplace as hazardous or conducive (Akinyele, 2010; Chaddha, Pandey, and Noida, 2011; Yusuf and Metiboba, 2012; Assaf and Alswalha, 2013). According to McGuire and McLaren (2007), the physical environment of an organisation, particularly its layout and design, can influence employee behaviour in the workplace.

Chandra Sekhar Patro (2020) stated that the surrounding conditions in which a person works and operates are referred to as the work environment. Tansif Ur Rehman stated that working environment refers to the geographical location, social traits, and working circumstances in which people carry out their duties.

Mary Stack Kohn (2017) proposed that the good or negative encouragement or help from coworkers, department chairmen, building level administrators, and/or district level administrators is known as the work environment. It also considers any feedback or coaching that participant may have received, their resistance to change, any supervisory or administrative sanctions, and any positive or negative personal outcomes related to the implementation of the PD program's instructional techniques into the teachers' classroom instruction.

2.4 Importance of digital technology

The internet has become an inevitable part of our everyday lives. Appropriate internet use makes our lives easier, faster, and simpler. For personal, societal, and economic growth, the internet provides us with facts and numbers, information, and knowledge. The internet may be used for a variety of purposes; however, how we utilize it in our everyday lives is determined by our needs and objectives. Emily Drago (2015) mentioned that throughout her research, she found out that out of 100 respondents, all of them own a smartphone or tablet which uses online technology.

Digital technology constantly assisting businesses in cutting expenses and more effectively advertising their products and services (Anandarajan, Simmers and Igbaria, 2000). Furthermore, the Internet is being utilised to help businesses operate better (Lim, 2002). This is consistent with Paragian (2014), who noted that the Internet is used for more than only social communication, but also for promotion and marketing. It has been proven that the number of firms and online businesses in Indonesia that have formally promoted their products and services through their own official, selling, auction, and social networking sites, such as Facebook, Twitter, and Instagram, has increased significantly. (Hidayat, 2014). Anvil Gurung (2009) stated that employees used the Internet to search for information available on the Internet. Employees are able to obtain various of types of information for working purposes.

The utilization of digital communication technology has transformed the way that businesses operate, enabling faster and more efficient communication, enhanced collaboration, and the ability to work remotely. These benefits have the potential to drive significant increases in productivity and competitiveness (Smith ,2019).

2.5 Types of digital technology

There are many different digital technologies in fact everything online is considered as online technology. Marcia Håkansson Lindqvist (2019) stated that social media, online gaming, multimedia, and mobile phones are examples of digital technologies. They are digital tools, systems, devices, and resources that produce, store, or process data.

2.5.1 Information technology

Rich Castagna and Stephen J. Bigelow (2016) stated that information technology is the use of computers, storage, networking, and other physical equipment, infrastructure, and procedures to produce, process, store, protect, and share all types of electronic data is referred to as information technology (IT). IT is often utilized in the context of commercial operations, as opposed to personal or leisure technology. IT for business includes both computer technology and telecoms.

2.5.2 Hardware

Maria Petrescu (2016) stated that hardware is made up of physical machinery, equipment, and gadgets. While Kris Swen Helge (2022) propose that a hardware is an electronic system's machinery, wires, and other physical components. Laptops, tablets, smart phones, and personal computers are examples. Hasan Tinmaz (2019) stated that is a generic name for physical computer hardware that may be used to run computer programmes or regulate network traffic.

2.5.3 Website / Domain

Tom Carlson (2020) stated that website is a collection of interconnected online pages that provide information about a certain topic and are delivered from a single web domain. A home page is the first file on a website that is maintained by a person, group, or organisation. Md Shamim Hossain (2021) stated that a website is a collection of connected web pages, with or without multimedia, that are often identified by a universal domain name, or URL, that is published on a web server. The website may be accessed through the public internet or a private LAN (local area network).

2.5.4 Software

Miroslav Škorić (2014) proposed that software is a collective term for several types of computer programmes. Operating systems also known as 'system software,' such as device drivers, basic setup programmes, and end-user programmes are all examples of software (applications). Celia Soares (2020) stated that software is a collection of data or computer instructions that inform the computer how to function through its own language and is a set of instructions that may be stored and processed by hardware.

2.6 Work from home

During the lockdown of covid-19, everyone must stay at home. Therefore, many companies started to encourage their employees to work from home so that the work can be continued. Hence, internet is used which is one of an online technology as well as hardware and software. Navya Kumar (2021) defined work from home as when workers use information and communication technology to do the same job responsibilities from their home that they were contracted to do from their employer's or client's place of business. Kannan Rajagopal (2021) mentioned that tasks and jobs linked to professional interests are accomplished from the employee's place of residence rather than from the workplace under the work from home choices.

Lina Vyas (2020) mentioned that COVID-19, the global pandemic, has made a huge percentage of the workforce unable to go to work in order to prevent the virus from spreading. In a fast-paced metropolis like Hong Kong, this has led in both businesses and people seeking alternate work arrangements. Most, if not all, people were forced to work from home as a result of the epidemic (WFH). As a result, most governments have made WFH a policy priority. The policies must be created with the practicality of both employers and employees in mind. Balazs Aczel (2021) stated that employees are more capable of working on their article, reading literature, and evaluating data when they are at home.

Work at Home (WFH). According to a Gartner (2020) poll of 229 Human Resources (HR) departments, over half of the organisations had more than 80% of their staff working from home during the early phases of the COVID-19 pandemic – and predicted significant long-term growth for remote work following the pandemic.

2.7 Communication conflict

Gita Sukthankar (2009) defined communication as the process of sending and receiving data between people or agents. Communication between team members was monitored in these trials by counting conversational movements, which are an uninterrupted speech by a team member with a distinct problem-solving function.

Ben Tran (2016) stated that communication, or the process of passing information and shared understanding from one person to another, can be described as the process of sending, receiving, and interpreting information and meaning. Elizabeth Powell (2021) indicates that communication is in the form of listening, seeing, or reading with the intention of comprehending and expressing concepts vocally, graphically, or in writing.

Kijpokin Kasemsap (2017) wrote communication is that participants not only communicate information, news, ideas, and sentiments, but also build and share meaning in this two-way process of mutual understanding. In Oxford dictionary, conflict is defined as a significant debate or argument, usually one that goes on for a long time.

Kiely Kuligowski (2021) stated that poor communication is a common cause of workplace conflict. Therefore, using online technology can improve the communication conflict as workers can still contact each other regardless the location and time. She further added that workplace conflict can be caused by a variety of factors, but poor communication is frequently at the foundation of the problem. Employee expectations, for example, might be miscommunicated, employees could feel as if they don't have a voice (lack of open communication), or the tone of someone's comments could be misconstrued. Whatever the issue may be, misunderstanding is frequently the root of the problem, which may be minimized with the right skills and rules.

2.8 Technology adaptation

Niko Andriotis (2017) stated that adaptation of new way of working environment is the ability to cope the changes, identify the requirement, how they will be implemented, and how they are beneficial and will benefit everyone is critical to helping people cope with change in the workplace. As a result, it's critical to have adequate information and training mechanisms in place when delivering improvements to your organization.

Author	Definition	Theme
Daisy Mui Hung Kee (2021)	Technology adaptation refers to how employees in an organization adjust or adapt their usage of technology.	Technology Adaptation
Rubel et al., 2016	understanding users' attitudes toward embracing and efficiently utilizing technology	Technology Adaptation
	Anticipating the negative impacts of climate change and taking necessary steps to	Adaptation

Pedro Miguel Gomes (2018)	prevent or mitigate the harm they may cause.	
Fernao H.C. Beenkens (2008)	The reality that in actuality, people or organizations may modify or adapt the original intended application of a technology or service.	Technology Adaptation
Sam Wong (2021)	Adaptation emphasises the need of assisting underprivileged communities in adjusting to changing climate conditions.	Adaptation
Laura Odila Bello Benavides (2022)	Process of adjusting to actual or predicted weather and its consequences. Adaptation in human systems strives to mitigate harm or take advantage of possibilities.	Adaptation

Tyre and Orlikowski **(1994)**	Employees' modifications and alterations in response to the installation of new technology in a specific institution are referred to as technology adaption.	Technology Adaptation
Poole (1994)	Technologies adaptation is defined as the process through which a person uses information and communication technology to complete job.	Technology Adaptation

Table 2.1: Definition of adaptation of new working environment

Due to covid-19, companies all over the world need to adapt to new working environment by using online technology. This is because without online technology such as internet or laptop, the world will stop moving as they are no progress in work. Adapt to new working environment definitely needs time but using online technology, employees can easily adapt to the situation and continue to grow.

17

2.9 Efficiency

Author	Definition	Theme
José Luís Cacho (2020)	In the context of this paper, efficiency refers to the use of a manufacturing method that reduces incurred expenses while also resulting in the least amount of effort – energy savings – required to generate a unit of output.	Efficiency
William Philip Wall (2015)	The amount to which time, effort, or money is put to good use for the job or goal at hand.	Efficiency
Eddy M.M. Adang (2009)	How effectively a company performs in terms of optimising output for certain inputs or inputs for specific outputs.	Efficiency
Mirela Dogaru (2020)	The ratio of usable output to total input is a quantitative measure of this idea.	Efficiency

Table 2.2: Definition of efficiency

Vojko Potocan (2014) stated that efficiency is a requirementy comprehensive indicator of the operating of the evaluated corporate structure; it was formed because people believed that tone could achieve the desired outcomes of organisational performance from the perspective of various constituencies intrinsically and extrinsically influenced by the organisation.

2.10 Theoretical Framework

Two theories—Diffusion of Innovations by Rogers (2003) and Technology Acceptance Model (TAM) by Davis (2003)—have been identified for the purpose of this study in light of ICT integration to improve a quality teaching and learning experience in schools and have been adapted to the research setting as the conceptual framework for this research (Figure 1). The process by which an innovation is disseminated among the individuals within a social system over time through certain channels is described by Rogers' theory. To integrate technology, the process will begin with "knowledge" of the first channel, which represents decision-making qualities of the ICT users.The users' "confirmation" of their acceptance of the technology and appropriate integration marks the conclusion. The TAM theory is made up of several components that represent the process by which ICT is accepted by users, including behavioural intent, perceived utility, and perceived usability. While perceived usefulness refers to how much a person believes that using a certain technology will improve their ability to execute their work, perceived usability refers to how important it is for a technology to be user-friendly.TAM theory was generally created to evaluate a technology's success or effectiveness in assisting with comprehending the value and usefulness of a specific system. Furthermore, it is regarded as one of the most important theories in current information systems research.
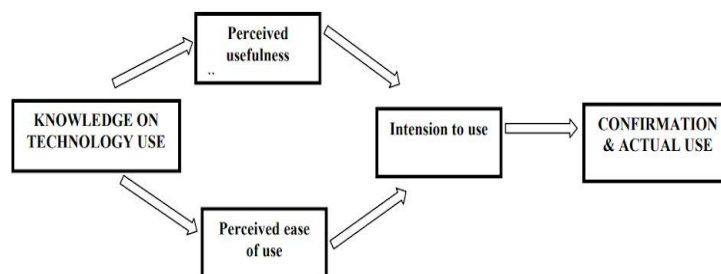
Figure 1. Conceptual framework of study (Davis, 2003; Rogers, 2003)

The proposed framework comprises several elements directly related to the study's main objective that describe how knowledge and perceptions will impact how effective and simple ICT integration is regarded to be. The conceptual framework's variables have been painstakingly woven together, and the way these factors interact can be used to gauge how well ICT integration by instructors is going. However, the primary factor that supports the essential components in the framework above, such as usability, usefulness, flexibility, accessibility, and integration, is instructors' intentions to integrate ICT. Additionally, teachers' intentions to use technology are greatly influenced by their opinions of its utility and perceived simplicity of use, which in turn impacts how much ICT they use.

2.10 Conceptual Framework
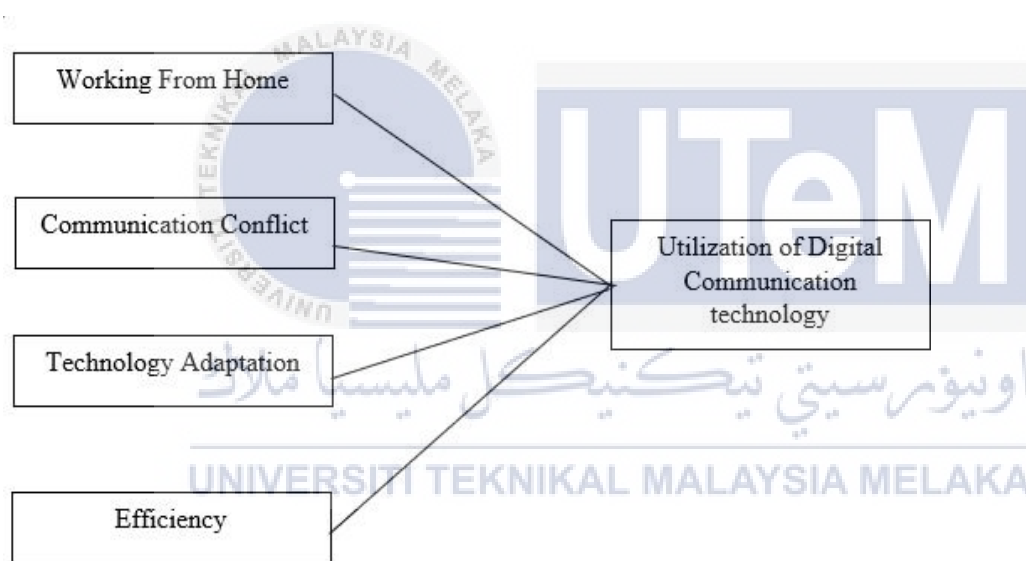
Figure 1: Conceptual Framework

2.11 Research Hypotheses

Giusseppi Forgionne (2008) proposed that a hypothesis is a scientific idea or an observable occurrence that may be tested. Russell H. Kaschula (2015) stated that a hypothesis about the observed or predicted link between phenomena that has yet to be confirmed. There are four factors that affected the use of online technology in working environment as following:

Hypothesis 1

H0: There is no relationship between work from home and utilization of digital communication technology in working environment.

H1: There is significant relationship between work from home and utilization of digital communication technology in working environment.

Hypothesis 2

H0: There is no relationship between communication conflict and utilization of digital communication technology in working environment.

H2: There is significant relationship between communication and utilization of digital communication technology in working environment.

Hypothesis 3

H0: There is no relationship between technology adaptation and utilization of digital communication technology in working environment.

H3: There is significant relationship between technology adaptation and utilization of digital communication technology in working environment.

Hypothesis 4

H0: There is no relationship between efficiency and utilization of digital communication technology in working environment.

H4: There is significant relationship between efficiency and utilization digital communication technology in working environment.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Research Design

In this research, quantitative method will be used. Two different methods of quantitative method will be used such as survey research method and correlational research method. In order to collect information and opinions from people, a survey method is used to gain information about this research. A survey is a type of research instrument that consists of a set of questions meant to gather information from participants. The survey will be distributed through using the google form questionnaire. In the sense that they collect information, questionnaires are akin to written interviews.

The survey can be done through many different places as long as portable technology that can access browser. Kerlinger (1973) stated that survey research is classified as social science study since it focuses on individuals, their key facts, and their views, opinions, attitudes, motives, and behavior. Parten (1950) further said that the nature of the survey research's variables, which may be classed as sociological facts, views, and attitudes, reveals the survey's social scientific nature.

After the google form has been distributed, we only need to wait for a week or so in order to receive more responses from the respondent. The responses will be collected and store as a data in the google form in both qualitative and quantitative. After the questionnaire is done, the result will be received completely and able to begin to analyze the data.

A correlational research approach examines correlations between variables without requiring the researcher to control or manipulate any of them. The effectiveness and/or direction of the link between two (or more) variables is represented by a correlation. A correlation might have either a positive or negative direction. To use correlational research method, survey is the easiest way to collect data which make work easier to use correlational research method.

3.2 Population and sampling

The targeted audience for this research is secondary school teachers that uses digital technology for working in area Ayer Keroh, Melaka. Due to uprise of covid-19, digital technology has been constantly adapted as well as been improving to accustomed to the new environment. The usage of digital technology such as online video conference and other online applications in phone has been become more and more mandatory. This is because in current era, without such technology it will be hard to live in as everything around us improve rapidly.

3.2.1 Sampling techniques

Probability sampling and non-probability sampling are the two types of sampling procedures used in general. quota sampling, convenience sampling, snowball sampling, and judgement sampling are the four types of non-probability sampling (Saunders et al., 2012).

Survey method, which is classified as non-probability sampling, was chosen as the sample strategy. Personal judgements may be utilized when selecting samples for non-probability sampling (also known as nonrandom sampling) to generalize and reflect the population as a whole (Malhotra, 2004).

This is because the study must be completed within a certain amount of time. As a result of the use of convenience sampling, the data required from the targeted respondents may be gathered quickly and simply. After that, the targeted respondents are chosen depending on their accessibility.

3.2.2 Sample Size

According to the estimation of department of statistics Malaysia (2022), the population of primary school teachers in Ayer Keroh, Melaka for the year 2022 is about 228 teachers. As a result, according to the table generated by (Morgan, 1970), 140 respondents are required to complete the study.

TABLE 1
Table for Determining Sample Size from a Given Population

N	S	N	S	N	S
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—*N* is population size.
S is sample size.

Figure 3.1: Table of Morgan sampling size

3.3 Questionnaire survey

The instrument for this research is survey form. Google form will be distributed to all respondents. There are few sections separated in order to let the respondents to answer the survey more conveniently and more structured.

The research survey is developed using a five-point Likert scale to explore the dependent and independent variables. Rensis introduced the Likert scale, which is not only pleasingly simple in gathering precise opinions but also in creating the statements in the survey (Johns, 2010). The five-point likert scale would begin on the negative side, with 1 indicating significant disagreement, and end on the positive side, with 5 indicating strong agreement.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

Figure 3.2 Table of five-point Likert scale.

3.3.1 Questionnaire design

The questionnaire is divided into four parts. The first, Section A, is concerned with the demographic information of the respondents, and includes questions such as gender, age, employment, and frequency of usage of online conferencing technologies. The purpose of this part is to acquire the respondents' broad demographic background information.

25

The second section, Section B, focuses mostly on the research's independent variables. Work from home, communication conflict, technological adaptability, and efficiency are among the factors, each of which has four to five questions. The most influential factor on the use of digital communication technology is determined in this part, whereas the third section, Section C, concentrates on the dependent variable, which is the use of digital communication technology. The findings from all of these sections are utilized to see whether there is a link between the constructs that have been assessed.

On each of the assertions in Sections B, C, and D, the degree of agreement and disagreement is measured using a five-point likert scale, with 1 representing 'strongly disagree,' 2 representing 'disagree,' 3 representing 'neutral,' 4 representing 'agree,' and 5 representing 'strongly agree.'

The survey is generated with Google Forms and disseminated entirely digitally to the selected respondents. When compared to the old way of questionnaire dissemination, online questionnaire distribution is more flexible, less time demanding, and nearly cost-free. In reality, rapid, accurate data and findings from the disseminated questionnaire may be acquired in a short amount of time (Polaris, 2012).

3.4 Pilot testing

Cynthia M. Montaudon-Tomas (2021) stated that in preparation for a larger study, a pilot study was conducted to assess research methodologies, data gathering tools, and other research techniques. A pilot test is a tiny preliminary study that is used to evaluate a planned research study before it is carried out on a larger scale. The techniques and procedures used in this smaller research are generally the same as those used in the larger study. The primary goal of a pilot study is to determine if the intended big research is feasible. The pilot test can also be used to determine the expenditures and sample size required for the larger investigation.

The proposed target sample size for the pilot test should be 10% less than the actual goal sample size for appropriate results (Connelly, 2008). As a result, 13 people were chosen to participate in the pilot test. This follows the rule of thumb provided by (Ruel et al., 2016), which states that the number of samples should not surpass 50 since if it does, additional issues may be discovered. Following the pilot testing, these persons are not involved in the actual data gathering procedure to reduce the chance of bias in the results gathered.

3.4.1 Survey Items

Before the surveys are handed out to be tested, items are needed for those participate in the pilot test. There are 6 sections (A, B, C, D, E, F) which are required to answer by the participants. Hence, questions or items are as follow:

Section	Questions
A	1. Gender 2. Race 3. Age
B	1. I have all the necessary equipment and remote tools to do my task to the best of my ability. 2. I have a separate and sufficient workplace at home. 3. I've been able to maintain a work schedule or routine. 4. I required advanced digital/software to work at home 5. I am able to work from home without internet.
C	1. I am pleased with the leadership's communication skills through using digital communication devices and application.

	2. It is simple to contact my coworkers and team leaders when I required assistance.
	3. I think using online communication application to communicate with my coworkers help my work.
	4. I think there are miscommunication and spams that causes conflict.
	5. I feel that contacting my coworkers and leader through online hinder my work progress.
D	1. It is easy to adapt new technology during the epidemic.
	2. I think adapting new technology cause my physical skill to be wasted.
	3. I think that adapting different way of working using different technology tools and devices makes my work become harder.
	4. I need to go through training in order to understand the use of communication technology in my work.
	5. I required a lot of time to adapting new technology.
E	1. I think using communication technology increase my work speed.
	2. I think using communication technology reduce my workload.
	3. I think using communication technology save cost in my own benefit in work.
	4. I think using communication technology reduce the delay of transferring data instead of in physical form.
	5. I think communication technology help the chain of command in the work become more systematic.
F	1. I feel it is hard to understand the mechanism of the internet.
	2. I believed that without using communication technology, it is hard to continue my work progress.

| | 3. I used communication technology such as internet to have a constant contact with coworkers and leaders so that I can keep up with the current project. |
| | 4. I believe that communication technology has become my human basic need in work. |

3.5 Data Collection

The practice of gathering, measuring, and evaluating correct insights for study using established approved procedures is known as data collection. Based on the evidence gathered, a researcher can assess their hypothesis. In most situations, regardless of the subject of study, data gathering is the first and most significant stage. Depending on the information requested, the approach to data gathering differs for different topics of research. There are two parts of data collections which is needed to collect data which are primary data and secondary data.

3.5.1 Primary data

Primary data is information obtained directly from primary sources by researchers, such as interviews, surveys, and experiments. Primary data is frequently obtained directly from the source of the data and is considered the best sort of data in research. In this research, Google Form will be used (survey) as primary data method.

3.5.2 Secondary Data

Secondary data is information obtained by someone other than the original user. Secondary data sources for social science include censuses, information obtained by government departments, organizational records, and data gained for other research purposes.

3.6 Data analysis methods

In this research, quantitative data analysis methods will be used. There are two most common used methods are inferential statistic and descriptive statistic method. Quantitative data analysis method usually used to measure differences between group, relationships between variable and as well as test hypotheses. The engine that drives quantitative analysis is statistical analysis methods, which range from simple computations to more complex studies.
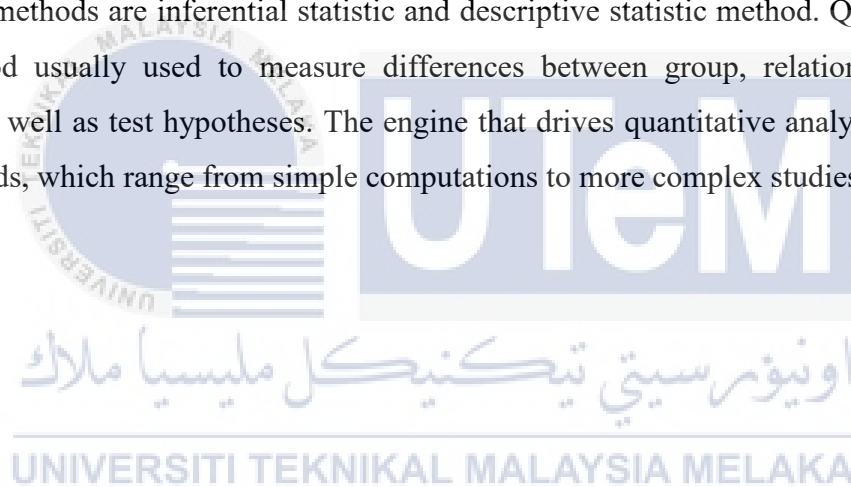
3.6.1 Inferential statistic method

Inferential Analysis is the extension of data collection beyond the data acquired; it can also refer to the judgments or conclusions reached as a result of the data collected (Trochim, 2020b). Inferential statistics employ statistical models to aid in the comparison of sample data to other samples or prior research. Student's t-tests, ANOVA (Analysis of Variance), regression analysis, and other models that provide straight-line ("linear") probability and findings are used in most studies.

3.6.1.1 Regression analysis

Multiple regression analysis is employed in this study. The generalisation of basic regression analysis is multiple regression analysis. In this study, simple regression refers to the relationship between the dependent and independent variables, whereas multiple regression refers to the analysis of independent variables on the dependent variable. In summary, regression analysis may evaluate the importance of one variable (independent variable) in influencing another one (dependent variable). Regression analysis is an effective way for determining whether factors have an impact on a given issue. The process of doing a regression allows safely establish which elements are most important, which can be ignored, and how these factors interact with one another.

3.6.1.2 Correlation analysis

Correlation analysis is a statistical tool used in research to determine the strength of a linear relationship between two variables and calculate their association. Simply defined, correlation analysis computes the amount of change in one variable because of a change in the other. A high correlation indicates a strong association between the two variables, whereas a low correlation indicates a weak relationship. A positive correlation exists between two variables when a rise in one variable causes an increase in the other. A negative correlation, on the other hand, suggests that when one variable grows, the other falls and vice versa.

3.6.2 Descriptive statistic method

Descriptive analysis is a technique for translating data into a more manageable format that is simpler to comprehend and evaluate by expressing what the data reveals (Trochim, 2020a). The initial level of analysis is usually descriptive statistics (also known as descriptive analysis). It aids academics in summarizing data and identifying trends. The following are some examples of descriptive statistics that are often used:

1. Mean

2. Median

3. Mode

4. Percentage

5. Frequency

6. Range

Absolute numbers are provided via descriptive statistics. They do not, however, explain the logic or reasoning underlying the figures. When the study is restricted to a sample and does not need to be extrapolated to a broader population, descriptive statistics are most useful.

CHAPTER 4

DATA ANALYSIS

4.0 Introduction

In this chapter, the results of the research conducted using quantitative approach were discussed. The data collected by questionnaires involving teachers as respondent which consist around Ayer Keroh, Melaka. All the data will be collected and will be analysed to verify whether the hypotheses that stated earlier were accepted or not. This will identify the relationship between independent variables and dependent variables.

After that, the data analysis was followed by hypothesis testing, Pearson Correlation and Multiple Regression Testing. The data analysis is tested based on 140 respondents at Ayer Keroh with a questionnaire of 6 sections as following:

Section A: Demographic

Section B: Working from Home

Section C: Communication Conflict

Section D: Technology Adaptation

Section E: Efficiency

Section F: Utilization of digital communication technology

In order to make sure that the questionnaires are accurate, a pilot test with 14 respondents was conducted to evaluate their validity. Before releasing the real survey, it is important to comprehend the questionnaire's probable flaws and errors. Modifications were done to guarantee accurate spelling and grammar. Cronbach's Alpha was also noted during the pilot test and reliability test.

4.1   Pilot Test

Variable	Cronbach's Alpha	N of Items	Strength of Association
Independent Variables			
Working From Home	0.943	5	Good
Communication conflict	0.827	5	Acceptable
Technology Adaptation	0.951	5	Good
Efficiency	0.959	5	Good
Dependent Variables			
Utilization of digital communication technology	0.916	4	Acceptable

A pilot test, often referred to as a pretest, was set up using 14 questionnaires and a S = 140 sample size. 10% of the total sample size should make up the population of the test sample. The goal of the pilot test is to ascertain whether the questionnaire is accurate in obtaining the necessary data in the expected manner. As a result, it is possible to evaluate the reliability of the questionnaire and the effectiveness of the pilot test. Utilize Cronbach's Alpha to assess internal reliability for pilot testing.

4.2 Reliability Test

For each of the independent variables, such as the importance of the cause, the congruence between the company's products and the cause, the proximity of the cause, and the length or frequency of support, Cronbach's Alpha is used to calculate the internal consistency or average correlation of the items. Nunnally (1978) noted that a reliability value of 0.7 is acceptable, while other times, lower standards are utilized in the literature.

Variable	Cronbach's Alpha	N of Items	Strength of Association
Independent Variables			
Working From Home	0.848	5	Good
Communication conflict	0.722	5	Acceptable
Technology Adaptation	0.813	5	Good
Efficiency	0.831	5	Good
Dependent Variables			
Utilization of digital communication technology	0.719	4	Acceptable

Table 4.3: Reliability Statistic of All Variables

Source: SPSS Output

Cronbach's Alpha	N of Items
0.928	24

Table 4.4: Reliability Statistic of Overall Variables

Source: SPSS Output

Given that Table 4.3's Cronbach's Alpha is more than 0.7 across all variables, it is reasonable to assume that the items have a high degree of internal consistency. Working from home has a Cronbach's Alpha of 0.848 as determined by 5 items. Then, the communication conflict's Cronbach's Alpha, measured over five items, is 0.722. Next, the technological adaptation's Cronbach's Alpha score, calculated from 5 items, is 0.813. Additionally, the efficiency's Cronbach's Alpha, calculated with 5 items, is 0.831. In terms of four things, the Cronbach's Alpha for the use of digital communication technology is 0.722.

Table 4.4 shows that the Cronbach's Alpha for all variables is 0.928 measured by 24 items, which is higher than 0.7. Consequently, it can be said that the items have a high degree of internal consistency.

4.3   Respondents Rate

	Total	Per cent (%)
Number of Questionnaires Distributed	140	100
Fully Response	140	100
Not Qualified	0	0

Table 4.5: Respondent Rate

Source: Develop from the Research

There were 140 sets of questionnaires issued in total to the respondents who work in Ayer Keroh, Melaka. Additionally, most of the form was sent online via Google Form. The total number of questionnaires distributed that had answered was 140 (100%) sets.

4.4   Descriptive Data Analysis

4.4.1   Socio-Demographic

The data gathered with questionnaires, such as basic characteristics, have been described using descriptive statistics. A brief summary of the sample and the measured output is given. The findings of the surveys that led to the working from home, communication conflict, technological adaption, efficiency, and use of digital communication technology are shown in the data analysis together with the socio-demographics of the 140 respondents.

Demographic	Demographic Details	Frequency	Percentage (%)
Gender	Male	80	57.1
	Female	60	42.9
Race	Chinese	36	25.7
	Malay	86	61.4
	India	15	10.7
	Others	3	2.1
Age Group	25-40	55	39.3
	41-55	60	42.9
	56-65	25	17.9

4.4.1.1 Gender

Gender

140 responses
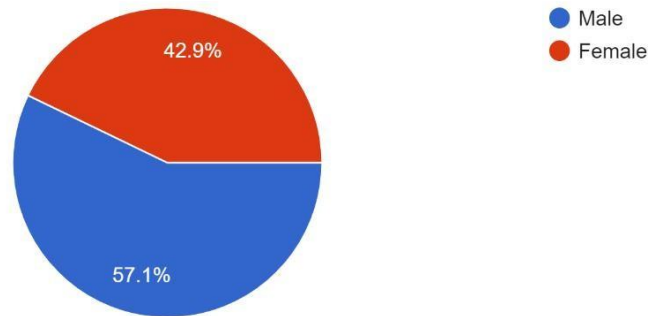
Figure 4.1: Gender

Demographic	Demographic Details	Frequency	Percentage (%)
Gender	Male	80	57.1
	Female	60	42.9
Total		140	100

Table 4.7 Gender (Sources from SPSS)

There are a total of 57 (41.6%) female respondents and 80 (58.4%) male respondents in the sample of 137 respondents shown in Table 4.7 and Figure 4.1 above. According to the percentage, there are much more men than women among those who responded.

4.3.1.2 Races

Race
140 responses

Legend:
- Chinese
- Malay
- India
- Others

61.4%
10.7%
25.7%
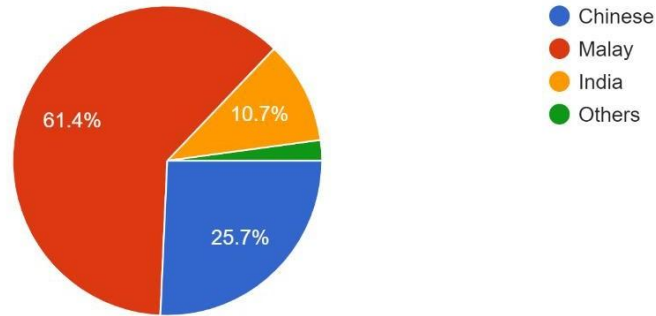
Figure 4.2: Race

Demographic	Demographic Details	Frequency	Percentage (%)
Race	Chinese	36	25.7
	Malay	86	61.4
	India	15	10.7
	Others	3	2.1
Total		140	100

Table 4.8 Age (Sources from SPSS)

Based on the figure 4.2 and table 4.8, the total number of respondents are 140. Majority of the respondents are Malay which has 86 respondents (61.4%) following by Chinese which has 36 respondents (25.7%). The minority of the respondents are India and other races which has 15 respondents (10.7%) and 3 respondents (2.1%) respectively.

4.4.1.3 Age Group

Age
140 responses
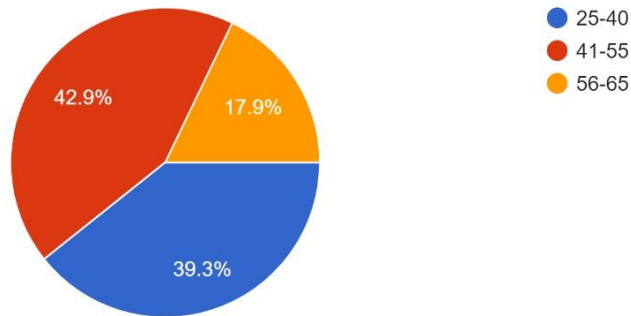
Figure 4.2: Age

Demographic	Demographic Details	Frequency	Percentage (%)
Age Group	25-40	55	39.3
	41-55	60	42.9
	56-65	25	17.9
Total		140	100

Table 4.9: Age (SPSS)

The age range of those who participated in responding the survey is shown in Table 4.9. The age range of 25–40 years is followed by the age range of 41–55 years, with 60 respondents (42.9%) and 55 respondents (representing 39.3% of the research), respectively. 17.9% of respondents, or 56 to 65 years old, make up the minority of the sample.

4.4.2 Descriptive of study variables

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
IV1MEAN	140	4.00	1.00	5.00	3.6300	.97063	.942
IV2MEAN	140	4.00	1.00	5.00	3.8129	.75378	.568
IV3MEAN	140	4.00	1.00	5.00	3.7129	.87234	.761
IV4MEAN	140	4.00	1.00	5.00	3.8014	.90990	.828
DV1MEAN	140	4.00	1.00	5.00	3.7732	.85447	.730
Valid N (listwise)	140						

Table 4.4.2 Descriptive of all the variables

According to table 4.4.2 above, there were 140 respondents, according to the descriptive statistics of Independent Variables and Dependent Variable. Communication conflict has been agreed upon for item IV2 as having an average of 3.81 and a standard deviation of 0.75. With a mean of 3.80 and a standard deviation of 0.91, item IV, efficiency, had the second-highest level of agreement among respondents. Item DV1, Utilization of digital communication technology, which has an average score of 3.77 and a standard deviation of 0.85, is the statement that is most frequently agreed upon.

4.5 Pearson Correlation Coefficient Analysis

Correlations

		IV1MEAN	IV2MEAN	IV3MEAN	IV4MEAN	DV1MEAN
IV1MEAN	Pearson Correlation	1	.512**	.561**	.691**	.574**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	140	140	140	140	140
IV2MEAN	Pearson Correlation	.512**	1	.502**	.603**	.600**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	140	140	140	140	140
IV3MEAN	Pearson Correlation	.561**	.502**	1	.573**	.546**
	Sig. (2-tailed)	.000	.00qq0		.000	.000
	N	140	140	140	140	140
IV4MEAN	Pearson Correlation	.691**	.603**	.573**	1	.676**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	140	140	140	140	140
DV1MEAN	Pearson Correlation	.574**	.600**	.546**	.676**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	140	140	140	140	140

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

Table 4.5 Inter-correlation between variables

Pearson's r	Indications
0.90 to 1.00	Very high correlation
0.70 to 0.89	High correlation
0.40 to 0.69	Moderate correlation
0.20 to 0.39	Low correlation
0.00 to 0.19	Very low correlation

Table 4.5.1 Differentiation strength of the variables

The relationship between variables is ascertained using correlation analysis, which has a range of -1 to 1. Three categories such as -1 for a perfectly negative linear relationship, 0 for no relationship, and 1 for a perfectly positive relationship which can be used to classify the type of relationship. Additionally, a 2-tailed test with a highly significant level of 0.01 is included in correlation analysis. Table 4.5.1 can be used to examine the relatability of the link between the dependent and independent variables.

Table 4.5 shows that there was a moderate connection between all of the independent variables, with correlations between them all being higher than 0.40. Utilization of digital communication technology (DV1) was positively connected with all four independent variables, with working from home (IV1) exhibiting the strongest correlation with DV1 (r = 0.574, p 0.01). Additionally, there was a slight association between DV1 and communication conflict (IV2), r = 0.6, p0.01. Additionally, a moderate connection (r=0.546, p0.01) between DV1 and technology adaption (IV3) was found. Last but not least, DV1 and effectiveness (IV4) also displayed a moderate association with r=0.676, p<0.01.

Independent Variables	Pearson's Correlation	Association Strength
Working from home	0.574	**Moderate positive**
Communication conflict	0.600	**Moderate positive**
Technology Adaptation	0.546	**Moderate positive**
Efficiency	0.676	**Moderate positive**

Table 4.5.2 Strength of Pearson's Correlation Coefficient

4.6 Multiple Regression Analysis

Multiple regression analysis was done to examine the hypotheses in this study. For the purpose of analyzing the relationship between two or more independent variables, multiple regression analysis is a development of linear regression (Alistair, K.Hall, and A.Kzub 2002). Working from home, communication issues, technological adaptability, and efficiency are the four independent factors. The dependent variable is the use of digital communication technology. The analysis's findings will thus be displayed in the tables below.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
					Change Statistics				
1	.735ᵃ	.541	.527	.58769	.541	39.709	4	135	.000

a. Predictors: (Constant), IV4MEAN, IV3MEAN, IV2MEAN, IV1MEAN

Table 4.6.1 Model Summary

According to Table 4.6.1, the value of R is 0.735, and the R square is 0.541, or 54.1%. This circumstance shows that the variance of all independent factors can explain 54.10 of the variances that affects the use of digital communication technology. It may be deduced that other variables impacting the dependent variable are what cause 100% - 54.1% = 45.9%.

The amount of influence the independent variable has on the dependent variable is shown by the R Square in the model summary; the higher the R Square number, the more appropriate the regression model is for the data. Multiple regression was used to examine the use of digital communication technologies in conjunction with all other independent variables. Table 4.6.1's R Square results indicate that 54.1% of respondents support using digital communication technologies.

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	54.860	4	13.715	39.709	.000^b
	Residual	46.627	135	.345		
	Total	101.487	139			

a. Dependent Variable: DV1MEAN

b. Predictors: (Constant), IV4MEAN, IV3MEAN, IV2MEAN, IV1MEAN

Table 4.6.2 Anova

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.499	.278		1.798	.074
	IV1MEAN	.098	.074	.112	1.320	.189
	IV2MEAN	.283	.086	.249	3.291	.001
	IV3MEAN	.147	.074	.150	1.983	.049
	IV4MEAN	.340	.085	.362	4.016	.000

a. Dependent Variable: DV1MEAN

Table 4.6.3 Coefficients

The overall findings are represented by an F-test value of 39.71 and a significance level of 0.000 based on table 4.6.2 ANOVA. A significant association between all independent variables (working from home, communication conflict, technology adaptation, and efficiency) and the use of digital communication technology was shown when the p-value was less than 0.05 (p 0.05).

Table 4.6.3 lists four independent factors, including According to table 4.6.3, there are four independent variables including working from home (IV1), communication conflict (IV2), technology adaptation (IV3), and efficiency (IV4). Each of the independent variables contributes in a way that is used to identify the factors that lead to the usage of digital communication technology (DV). First, the strongest predictor is IV4, =0.340, t (140) = 4.016, p<0.05 (0.000). This is because the unstandardized beta, of efficiency has the highest influence of positive relationship with the effect of digital communication technology towards the DV.

Then, the second strongest predictor is communication conflict (IV2), =0.283, t (140) = 3.291, p<0.05 (0.01). This is due to the fact that the unstandardized beta of IV2 has the second-highest positive value among independent variables and the second-highest positive association with the causal factors associated with the use of digital communication technology.

Followed by the third strongest predictor is technology adaptation (IV3), =0.147, t (140) =1.983, p<0.05 (0.049). This is because the unstandardized beta, of cause important is the third highest positive value compared to other independent variables. Therefore, technology adaptation also has the second lowest influence the positive relationship with the effect of digital communication technology towards the using digital communication technologies.

Finally, the lowest predictor is working from home (IV1), =-0.098, t (140) = 1.320, p>0.05 (0.189). This is because the unstandardized beta, of IV1 and is the lowest positive value compared to other independent variables. Thus, IV1 also has the lowest influence the positive relationship with the effect of digital communication technology towards the using digital communication technologies. Moreover, the p significance of IV1 is more than 0.05 value.

According to the aforementioned result, each independent variable has created a unique contribution and offers a substantial prediction about the use of digital communication technologies, although having a varied value and rank of influence towards the dependent variable. The link between the dependent variable and the four separate independent variables can be found using the multiple regression equation shown below. The multiple regression of this study is:

$$Y = a + bX_1 + cX_2 + dX_3 + eX_4$$

$$\mathbf{Y= 0.5 + 0.1X_1 + 0.28\ X_2 + 0.15X_3 + 0.34X_4}$$

Where:

a	Constant/Other influences
b	Influence of X_1 (Working from home)
c	Influence of X_2 (Communication conflict)
d	Influence of X_3 (Technology adaptation)
e	Influence of X_4 (Efficiency)
Y	Dependent Variable (Utilization of digital communication technology)
X_1, X_2, X_3, X_4, X_5	Independent Variables

Table 4.6.4 Equation of Multiple Regression Analysis

In conclusion, the regression equation is established to predict the effect of digital communication technology towards teachers' working environment: Utilization of digital communication technology = 0.5 + 0.1 (Working from home) + 0.28 (Communication conflict) + 0.15. (Technology adaptation) + 0.34 (Efficiency)). Thus, the regression equation is established to show how the variables are associated with each other.

4.7 <u>Hypothesis Testing</u>

<u>Hypothesis 1</u>

H0: There is no relationship between work from home and utilization of digital communication technology in working environment.

H1: There is significant relationship between work from home and utilization of digital communication technology in working environment.

Based on table 4.6.3, working from home has no significant relationship with utilization of digital communication technology. This is because it has significant value of 0.189 which is above 0.05 significant level. Thus, the hypothesis is rejected.

<u>Hypothesis 2</u>

H0: There is no relationship between communication conflict and utilization of digital communication technology in working environment.

H2: There is significant relationship between communication and utilization of digital communication technology in working environment.

Based on table 4.6.3, communication conflict has a significant relationship with utilization of digital communication technology. This is because it has significant value of 0.001 which is below 0.05 significant level. Thus, the hypothesis is accepted.

Hypothesis 3

H0: There is no relationship between technology adaptation and utilization of digital communication technology in working environment.

H3: There is significant relationship between technology adaptation and utilization of digital communication technology in working environment.

Based on table 4.6.3, technology adaptation has a significant relationship with utilization of digital communication technology. This is because it has significant value of 0.049 which is below 0.05 significant level. Thus, the hypothesis is accepted.

Hypothesis 4

H0: There is no relationship between efficiency and utilization of digital communication technology in working environment.

H4: There is significant relationship between efficiency and utilization digital communication technology in working environment.

Based on table 4.6.3, efficiency has a significant relationship with utilization of digital communication technology. This is because it has significant value of 0.000 which is below 0.05 significant level. Thus, the hypothesis is accepted.

Hypotheses	P-Value	Result
There is no relationship between work from home and utilization of digital communication technology in working environment.	0.189	Rejected
There is significant relationship between communication and utilization of digital communication technology in working environment.	0.001	Accepted
There is significant relationship between technology adaptation and utilization of digital communication technology in working environment.	0.049	Accepted
There is significant relationship between efficiency and utilization of digital communication technology in working environment.	0.000	Accepted

Table 4.7 Hypothesis testing

CHAPTER 5

DISCUSSION, CONCLUSION AND RECOMMENDATION

5.1   Introduction

The findings of this investigation are reviewed and discussed in this chapter. All of the topics of study objectives, literature review, and research methodology were skim read in this part. A discussion on the study was then had after that. The test results and data analysis findings are introduced in this chapter. The results of this study's ramifications are then examined. There are several suggestions for additional research that come after this. Finally, the thesis's conclusion follows.

5.2 Discussions

Working from home

From the collection of data in chapter 4, it is concluded that working from home has no significant relationship with utilization of digital communication technology. This is because it has significant value of 0.189 which is above 0.05 significant level. Thus, the hypothesis is rejected. There are no differences or have a very weak relationship between working from home and utilization of digital communication technology. A p-value higher than 0.05 (> 0.05) is not statistically significant and indicates strong evidence for the null hypothesis. It might be that it is compulsory to utilize technology in order to work from home which is a fact that does not need analysis to be proven. Therefore, it has become a null hypothesis. A statistical hypothesis known as a "null hypothesis" asserts that no statistical significance can be found in a particular set of observations.

Lina Vyas and Nantapong Butakhieo (2020) stated that there are various reasons why an employer may choose not to allow their employees to work from home, including concerns about productivity, communication challenges, lack of trust, technological issues, cultural considerations, and legal and compliance considerations. Employers may be concerned about the potential for decreased productivity when employees work from home, as well as difficulties in communication and collaboration with coworkers and managers. Additionally, there may be technological and logistical challenges to overcome, as well as cultural and legal considerations to take into account. Despite having the technologies, it is not encourage to work from home with it for certain reasons which may influence the efficiency and work life cycle.

Communication conflict

From the collection of data in chapter 4, it is concluded that that communication conflict has significant relationship with utilization of digital communication technology. This is because it has significant value of 0.001 which is below 0.05 significant level. Thus, the hypothesis is accepted. Based on the research objective, the limitation of digital technology can be that the technology hinders their communication. There are people that cannot understand the expression of a person that try to deliver the messages. They might overthink it or misinterpret the message as something negative. Coworkers are unable to see one other's facial expressions, which leads to poor communication, misunderstandings, and ultimately confrontations. To prevent problems, their communication must be accurate and unambiguous. Hudson, K & Grisham, Thomas & Srinivasan, P & Moussa, Neveen. (2005) stated that there are several ways in which the use of communication technology in the workplace can lead to conflict. One issue is the potential for miscommunication, as it is easier to misunderstand someone when you are unable to see their facial expressions or hear their tone of voice. Privacy can also be compromised when sensitive information is accidentally shared with the wrong people. In addition, if not everyone has access to the same communication technology, it can lead to feelings of exclusion. Finally, it is possible to feel overwhelmed by the constant flow of emails and notifications, which can lead to conflicts if people feel like they are receiving too much information. To prevent these types of conflicts, it

is important to establish clear communication guidelines and to be mindful of how communication technology is used in the workplace.

Technology adaptation

Based on the data from previous chapter, technology adaptation has a significant relationship with utilization of digital communication technology. This is because it has significant value of 0.049 which is below 0.05 significant level. Thus, the hypothesis is accepted. It is obvious that in order to adapt new technology, they must utilize the technology as much as possible. To adapt technology at alarming rate, they will need to have a good working environment because in a good workplace, it has equipped with utmost facilities to be utilize. Teachers would need to adapt digital communication technology with the condition having good working environment or workplace. Adaptation of technology occurred cause of new environment, this cause working environment to be harsh as need to adapt new working way. The incorporation of technology in the workplace often occurs due to shifts in the working environment. As the needs and requirements of the workplace change, technology can assist in streamlining processes and increasing efficiency. For example, the rise of remote work and the need for virtual collaboration has led to the widespread use of tools such as video conferencing software and project management platforms (Smith, 2020). In addition, the increasing adoption of automation and artificial intelligence has helped to reduce the demand for manual labor and has allowed companies to more effectively scale their operations (Jones, 2021). Ultimately, the use of technology in the workplace is driven by the need to adapt to changing conditions and to remain competitive in an increasingly technological world (Brown, 2019).

<u>Efficiency</u>

Based on the previous chapter, efficiency has a significant relationship with utilization of digital communication technology. This is because it has significant value of 0.000 which is below 0.05 significant level. Thus, the hypothesis is accepted. Efficiency of the working performance can be determined by their working environment. If is it good, their efficiency will definitely increase but if it is not, then it's otherwise. Exploiting digital technology will increase the efficiency work for teachers as their workload decreased and their work become more convenient. If they were working in an unfamiliar working environment which make them uncomfortable, it will hinder their work efficiency drastically. Vojko Potocan (2014) stated that efficiency is a requirement comprehensive indicator of the operating of the evaluated corporate structure; it was formed because people believed that tone could achieve the desired outcomes of organizational performance from the perspective of various constituencies intrinsically and extrinsically influenced by the organization. Therefore, the school should give teachers proper technology that will enhance their working environment needs to improve their efficiency output.

5.3 <u>Research Implication</u>

From this research, it can be simplifying that digital communication technology does influence on the employees' working environment. During covid-19, it is inevitable to use digital technology to communicate and to do necessary assignments. Digital technology can facilitate better social networking, content management, communication, and teamwork. With a new perspective and interaction, teachers' experiences are improved. Digital employee communications at work increase team collaboration and speed up information flow. With the power of technology, workers quickly obtain crucial information, reducing any productivity hurdles. Not to mention that it is simpler to provide comments, convey ideas, and interact with coworkers when using easily accessible digital internal communication tools in the office. This creates more opportunity for significant staff engagement. Working environment of the teachers will be more pleasant if more advanced technologies take place to reduce their workload and stress level. This will boost their morale and productivity.

This research pointed out that without proper digital technology and training, it is unable to provide proper working environment for teachers to educate their students. Through this research, principal able to focus more on making their employees' teaching more convenient and advanced. Schools and teachers able to have a better understanding regarding digital technology and importance of working environment which will highly influence the working experiences as well as the efficiency of teaching.

5.4 Research Limitation

The current study, however, concentrated on teachers and potential influencing factors. In addition to these factors, there are still other factors that can influence the working environment. The time to collect this data is limited therefore, the number of target audience will be in small scale instead of involving the whole country or even just the state. Moreover, the research design itself was part of the research limitation. It couldn't deduce causality from a correlational investigation since correlation doesn't always imply causation. In a similar vein, it would be impossible to obtain the same level of rich data through online surveys as would be available via in-person interviews. The survey that done by participants might not be taken seriously as there are people who simply fill up the form without reading it properly. Therefore, it might occur errors or unnecessary answers and data.

5.4 Recommendations for future research

Future research by this researcher can concentrate on additional factors that could lead to a different conclusion on the impact of digital technology on the workplace. Future studies could aid in improving the working environment for teachers or other staff. Researcher can approach this research using different method rather than using likert-scale or survey. This might help gaining new answers and resources from expert audiences. This research should be done in a longer term

so that researcher can obtain more quality data from target audiences. Researchers can expand research location more widely so that the data will be more accurate and reliable.

5.5 Conclusion

This study showed that it is a need of use digital technology during covid-19 period. All the research objectives have achieved, and it is proven based on the statical data that employees' working environment depends on the effect of digital communication technology. Employees' working environment would be better if the technology is more advanced since it will smoothen their work and more convenient in any way of form.

The purpose of this research is to investigate the effect of digital communication technology on employees' working environment during covid-19. The first objective was to identify the most significant factor of adopting digital communication technology in the working environment. Based on the result, it can be concluded that efficiency is the most significant factor of using digital technology which has the lowest p-value. Efficiency of employees will be affected by their working environment where if more advanced technology deployed, their work will be more efficiency as their workplace become a more pleasant place to finish their task.

Moreover, the other objective is to determine the relationship between factor of using digital technology and conflict in workplace. One of independent variables that have relationship with the utilization of digital technology is communication conflict which shows that it has significant influence on the utilization of digital technology.

In conclusion, effect of digital communication technology heavily impacts on the employee's working environment. Therefore, it is plausible to state that employees' workplace can be improve based on their provided facilities by the higher-ups or as for school, the principal.

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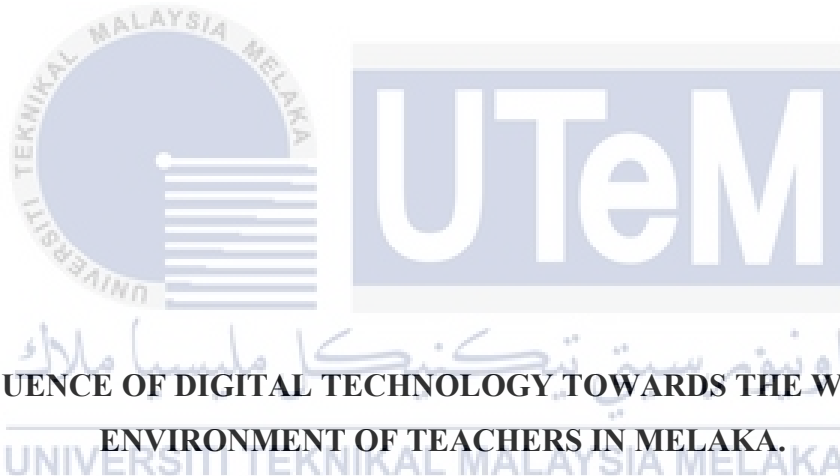
THE INFLUENCE OF DIGITAL TECHNOLOGY TOWARDS THE WORKING

ENVIRONMENT OF TEACHERS IN MELAKA.

This is an academic research questionnaire which is intended to identify the influence of digital technolog that effect the working environment of teachers in Melaka. All responses for this questionnaire will be used for the purpose of this study and will be treated with the strictest confidence.

Section A: Demographic Information of Respondent

The questions in this section list some related information about your profiling.
Please **tick (✓)** the **appropriate answer** in the box provided.

A. Gender: 1. Male   ☐   2. Female   ☐

B. Age group: 1. 25-40   ☐   2. 41-55   ☐

3. 56-65   ☐

C. Race: 1. Chinese   ☐   2. Indian   ☐

3. Malay   ☐   4. Others   ☐

Section B: Working from Home

In this section, you are to rate from range of strongly agree to strongly disagree. This section is about the experience of working from home whether your working environment and equipment are good and enough.

Strong disagree (1) , Disagree (2), Neutral (3), Agree (4), Strongly Agree (5)

	Item	1	2	3	4	5
1	I have all the necessary equipment and remote tools to do my task to the best of my ability.					
2	I have a separate and sufficient workplace at home.					
3	I've been able to maintain a work schedule or routine.					

	Item					
4	I required advanced digital/software to work at home					
5	I am able to work from home without internet.					

Section C: Communication Conflict

Communication conflict is mainly about whether you have any problems with your working superior despite of working from home. Moreover, to identify any other communication problems that cause conflict or argument as well as disturbing your working environment.

	Item	1	2	3	4	5
1	I am pleased with the leadership's communication skills through using digital communication devices and application.					
2	It is simple to contact my coworkers and team leaders when I required assistance.					
3	I think using online communication application to communicate with my coworkers help my work.					
4	I think there are miscommunication and spams that causes conflict.					
5	I feel that contacting my coworkers and leader through online hinder my work progress					

Section D: Technology Adaptation

Technology adaptation means that whether you are able to get used to advanced technology at your home that helps you in your work.

	Item	1	2	3	4	5
1	It is easy to adapt new technology during the epidemic.					
2	I think adapting new technology cause my physical skill to be wasted.					
3	I think that adapting different way of working using different technology tools and devices makes my work become harder.					
4	I need to go through training in order to understand the use of communication technology in my work.					
5	I required a lot of time to adapting new technology.					

Section E: Efficiency

In this part, you are to identify whether using communication technology is increasing your workforce or not.

	Item	1	2	3	4	5
1	I think using communication technology increase my work speed.					
2	I think using communication technology reduce my workload.					
3	I think using communication technology save cost in my own benefit in work.					
4	I think using communication technology reduce the delay of transferring data instead of in physical form.					
5	I think communication technology help the chain of command in the work become more systematic.					

Section F: Utilization of digital communication technology

This section is to identify whether digital technology is useful for you or whether you can fully understand and able to use the technology given at home.

	Item	1	2	3	4	5
1	I feel it is hard to understand the mechanism of the internet.					
2	I believed that without using communication technology, it is hard to continue my work progress.					
3	I used communication technology such as internet to have a constant contact with coworkers and leaders so that I can keep up with the current project.					
4	I believe that communication technology has become my human basic need in work.					

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