SOLUTION OF PHYSICAL OFFICE THROUGH THE TRANSFORMATION INTO DIGITAL OFFICE.

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The thesis is submitted in partial fulfilment of the requirement for the award of bachelor's degree of Technology Management (Innovation) with Honours.

FACULTY OF TECHNOLOGY MANAGEMENT AND TECHNOPRENEURSHIP

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

FEBRUARY 2023

SUPERVISOR AND PANEL DECLARATION/APPROVAL

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DEDICATION

Every challenging job requires self -effort and guidance
as well as strength from Allah SWT as well as parents. My humble efforts
I dedicate to: Allah SWT, respected lecturers, mothers, friends, and seniors
who provided guidance, strength, and skills to the researcher in completing this thesis.

ACKNOWLEDGEMENT

First, I would like to express my gratitude to Allah SWT that given me strength and ability to complete this final year project successfully. Most importantly, I would like to acknowledge and give warmest thanks to my supervisor Dr Kamarudin Bin Abu Bakar for his support to make this work possible. His guidance and advice carried me through all the stages of writing my project. I would also like to thank my panel for all the advice to improve my thesis and giving me knowledge and useful information throughout this journey.

I would also want to give special thanks to my family especially my parents for always continuous support and giving me motivation throughout this journey. Your prayer for me was what sustained me this far.

I also want to give special thanks for the friends who have always supported, encouraged, and prayed for me, I would like to thank you for always being with me in completing this final year project.

Lastly but not least, I want to thank myself. I want to thank myself for believing in me. I want to thank myself for doing all this hard work. I want to thank myself for having no days off. I want to thank myself for never quitting.

Abstract

The COVID-19 pandemic has affected many sectors of organizations around globe especially in employment sector where there has a lot of issues. During the pandemic, traditional working place like an office immediately shifted to working remotely from home. We can see a lot of issues of unemployment rises when Covid-19 Pandemic are attack the world. Because of that, this research is running to understanding the solution of physical office through transformation of digital office. The main objective of this research is to analyse significant relationship between application of digital tools into working place and effectiveness of digital office in term of productivity or performance. The independent variables in this research framework are Internet, IT Devices, Software, Cloud Services, and Digital Training while the dependent variables is Transformation Into Digital Office. The methodology that researcher uses in this research is the quantitative method and the researcher sampled a total of 235 respondents to acquire data. And for the data analysis researcher uses descriptive analysis, reliability analysis, Pearson Correlation analysis and linear regression analysis to analyse the data. Researchers use Statistical Software Package for Social Science (SPSS) to calculate the result acquire. In result and discussion, the calculated data been presenting in table and figures and been supported by literature review where the independent variables and dependent variables are calculated. The result of findings been discussed in chapter 4 including to determine the hypothesis to be accept or rejected based on methodology. This result has generated the idea for future research on such topic as well as idea to implementing transformation into digital office.

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CHAPTER 1

INTRODUCTION

1.1 Background of Study.

An office management is viewed as important place or location, section, area of conduct of any works, jobs, business, or transaction (Radhika Kapur, 2018). Office is the place for workers to work or in other say is workstation where there has enough facilities that included in the office to maintain workers performance in delivering services or businesses. Based on Merriam-Webster, office is a place where a particular business is transacted or a service is supplied such as a place which a function of public officer is performed or a directed to a headquarters of an enterprise or organisation, or the place where professional's person conducts businesses.

According to Morgan (2020), the early concept of office is a shape or form of a person, body of people that conduct an official administrative business. The word 'office' itself come from Roman Latin language which is officium where it means 'bureau' or a human staff position. Then it became a first modern office when East India House was built in 1729 on Leadenhall Street in the City of London as Headquarters (HQ) which they understood the necessity for centralised administration and the efficiency of delivering the work. In the next modern office keep evolving in early 20th century where has a lot of facilities such as electric lighting and more modern equipment that save time in delivering the work such as typewriter and calculation machine and manual database system that enabling the processing of vast amount of information. In this era, the use of device such as

telegraph, or telephone been use widely to communicate with operation office building and factories building to deliver fast information on changes that make by HQ so it will deliver more efficiently according to time responses from HQ to factories.

Nowadays in developed country, we can see the trend where there became more less people who working in office not because the demand for office job is decreasing but it moved from traditional standardize type of working environment into working remotely from anywhere either the work at home, or in café, or any place other office that suitable for the workers deliver their best performance for company. It is because the vast of technology evolve that make most of office work been digitalize where make the workspace more structured and give a peace of mind place to work. According to Aram (2015), as changes in the labour market have shifted a significant portion of the workforce from the factory floor to the office environment, the focus of work-environment research has shifted from unfavourable physical working conditions to a concern with the psychosocial work environment. In order to coupe with current technology, the implementation of internet that mostly digitalize almost everything that causing management system became more structured.

1.2 **Research Problem/Problem Statement**.

The term "office management" refers to a company's administrative positions. Office management entails organising office activities and assisting in the retention of employees. The essential terms here are efficiency and effectiveness such as business is well-managed, it has control over office activities, lowers expenses, has pleasant staff, and coordinates all business activities. According to Katherine (2020), Office management involves the planning, design, implementation of work in an organization and its offices. This includes creating a focused work environment and guiding and coordinating the activities of office personnel to achieve business goals. These activities are evaluated and adjusted to improve and maintain efficiency, effectiveness, and productivity.

The current situation that just happened in a few year (two and half years to be exact) has made the digital system takeover real event such as workplace especially in management. Digitalize organizational job scope in rapid scale has made quite a

scenery in industry where there have many problems that occur because of people do not familiar with working remotely and there also has job that not suitable the online approach at the first implementation. According to Hewlett (2022), the digital ecosystem, certain office activities or functions are done virtually, and often these accommodate specific industry or security needs, select teams, and personal preferences. While digital workplaces can be deployed for small, local groups of employees, they can also be set up for multiple offices or branches, whether they are located in different cities, states, or countries.

The pandemic Covid-19 not only attack industry where we can see management sector mostly employees can work remotely and has resources to keep in touch to tracking how much progress by using online platforms such as WhatsApp, E-mail, Microsoft Teams, and many more to ensure all work can be done remotely and can be accessed anywhere and anytime. After the use of internet in management sector forcibly, we can see the pros and cons of internet implementation and things that can be a solution for traditional office that can be solved via digital office.

1.3 Research Question

RQ1: What is the effectiveness of digital office in term of productivity or performance?

RQ2: Is there has significant relationship between digital implementation among employees in term of employee's life balance?

RQ3: What is the ideate of dominant transformation from traditional office variables into digital office that can impact the role of management sector?

RQ4: How the correlation between independent variable and dependent variables?

1.4 Research Objective

RO1: To examine the effectiveness of digital offices in term of productivity or performance.

RO2: To analyse the digital implementation among employees in term of employee's life balance.

RO3: To ideate the dominant transformation from traditional office variables into digital office that can impact the role of management sector.

RO4: To examine the correlation between independent variables and dependent variables.

1.5 Scope and Limitation

The scope of this research revolves around the three major parts: level, territory, and time. This research focuses on the solution of physical office through the transformation into digital office in curb in Covid-19 Pandemic. The group targeted for the sake of research are people of age 20 to 45 years old. These are the most suitable age group as these people are mostly in the management sector that working in office and need to work remotely while government implementing limit people in closed environment in same time. The selected area for this research is proposed in Melaka because it ease for researcher to get respondent and researcher are focusing on management area either in Bandaraya Melaka or Ayer Keroh that is known as the administration centre of Melaka. This research is conducted within the time frame of two semester beginning in March 2022 until January 2023.

1.6 Summary

In conclusion, background of study that was concluded in this chapter which related the solution of physical office through the transformation into digital office in curb in Covid-19 Pandemic where we state the problem statement, objective and research question and set up the limitation of the research so it will be as guidance to keep us on track. The question of why the research is conducted is already discussed and total of three research question and objectives are laid out in this chapter which these questions and objectives has been discussed in this chapter. The scope and limitation

for this study has been set up as indicator for this research are based on time constraint and area of research. Also, a group of targeted respondent has been decided for the quality findings so this research will provide a more proven answer for other researcher.

CHAPTER 2

LITERATURE REVIEW

2. Literature reviewed

This chapter describes an overview of existing literature on the technological innovation of physical office through the transformation into digital office. In these segments, a researcher may discuss previous research that have its relation to the topic of the research. The materials used in these segments will help researcher to scrutinise and initiate the foundation and the framework of the research topic and the theory been reviewed in the corresponding review. The purpose of this analysis serves to provide textual support and materialize a clear view on the current report, the innovation of physical office through the transformation into digital office, where issue pandemic Covid-19 has triggered the technology to fully utilise by users and workers from world. This segments also includes previous researcher's hypostases that has been collected to develop the research paradigm. The structures of the analysis would have both independent and dependent variables where independent variables include internet, IT devices, software, cloud server, and training. Meanwhile dependent variables are the digital office transformation where it combines all independent variables into a digital office transformation.

2.1 Internet.

As we know in general, internet is one of the medium connectivity people with other people across the world where the use of internet helps us to communicate with other people in real time. The internet has been widely used not only to communication but also for education, businesses, quickly find information, manage finances, shop from home, entertainment such as listening to music or watch video and movies etc. The other term of internet is sometimes it called as “the Net” where it is a computer network across the world where it is connecting millions of computers by network. Network is a group of two or more computer system are linked together by internet.

According to Kaushalya (2014), Internet is a global system of interconnected computer networks that use the standard internet protocol suite (TPC/IP) to serve billions of users worldwide where it is a network of networks that include a million of private, public, business, government network, public, academic from local into global scope that are linked. Physically, the Internet consumes a share of the entire resources of the currently available public telecommunications networks. Technically, what separates the Internet is its usage of a set of protocols known as Transmission Control Protocol/Internet Protocol (TCP/IP). The TCP/IP protocol is also used by two newer adaptations of Internet technology, the Intranet, and the Extranet.

The Internet is composed of two fundamental components: network protocols and hardware. Protocols, such as the TCP/IP suite, define sets of rules that devices must adhere to fulfil jobs. Machines would be unable to communicate without this shared set of rules. The protocols are also in charge of converting a message's alphabetic text into electrical signals that may be conveyed across the Internet, and then back into legible, alphabetic text.

Internet connected by a broad array of electronic, wireless, and optical networking technology and optical networking technology that using light signals for send information between two or more computer instead of electronic ones such as fibre optic. The Internet provides a large array of information resources and services, such as the World Wide Web's (WWW) interlinked hypertext texts and the infrastructure to enable electronic mail (e-mail). But all of this cannot operate without a hardware.

2.1.1 IP Address.

Each computer connected to the Internet is given a distinct IP address that enables it to be identified. When one device seeks to transmit a message to another, the data is transferred in manageable packets through the Internet. Each packet is given a port number that will be used to link it to its destination.

By travelling through the levels of the OSI model from the top application layer to the bottom physical layer, a packet with both a unique IP address and port number can be transformed from alphabetic text into electronic impulses. The message is then delivered over the Internet and received by the router of the Internet service provider (ISP). The router will check each packet's destination address to determine where it should be sent.

The packet eventually reaches the client and travels in reverse from the OSI model's bottom physical layer to the top application layer. The routing data (the port number and IP address) is stripped from the packet during this step, allowing the data to be transformed back into alphabetic text and the transmission process to be completed.

2.1.2 Uses of internet

The internet has shown to be the most valuable technology of our day, assisting us not only in our daily lives, but also in the development of our personal and professional life. The internet aids us in this work in a variety of ways. The internet can be used to communicate over long or short distances, to share information from anywhere in the world, and to obtain information or answers to practically any issue in a matter of seconds.

The following are some concrete examples of how the Internet is used:

- Social media and content sharing,
- E-mail and other forms of communication, such as Internet Relay Chat (IRC), Internet telephony, instant messaging, video conferencing

- Education and self-improvement through access to online degree programs, courses and workshops and
- Searching for jobs -- both the employer and applicant use the Internet to post open positions, apply for jobs and recruit individuals found on social networking sites like LinkedIn.

For the students and educational purposes, the internet is widely used to gather information to do the research or add to the knowledge of various subjects. Even the business professionals and the professionals like doctors, access the internet to filter the necessary information for their use. The internet is therefore the largest encyclopaedia for everyone, in all age categories. The internet has served to be more useful in maintaining contacts with friends and relatives who live abroad permanently (Kaushayla, 2014).

2.1.3 Advantages of internet.

There has a lot of advantages using internet in our daily life such as,

E-mail: In today's corporate world, email is a must-have communication tool. E-mail allows users to send and receive messages in real time. Electronic communications are similar to letters in that they are sent electronically. Messages are sent to people all over the world in real time. Unlike regular mail, which takes a long time to deliver, this service is available all over the world. When compared to other forms of communication, email is free, quick, and inexpensive. Telephone, fax, and mail services are all available.

Information: Without a doubt, the most significant advantage that the internet provides. On the internet, users may get a broad of information on just about any topic, including government law and services, trade shows and conferences, market information, new ideas, and technical help. Using search engines such as Google, Yahoo, and MSN, you can nearly find any form of info on almost any subject you're looking for.

Online Chat: There are numerous 'chat rooms' available on the internet that can be used to meet new people, make new friends, or keep in touch with old ones. For example, Facebook such a nearest communication tools that users can access through smartphones where not only users can use online chat to be chatting each other but also can be a hub of knowledge where users tend to share real life experiences and information related to real life hacks. WhatsApp also communication platform that use online chatting as main features to users keep in touch each other's.

Service: Many services are available on the internet, including net banking, job seeking, ticket purchasing, hotel reservations, webinar such as Google Meet, Zoom and Webex and instruction on a wide range of topics that affect every part of life.

E-commerce: Users can shop online as well as receive information on the Internet. There are numerous online stores and sites where you may search for things and purchase them with your credit card or online banking. User won't have to leave your house and will be able to complete all of your shopping from home. It offers an incredible and diverse choice of things ranging from everyday necessities to gadgets and leisure. For example, Amazon is one of the largest e-commerce platforms that help customer shopping online.

Entertainment: The Internet allows users to access a broad variety of audio/video music as well as plays and films. Many of these are available for download. YouTube is one such well-known website.

Software Downloads: Users can get a lot of software for free on the Internet, including utilities, games, music, videos, and movies.

2.1.3.1 The use of internet into digital office.

The internet has made big chance in our daily life including how we work. Internet implementation on job scope has made us became more productive which it increased our performance during work. By implement digital office into work culture, it really helps workers to work remotely either from home, café, or while on outstation that keep people focussed on what's going on.

As researcher said earlier on how internet help us keep connecting with each other's, digital office has all the function to us connect with co-workers, and make things look easier with getting files on the go with the use of cloud server where it usually the place to store all data about working. By that, people work less with paper when digitalization of document been implementing in a job. The culture in the office also changing where we can see how different office layout in 1980 and 2022 where now the office layout is not too complex with files on desk, the crowded in the office because of cubical for each worker for workstation and many more.

We can see the implementation of digital office can change how we work and more focussed on socialise worker where all people can work and socialise together at same time. This is what we call modern office.

2.1.3.2 Advantage of modern office.

Modern office tends to be contrast with traditional office space where the design is more to have open-plan layout and contemporary interiors, not like traditional office that are usually closed-plan and feature old-fashioned decorations. According to Teknion (2022), the modern office represents office cultures that are fluid and flexible, with an emphasis on openness and communication to encouraging collaboration and creativity with fewer division and physical barriers Modern office tends to be equipped with high-end office furniture such as ergonomic desk chairs and glass boardroom tables. Usually, high-end office furniture will boost brand image and enhance the reputation of company. Not only that, a high-quality ergonomic furniture will support employees while work and minimise the risk of work-related injuries like neck and back pain. With that, the all-day comfort has become priority to workers to prevent tiredness where usually leading to a lack of concentration and productivity. According to Teknion, a well-designed modern office can boost worker's productivity by 20% where their believe that office furniture and layout play important role in workplace productivity and engagement.

2.1.4 Speed Internet

A faster internet connection can provide a better connection for work by allowing for faster file downloading and uploading, as well as smoother streaming of video conferencing and other online collaboration tools. A fast internet connection can also cut the time it takes to load webpages and programmes, increasing overall productivity. It is also crucial to remember that a fast internet connection is not enough to provide a good connection for business, since other factors such as network congestion, router quality, and device compatibility can all have an impact on performance.

According to Steven *et.al* (2010), The speed advertised and set by a broadband provider is an important metric for characterizing the broadband service and does provide a useful first-level indicator of the expected "speed" of traffic carried by the network. A corporation that offers consumers with Internet connection is known as an internet provider. Cable companies, telephone companies, satellite providers, and wireless Internet service providers are examples of popular types of Internet providers (WISPs). ISPs can be further distinguished by the services they provide, such as the types of connections they offer (such as DSL, fibre, or cable), as well as the speeds and data allotment they provide. Because of that, worker need to decide which courier that has more stable internet connection in order to do work remotely.

In general, a location with higher internet coverage is more likely to have a wider variety of connection speeds accessible, since more infrastructure to enable high-speed connections is in place. Even in locations with good coverage, however, the real connection speed may not always be as fast as the highest available due to other reasons such as the number of users. The idea is that coverage and speed are related but not mutually exclusive; a location with strong coverage may not have the best speed, and vice versa.

2.1.5 Quota Internet

A sufficient internet quota is the amount of data or bandwidth that an Internet Service Provider (ISP) allocates to a customer or account as part of their service package. It denotes the amount of data that can be transferred in a certain amount of time, which is typically measured in gigabytes (GB) or terabytes (TB). When a user approaches the limit of their quota, they may be charged more, have their speed lowered, or be unable to use the internet until the following billing month. But now, lot of ISP in Malaysia has introduced unlimited internet quota with speed cap according to package that been subscribed by customers.

2.2 IT Devices.

As we discuss earlier, Internet cannot function without a device and worker cannot access internet without device. One of important thing to succeed the digital office is IT devices. IT devices is a tool to transcript the data in internet into text, images, or sound. As researcher said, devices are an end point of data transfer. IT devices usually are form of computer, laptop, smartphones, tablet, printer, router, server, and any electronic devices that can create, store, processes, or exchanges state information. IT devices also been referred as hardware where user can physically touch and use to achieve the data needed.

2.2.1 Hardware.

The important component for the access into internet is hardware, which encompasses everything from the computer or smartphone used to access the internet to the wires that transport data from one device to another. Satellites, radios, cell phone towers, routers, and servers are examples of additional gear.

This diverse sort of hardware is the network connection such as device (computer, handphones, laptops, and tablets) are end point or "client." Servers are the machines

that store information. The data transmission lines can be wireless signals from satellites or 4G and cell phone towers, or physical lines like cables and fibre optics. The process of transferring information from one device to another device are relies on packet switching.

2.2.2 Why IT devices are important in digital office.

In era of technology savvy, workplace that implement digital office are really important because devices are tools that make user work in any place in any time. Without devices, all things related with digital office cannot be done because devices are platform to, we achieve all data that been stored in servers. Employees need devices to access the data for job related to do work which make business more efficient and productive. It is because by using devices, we not only can-do basic things like edit file with ease but also the electronic bookkeeping system that pull data just with a keystroke can help user to schedule sales, call and appointment, track employees time and perform many tedious task that usually took hours in a minutes only.

Also, the devices help employees to ensure computational accuracy. The modern spreadsheet like Excel with its hundreds of computational formulas helping in ensure accuracy. Device also help people to key in the data such as inventory, recorded sales, manage and pay bills and handle payroll by using software programme. With that, employees can maintain the book in software program and financial statement can be generated in a moment.

2.3 Software.

We always heard software in our daily life especially people in IT company. According to Cambridge Dictionary, software is the instructions that control what computer do, computer programs. Linda (2017) said that software is a set of instructions, data or programmes that are needed to run machines and complete specified tasks. It is the opposite of hardware, which refers to a computer's physical

components. Applications, scripts, and programmes that operate on a device are all referred to as software.

Practically, software cannot operate without a hardware to transcript data from internet and internet can't be created without hardware. The used of software is for user to control their computer or devices to ease human workload because the set of instruction in a software literally help user to do work faster and smarter with minimal amount of time where indicate the efficiency of work. Employees that practicalize the use of software usually tend to have much faster decision to finish the task that been assigned to them.

2.3.1 Software help employees that implementing digital office.

In implementing the digital office, software is one of important thing that needed by employees to do work or job that been assigned from their employers. First of all, to implementing a digital office, a company must have a collaborative suite as a digital office tool. Richard (2019) has stated that to develop and grow digital workplace – office, company must need to learn how to successfully adapt using a collaborative suite.

For example, Google's G Suite, which includes a few well-known digital transformation products such as Gmail, Docs, Drive, and Calendar, can assist in sharing information in real-time and provide access to a comprehensive range of tools to improve communication and collaboration at work.

Furthermore, Office 365 provides a collaboration suite that promotes corporate communication, exchange, information, storage, and commercial activity management in the Microsoft globe. Word, Excel, Teams, Outlook, and OneDrive are essential productivity tools in today's digital workplace. As a result, a collaboration suite provides significant benefits, allowing employees to manage data, perform important business functions, organise activity across the organisation holistically, and prepare for the new digital era.

The second category focuses of communication tools. A good working relationship between co-workers is the key to any company's success, as it affects productivity

and performance on a daily basis. All important information is concentrated on a digital communication platform, which serves as a single source of truth for business communication. Microsoft Team, for example, can be used to create a specialised workgroup to guarantee that everyone involved in a project or team is up to date.

It not only improves information flow, but it also increases the involvement of senior management and investors in important processes. By include everyone in the feedback, questionnaire, and solution process. Employees are no longer bound by the confines of a physical office. Other applications, like as Skype, Zoom, and Webex, use video conferencing to take communication to the next level and simulate face-to-face talks.

The third one is the CRM (Customer Relationship Management) system where it can play a significant role in the success of company digital transformation strategy. To stay competitive, employees need to able to keep up with customer's increasingly high expectation and advance requirements. CRM offers several benefits where it helps companies understand and address the need of customers, automate task, shorten sale cycles, and increase retention. According to Robert Manuel, when evaluating CRM system, ensure that it can provide the right information and data that employees need, and that's it integrates with other tools in your technology stack.

The fourth one is CMS (Content Management System) system that functioning as creator and manager of digital content like websites and mobile apps. According to CSO Insight (2017), 70% of buyers are fully define their needs on their own before engaging with a sales representative and 44% identify specific digital solutions before reaching out to a seller. With this, company web content and presentation are critical toward buyer's decision-making process.

2.4 Cloud Services

Cloud server as we know is the storage that can be access by users across any devices by using internet connection. The cloud server is the server that has data that been uploader by users to save data digitally in a huge server in a company that only can be accessed online. Mehdi *et.al* (2013) had said that a cloud is a new model of

computing in contrast to conventional desktop computing. According to The National Institute of Standards and Technology (NIST), cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (network, servers, storage, application, and services) that can be rapidly provisioned and released with a minimal management effort. (Mell and Grace, 2011).

Users can outsource their data to a remote server run by a third party known as a cloud service provider (CSP) using this technology (Zhibin & Dijiang, 2012). Furthermore, computational resources like as memory, disc storage, CPU, and bandwidth are virtualized and accessible via the Internet via clients (Kumar & Yung-Hsiang, 2010). The term "cloud" refers to a collection of thousands of virtualized computers spread throughout a network of data centres in various geographic areas linked by telecommunications cables. Pay-as-you-go pricing is used to give cloud services to users. This implies that, similar to water and electricity bills, users are only charged for the amount of service they use. Cloud computing has a number of advantages for both end users and CSPs. Rapid flexibility, metered service, little capital investment, cheaper maintenance costs, and location-independent access to the services are among the benefits for end users (Kumar and Yung-Hsiang, 2010; Wang et al., 2010). CSP, on the other hand, maximises resource usage and hence reduces energy consumption.

Despite its many conveniences, several security issues prevent consumers from completely trusting this new technology and making the transition from traditional computing to cloud computing (Zhibin & Dijiang, 2012). By storing data on a remote server, the user relinquishes physical control of the data and instead entrusts data management to an untrustworthy third party (Cong *et al*., 2010; Wei *et al*., 2013). Despite knowing that cloud resources are far more powerful and reliable than client resources, data in the cloud is nevertheless exposed to various of attacks from both inside and outside the cloud (Wang *et al.,* 2010). These dangers could threaten data confidentiality, integrity, and availability. To safeguard business reputation, an untrustworthy supplier can delete less often accessed data to free up disc space or disguise data loss (Yang and Jia, 2012). Security breaches, Byzantine failure, server failure, and power outages are all possibilities. Such instances include Amazon S3

failure (Team, 2008), Gmail email mass deletion (Arrington, 2006), Sidekick Cloud Disaster (Cellan-Jones, 2009), and Amazon EC2 2010 failure (Miller, 2010).

2.4.1 Cloud server advantages in digital office.

Cloud computing has numerous advantages for your company. It enables you to set up a virtual office, giving you the freedom to connect to your company from anywhere at any time. Access to your data has never been easier, thanks to the expanding number of web-enabled devices utilised in today's work environment (e.g., smartphones and tablets).

There have many advantages in implementing the digital office.

1. Reduce IT cost.

   Using cloud computing to manage and maintain company IT systems could cut the cost. Company can save money by utilising the services of cloud computing service provider rather than purchasing pricey systems and equipment for their organisation. It may be able to lower company operational costs because of the following factors:

   - System upgrades, new hardware, and software may be covered by employee's contract.
   - company won't have to pay expert staff's wages.
   - company energy consumption costs may be lowered.
   - there will be less time delays.

2. Scalability

   Scalability allows you to swiftly scale up or down company operation and storage demands to suit your needs, giving business more flexibility as your needs change. Instead of obtaining and installing costly upgrades manually, company cloud computing service provider can take care of it for employers. Using the cloud allows them to focus on operating the business instead of worrying about technology.

3. Business continuity.

   Business continuity planning requires companies to protect data and systems. Having company data kept in the cloud means that it is backed up and

secured in a secure and safe location, regardless of whether users encounter a natural disaster, power outage, or other crisis. Being able to immediately access data allows employees to continue doing business as usual, minimising downtime and decreased productivity.

4. Collaboration efficiency.

   Collaboration via the cloud allows company to communicate and share information more simply than previous ways. Business could use cloud computing to provide employees, contractors, and third parties access to the same files if working on a project that spans multiple locations. Company might also go with a cloud computing architecture that allows employees to easily share your data with the advisors (e.g., a quick and secure way to share accounting records with accountant or financial adviser).

5. Flexibility of work practices

   Employees can be more flexible in their working conditions because to cloud computing. For example, employees can access data when at home, on vacation, or on your way to and from work (may need employees provide an internet connection). If employees require access to their data while they are away, they can quickly and conveniently connect to their virtual office.

6. Access to automatic updates.

   The service cost may include access to automatic updates for IT requirements. The system will be routinely updated with the latest technologies, depending on the cloud computing service provider. This could include software updates as well as server and computer processing power increases that help in employee's performance during work.

2.5 Digital Training

Training is one of the most significant investments since it improves employees' knowledge, skills, attitudes, and behaviour: the human resource (HR). According to Cagri Bulut, *et.al,* (2010), a resource-based view of the organization indicates that investments in human resources develop, maintain, and update employees' suitable

abilities, creating an inimitable core competency critical to the organization's competitive viability.

There have 2 types of investment which is physical investments and financial investments. Investment in physical is a training where it brings an advantage to organizations because training can enhance organizational performance. By implies training in organization, it helps to increase intellectual capital of organization and also creates resources that more valuable than any others which is it could create an experience and committed employees toward company.

Even though the training research implies that organisational training and organisational commitment are highly related, such findings do not appear to persuade managers to engage sufficiently in training, particularly in industries with high staff turnover rates. The causes of this dilemma can be explained using social exchange theory and psychological contract theory, which hold that employees with high financial expectations are less likely to want to stay with their company.

The main obligations of an employee to his or her organization are to perform the given tasks and other work-related duties and to protect proprietary resources and organizational knowledge. In turn, employers' obligations to their employees are to provide fair salaries and other benefits and conditions that allow employees to develop and progress (Cagri Bulut, *et.al*, 2010). Although loyalty and citizenship are the most expected over behaviours for employers, self-development and occupational training are inevitable demands and motivating elements for employees at all stages of their career.

2.5.1 Training and Development in digital office.

The implementation of digital office has made the environment of the office itself bring new pace in working experience where it helps in less the time consuming for the training itself. Digital training is preferably to delivered by on-the-job for the efficiency and relevant toward the current job responsibility in a scope for particular employee. Employees can improvise their current knowledge and skills without

hindering business continuity and decreasing productivity (Sergey Golubenko, 2018).

2.5.2 Ways of implementing digital transformation of Training and Development in digital office.

There has a lot of tools that can be effectively used for digital transformation of employees T&D. For example, Learning Management System (LMS), mobile application, and extended reality technologies.

1. Learning Management System (LMS).

   A learning management system (LMS) is the foundation of digitalized staff training. LMSs assist in the creation and delivery of learning materials to trainees, the organisation of collaboration and communication between trainers and trainees, the assessment of training results, and the tracking of progress, among other things. They are most commonly employed in online training, but they can also be utilised in hybrid learning, which blends traditional classroom instruction with e-learning. Modern LMSs focus on learners and effective dissemination of learning information, as opposed to early LMSs that focused on course management.

2. Mobile application.

   Mobile applications supplement digitalized training by extending the capabilities of learning management systems (LMSs). Mobile devices can access training materials 24 hours a day, seven days a week using m-learning. As a result, even individuals operating in remote areas can benefit from learning. Mobile apps can also be used to refresh employees' abilities after they have completed their training. Audio simulation programmes, for example, can help employees practise communicating with clients by simulating real-life discussions.

3. Extended reality (XR) technologies are more advanced kinds of digital transformation of employee training and development that can make learning experiences immersive. Despite the high costs and time budget of generating and implementing 3D e-learning content throughout XR environments, these

technologies are becoming increasingly widely used. Virtual reality (VR), augmented reality (AR), and mixed reality (MR) technologies are all included in XR. All of them provide advanced learning opportunities for employees, particularly in areas with a strong focus on practise, such as manufacturing and healthcare.

- Virtual reality immerses users in a completely artificial digital environment.
- Augmented reality projects virtual objects on the real-world environment.
- Mixed reality is an intermediate technology between VR and AR. Just like AR, MR projects virtual objects on the real-world environment, and it also anchors virtual objects to the real-world enabling users to interact with them.

2.5.3 Digital transformation of T&D in practice.

2.5.3.1. Employee orientation & onboarding

All corporate records, including HR-related documents like hiring forms and onboarding training materials, were distributed among several departments prior to digital transformation. There were old and new versions of documents, as well as paper and electronic copies, in use at the same time, resulting in a total mess.

Orientation and onboarding are becoming easier, faster, and more convenient as a result of digital transformation. It allows for the creation of a centralised repository for all corporate papers. As a result, all of the documents a new employee could need, such as information about the organisation and its regulations, work responsibilities, and so on, are always readily available. Furthermore, digital transformation has made the process of filling out and signing employment forms fully electronic. Additionally, digital tools provide a step-by-step orientation guide on their desktops, complete with recommendations, tasks, scheduled meetings, and other activities.

Learning Management System

For example, LMSs can aid in the training of new staff. A corporate intranet can use the SharePoint LMS to create employee profiles. They can also obtain a start guide on administrative processes (computer logins, extensions, email setups, and so on) as well as an introductory movie with information about the company's mission, values, corporate culture, policies, and benefits, among other things, via the LMS. To make the onboarding process even easier, the LMS can use ready-made templates from SharePoint libraries to streamline the filling out of new-hire forms.

Employees can also use the LMS to create and deliver general learning content (health and safety training, human resources subjects, and so on) as well as tailored content (customer service, procurement, accounting, and so on) that is relevant to their professions. SharePoint LMS may assist evaluate new employees, identify knowledge gaps, and create personal training plans for them, as well as define their aptitudes for various activities, using exams and quizzes.

Mobile applications.

Like LMSs, employees' apps can store e-learning content and useful information (interactive manuals, corporate policies, a contact list, etc.). They can use interactive maps to assist new employees in navigating the firm workplace. Gamification is frequently used in mobile apps to boost employee engagement and motivation. New hires, for example, may be rewarded for finding certain places in a huge organisation. Onboarding elements like an employee handbook, job description management, orientation training management, and so on are supported by some programmes (EmployeeConnect).

Extended reality (XR)

Employee training and onboarding can also benefit from mixed reality. It allows users to view and interact with 3D information in real time, as well as visualise and manipulate data. SharePoint spaces, for example, debuted at SharePoint Conference North America in May 2018, can provide employees with 360-degree virtual welcome and orientation training as well as an interactive organisation chart to assist them learn the corporate structure.

2.5.3.2 Self-learning, continuous learning & microlearning

Trainees can access all accessible learning resources at any time, rather than being limited to a single book or course, thanks to digital transformation. Trainees can acquire and refresh their knowledge by having books, classes, and assessment tests on their PCs or mobile devices. Microlearning — the ability to study in small bits via mobile devices has emerged as a result of digital transformation.

Learning Management System

Employees can have unrestricted access to learning content through LMSs, which provides a fresh perspective for self-learning. It's simple to search, download, and track updates to learning content using the SharePoint LMS, and to continue learning as needed. Microlearning is a fantastic fit for SharePoint LMS because it makes it simple to create and deliver short lessons that condense the important aspects of staff training.

Mobile Application

Mobile applications are useful for on-the-go learning and self-assessment. They can include extra e-learning information (videos, photos, charts, graphs, and so on) to supplement more extensive training resources, allowing learners to better prepare for classroom or workshop sessions. The Skill Pill app, for example, enables for the delivery of brief training videos on areas like as customer service, management, sales and marketing, and others. Mobile applications are ideal for self-learning and microlearning because they often include interesting learning content such as games, interactive movies, simulations of real-life settings, and other features that LMSs lack.

Extended Reality (XR).

Due to its immersive and engaging content, XR can bring value to microlearning in the workplace. But for now, implementing XR in self-learning are impractical due to high cost and limited availability for individual learners.

2.5.3.3. Instructor-led trainings

Because of the use of numerous digital communication and collaboration tools, digital transformation makes instructor-led trainings available anywhere, at any time, and for any number of trainees. Also, new technologies such as XR enable staff training through simulations, which is just as effective as hands-on learning but without the hazards, which is especially important for medical training.

Learning Management System

LMSs can assist with scheduling in-house and external instructor-led trainings, delivering a variety of learning content to trainees, and arranging knowledge assessments, among other things. Employees can be automatically enrolled in trainings using SharePoint LMS processes, and trainings, workshops, tests, and other events can be scheduled. It allows you to create and transmit many types of training information (documents, photos, audio, and video), as well as incorporating multimedia (such as recorded webinars) from other websites.

Mobile Application

In addition to instructor-led training, mobile apps can be used to supplement it. After studying a new topic, trainees can read e-books and take tests on their phones. When trainees have questions about the course, assignments, tests, and so on, M-learning allows them to rapidly contact with other trainees or an instructor. Scoreboards, certificates, and badges are common features in mobile apps that reward trainees for finishing a topic, a course, or passing an exam, among other things.

Extended Reality (XR)

Employees can benefit from simulations with the help of XR. They were taught how to communicate with consumers in a timely and professional manner, as well as how to address difficulties. Employee practical training can benefit from augmented reality.

2.5.3.4 Mentoring

Mentoring is often seen as an unpaid yet time-consuming duty, which the traditional mentoring model lacks efficiency for a mentee and motivation for a mentor. Digital transformation saves a mentor's time without diminishing the program's efficiency. A mentor can discover everything about a mentee in a matter of seconds using the comprehensive reporting and analytics features of digital tools that contains progress, the number of completed tasks, and so on. Additionally, modern communication capabilities allow mentees to contact mentors whenever they require assistance or advise. Mentoring that incorporates immersive technologies makes mentees learn experiences more enjoyable and impactful, as well as more efficient.

Learning Management System.

From enrolment to assessment, LMSs can lead mentees and mentors through mentoring programmes. Aside from automatic enrolment, the SharePoint LMS may also connect mentees with mentors based on a questionnaire about the mentee's abilities, personal characteristics, and professional interests. A mentor can use the SharePoint LMS to organise projects, meetings, and other activities for a mentee. For rapid and effective mentor-mentee communication, such as notifying a mentee about future stages in the programme, offering mentoring ideas, and so on, the SharePoint LMS includes a wide range of collaboration options such as blogs, chats, discussion boards, and so on. The system may provide data on the number of hours spent in the programme, the performance of the mentee, focus subjects covered, milestones met, and so on.

Mobile Application

Mentor-mentee communication is primarily handled through mobile mentoring apps. They can, however, have a wider range of capabilities. The MentorcliQ mobile app, for example, includes mentor matching, goal monitoring, mentoring progress tracking, and more, in addition to 24/7 mentoring connectivity.

Extended Reality (XR)

AR and MR technologies are particularly popular in healthcare mentoring programmes because of their practical focus. AR software can be used to train

surgeons, for example. Mentors can observe a surgery conducted by a mentor, during which the mentor will demonstrate the proper placement of an incision using CT scans overlaid on a patient's body. Mentors can also employ MR software to show mentees holograms of the human body's systems and organs, allowing them to modify the holograms with gestures.

Employee retention is aided by digital transformation, which allows for effective and rapid cultivation and updating of employees' skills and knowledge. Furthermore, digital transformation solutions span all major training functions, from onboarding to self-learning, and can be utilised independently (LMSs) or as significant additions to employee training that can enhance learners' experience (mobile and XR technologies).

2.6 Theoretical Framework.

Theoretical framework is section where been generated by researcher after acquire explanation from relevant articles and journal from other researcher about digital office and what variables that relevant into digital office transformation. According to Figure 1, this is theoretical framework that researcher found.

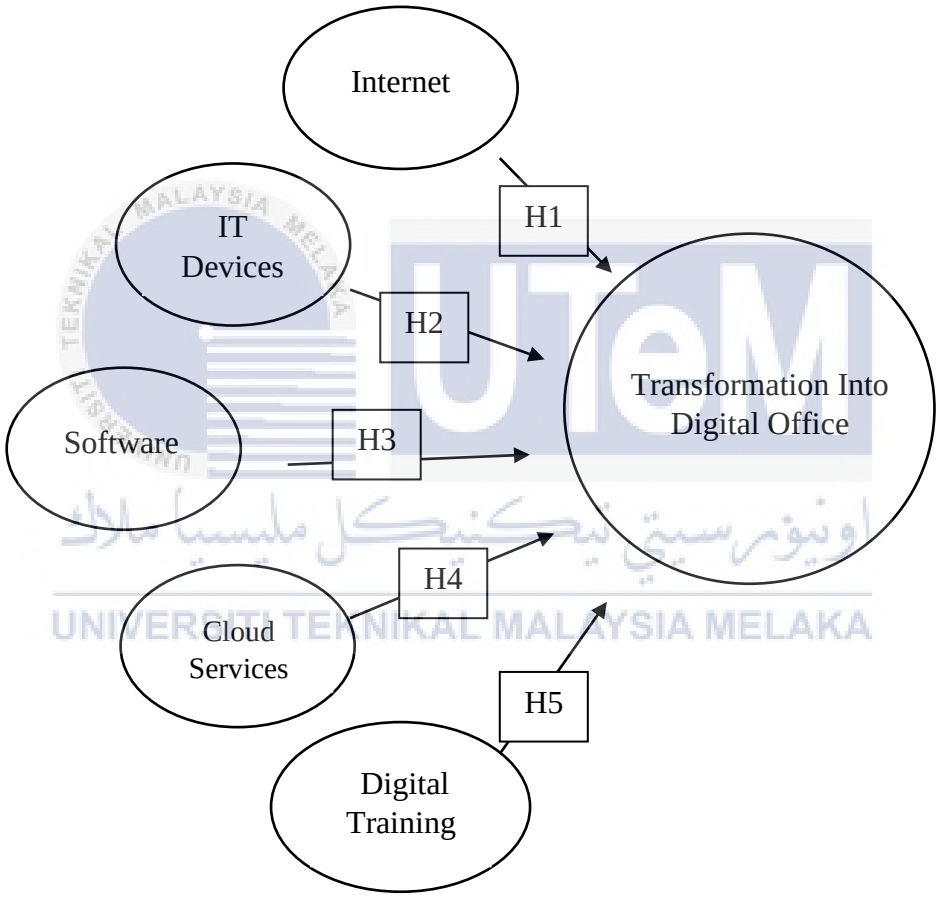

Figure 1: Research Framework

2.7 Research Hypotheses.

H1: There has a significant relationship between Internet and employees' connectivity through implementation of digital office transformation.

H2: The has a significant relationship between Hardware and Internet connectivity through implementing the digital office transformation.

H3: There has a significant relationship between Software and employees' tools through implementing the digital office transformation.

H4: There has a significant relationship between Cloud Server and employees' accessibility through implementing digital office transformation.

H5: There has a significant relationship between Training and employees' retentions towards implementing digital office transformation.

2.8 Summary

The literature reviewed on the concept of the transformation into Digital Office where it addressed existing variables that contain in a digital office which is Internet, Hardware, Software, Cloud Server, and Training. Researcher has taken. The researcher has complete authority in determining the possible hypotheses for each of the chapter's variables. The literature reviews in this chapter are based on prior studies to help in understanding the notion of each variable.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This section of the research identifies the methods that can be used to approach the available collect information for research purpose. The foregoing information are in the form of data that will be used in further analysis to understand the nature of the research and provide relevant justifications for the purpose of the research. The researcher would talk about the research methodology, as well as its suitability for the research and the conceptual framework. This chapter focuses on ensuring that proper testing standards are followed, which assists in obtaining more accurate and detailed study findings for the research's purposes.

3.2 Research Design.

According to Enideg Birhanie (2016), the term of research design is the "Glue" that keeps all the pieces in a research project together; in other words, it is a blueprint of

the proposed study project. The term research design itself relates to strategy for designing the research data gathering and processing structure where it provides detail knowledge on the source data that might been gathered, data collection mechanism and data tools. According to McMillan and Schumacher (2010), only the project concept serves as a systematic planning process that guides the analysis and bridges the divide between the study topic and the analysis technique, and research designs is the segment in which the researcher tries to divert the research focus on the topics and transcend to the analysis phase of the research. Sileyew (2019) justifies the importance of choosing a viable research method, stating that selecting a research methodology is a crucial task in the project design phase because it dictates how specific data can be gathered for a report, and the research design method entails several closely linked judgments.

In this study design, the first step that need to consider by a researcher is the goals and approach. As researcher, understanding a complete idea of the research question are is needed before beginning to do research design. Shona McCombes (2021) has emphasized that the researcher's goals and priorities should dictate study design decisions, and then the study should be conducted. Researchers should consider carefully what they intend to achieve.

The first step a researcher must make is whether to conduct research using a qualitative or quantitative approach. When a study involves humans, it's equally important to consider practicalities and ethics. The researcher should think about the following research ethics about how long it takes to collect data and write a research paper, or can researchers receive the data they need, such as by studying in a certain location.

The second step is to decide whether researcher want to conduct a quantitative or qualitative design study where quantitative approach is researcher can:

1. Measure variables and describe frequencies, average, and correlations.
2. Test hypotheses about relationship between variables
3. Test the effectiveness of a new treatment, program, or product.

While qualitative approach is researcher can:

1. Understand subjective experience, beliefs, and concept of study.

2. Gain in-depth knowledge of a specific context or culture.
3. Explore under-researched problem and generate new ideas.

Qualitative research design tends to be more flexible and inductive where it allows researcher to adjust their approach based on what researcher find through the research process meanwhile quantitative research design tend to be more fixed and deductive with variables and hypotheses clearly defined in advance of data collection.

In quantitative research, experimental and quasi-experimental designs allow researchers to investigate cause and effect relationships, whereas descriptive and correlational designs allow researchers to quantify variables and characterise relationships between them (Shona McCombes, 2021).

Aside from that, there are phenomenological, ethnographic, grounded theory, and case study varieties in the qualitative design. Ethnography is a design of research that gathering and analysing information on cultural grouping and grounded theory is inductively developing an approach by studying or analysing qualitative data carefully. Meanwhile phenomenological studies are descriptive examinations of human experience where respondents are questioned, and they must use a narrative to depict the experience according to the respondent's perceptions interrogation. A case study, on the other hand, is a thorough research into a specific subject, such as a location, an organisation, or an event, using data gathered from a variety of sources or approaches where its complete opposite from other design.

The third step is researcher need to identify the population and the sampling method used. As researcher, it should clearly define which population or samples that a researcher wants to focus on and how to select participant or subjects. In research, a population refers to the total group from whom researcher wish to draw conclusions, but a sample refers to the smaller group of people from which actually collect data.

The fourth step is researcher need to identify the suitable data collection methods based on study. In this study where researcher is focusing on people opinion, experience, behaviours, and characteristic as variables that support researcher hypotheses, researcher will choose the survey methods which is asking people directly. A population sample is examined in order to give a quantitative or numerical description of attitudes, trends, or opinions.

The fifth step include developing a data collection procedure. To obtain consistent and accurate data, the researcher must carefully arrange the methodologies used. In quantitative research, this is critical since the researcher must accurately determine the variables and guarantee that the measurements are correct and dependable.

And the last step is deciding the data analysis strategies. In quantitative research, there need to use a statistical analysis where it can summarize the sample data, make estimation and testing hypotheses acquire which is usually cannot answer the research question with just a raw data. By implementing descriptive research in quantitative method, it can help researcher to analyse all possible summary of variables after hypotheses testing been made.

3.2.1 Descriptive Research.

The term of Descriptive Research is research that describe a phenomenon and its characteristic where it more concern with what rather than how or why something has happened (Hossien Nassaji, 2015). As a result, observation and survey are often utilised as data collection techniques (Gall, *et.al*, 2007). Rather of concentrating on the "why," descriptive research simply describes the features of the demographics being studied. A survey is a descriptive research approach that researchers practise. Respondents responded to surveys, polls, or questionnaires in survey research, and the survey can be utilised online or offline. In addition, the descriptive study might point up areas where additional research is needed as well as connections between variables that need to be investigated further.

3.3 Methodological Choices

Methodological choice is a what method of researchers' want to use in their study where it based on 2 types of research design which is qualitative and quantitative method. Each data for each method is different because how the method is implemented is different which result a different outcome. A qualitative data been presented through literatures and illustrations meanwhile the quantitative data been presented in tables. Researcher has chosen the quantitative method in this study. It is because the data that acquire through quantitative method is based on a large sample

of respondent and it could be easier to acquire and by using the SPSS application, it can help researcher to analyse the data more ease.

3.4 Data Collection

Data collection is the procedure of acquiring, measuring, and analysing accurate idea for research by using a standard approved procedure. Researcher might evaluate their hypotheses based on data that been collected. In data collection, there has 2 types of data collection method which is primary data and secondary data.

3.4.1 Primary Data

Sulbha Wagh (2022) has defined that primary data is the data that has been generated by the researchers himself/herself, survey, interviews, and experiment that specially designed for understanding and solving the research problem hands on. The problem with primary data is it may be challenging to get such a data due to a lack of resources. The data in primary data is based on real time data which is it is the recent findings to avoid inaccuracies where the process is very involved with how researcher doing to acquire the data. Some of sources from primary data is surveys, observations, experiments, questionnaire, personal interview etc. Usually, the cost effectiveness to acquire the data for primary data is expensive and it need a long time to collect the data based on time horizon. The data that need to be acquired always a specific to researcher because of the topic that researcher study. By that also, it helps researcher in accuracy and reliability of the study because researcher refine the data that he/she got from raw data which mean there has analyse process that make researcher proof their theory.

3.4.2 Secondary Data

Sulbha Wagh (2022) also had stated that the secondary data is the data that already generated by any organisation for example like government institution, healthcare facilities etc. as a part of organizational record keeping. And it already been collected and readily available from other source. Such data are cheaper and more quickly

obtainable than the primary data (Prachi Juneja, 2015). The data in secondary data usually a past data where tend to be not relevant to current issues. The process to obtain the data are quick and easy because in this digital era, we can access any data from internet include government publication, e-books, journal, article, internal record that can be acquired on websites. The cost to acquire secondary data are cheaper or economical that can be accessed by everyone, and researcher can collect the data in a short time. The downside of secondary data it may not be specific to the researcher's need and the accuracy are relatively less. The good side of secondary data is it come with refined form which is there no need to re-study the data because the data has been elaborate.

3.5 Location of Research

This study aims to determine the Solution of Physical Office Through the Transformation into Digital Office among employees at Melaka, Malaysia.

3.6 Time Horizon

Time horizon is the measure of how long the length of time research is conducted. Time horizons are divided into two type which are cross-sectional and longitudinal. A cross-sectional study is a type of research design in which researcher collect data from many different individuals at a single point in time where researcher just observe the variables without influencing the respond. Meanwhile, longitudinal refers to the research that is measured incrementally at multiple point in time. In this study, researcher used a cross-sectional time horizon in which data was collected only once, sometimes over days, weeks, or months. Researcher uses time horizon for this study are lasting for 1 year period which is from March 2022 until February 2023 where indicate the time for Final Year Project Semester 1 and Semester 2.

3.7 Sample Design

A sample is a subset of people drawn from a larger group. Sampling refers to the process of selecting the people from whom you will gather data for your study. In statistics, sampling is used to test a hypothesis about a population's characteristics. To achieve a valid conclusion, the researcher must carefully consider how he or she selects a sample that is representative of the entire group. As a result, there are two types of sampling methods: probability sampling, which uses a random sample, and non-probability sampling, which uses a non-random sample. Non-probability sampling is often employed in exploratory and qualitative research. Rather than testing a theory about a big population, this form of study tries to get an early insight of a small or understudied society. Convenience sampling, voluntary response sampling, purposive sampling, and snowball sampling are the four categories of non-probability sampling procedures.

3.7.1 Sampling Technique

Sampling technique is a technique that need to be used by researcher to determine the research group of people. In order to select a group of people, researcher need to select a sample first. The sample is referred to a group of people who taking part in the research as a respondent.

There has four steps can be use in sampling technique. The first one is researcher would determine the target population where it define a group of individuals or subject to the research.

The second one is the sampling frame. Sampling frame is the actual list of individual that the sample draw from where it represents the entire target of the population. It lists all element that could be a variable of the population. In this study, the researcher selected employees around Melaka that working in office environment as sample.

The third one is to state the sampling technique. There has a various probability which is a random selection or non-probability which is it not a random sampling process. If the sampling frame is approximately the same as the target population

specified by the researcher, random selection can be used to select a sample. However, if the sampling frame does not represent the target population, the researcher can choose a non-random selection that can provide at least a picture of the people in the surrounding area. The researchers utilised a basic random sampling strategy to draw samples at random in this investigation.

The fourth one is to determining sample size. The number of units in a sample is referred to as sample size. The researcher will consider a variety of issues while determining the size of this sample, including time, cost, and even the facilities used. A bigger sample size is beneficial in general, but it necessitates a significant investment of time and money. Because researcher will conduct experiment in Melaka, Malaysia, researcher has found that Melaka is too large where population of Melaka itself around 0.94 million according to Department of Statistic Malaysia Portal (2021). Researchers choose to use method Krejcie and Morgan (1970) where its already has table that indicate the amount samples researcher can get based on population amount. To determine sample size in this study, researcher choose Cochran calculation method where researcher need to use formula to calculate how much samples that researcher could get. Researcher needed sample size at 95% confidence level with ± 5% significance. The formula researcher will use is like this.

Cochran's Calculation Formula for sample size.

$$n_0 = \frac{Z_p^2 q}{e^2}$$

$$n = \frac{z_p^2 q}{e^2} = \frac{(1.95)^2(0.5)}{(0.5)^2} = 384 \cdot 16 = 385$$

Confidence Level	α (level of significance)	$Z_{\alpha/2}$
99%	1%	2.575
95%	5%	1.96
90%	10%	1.645

Figure 2: Confidence Level and Level of Significance table.

Because of using Cochran Calculation formula, the maximum amount is 385 of respondent required to perform an analysis according to 95% confidence level with ± 5% of significance.

3.7.2 Sampling plan

A sample plan specifies which measurements will be made when, on what material, in what manner, and by whom, and when they will be taken. Sampling plans should be structured so that the generated data contains a representative sample of the parameters of interest and allows for the answers to all the goals' queries. In sampling plan, researcher will also state that the setting of this study is based on tables, calculations and description toward each data obtained.

3.8 Pilot Test

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 processes and procedures used in this smaller study are usually the same as those used in the larger study. The primary goal of a pilot study is to determine whether the intended major study is feasible. The pilot test can also be used to determine the expenditures and sample size required for the larger investigation.

3.9 Questionnaire Design

A questionnaire is a set of questions or items intended to collect information about respondents' attitudes, experiences, or opinions. Questionnaires are useful for gathering quantitative and qualitative data. According to Rebecca Flores (2021), a questionnaire is a research tool that consists of a series of questions that are used to gather data from respondents. These instruments use an interview-style structure and incorporate either written or oral questions. Questionnaires can be qualitative or quantitative, and they can be administered online, over the phone, on paper, or in person.

Questionnaires may have open-ended or closed-ended questions, or a combination of the two. Respondents can respond in their own words, in as much or as little detail as they want, to open-ended questions. Closed questions offer responders a set of predefined responses from which to choose.

The study indicate that the data collection will be collected by a survey which it will be distributed to author via online platform such as Google Form or Microsoft Form by researcher. Meanwhile, the respondent for this study will be distributed to citizen of Malacca who is employees that working in the office to identify weather transformation into digital office could bring solution toward physical office or not.

The questionnaire of this study will be divided into two sections. In part A, the questionnaire is focus on collecting demographic data about respondent which is gender, age, relationship status and any background that related toward respondent. The background data that been collected by researcher would help in order to identifies the differences respondent in with variables.

Part B was constructed to put the research technique of the study to the test utilising the constructs and items that had already been established. This part will focus on how digital office could give solution toward physical office through a transformation. The researcher will create a survey questionnaire based on the information gathered from this source and distributed it to respondents.

The scales were measured using both the nominal and ordinal scales. Except for the respondent's personal information, which was graded on a nominal scale, the majority of the surveys are categorised on an ordinal scale. The researcher utilised the Likert scaling method to analyse the questionnaire items in this study, as indicated in table 1.

Table 1: Likert Scale

Likert Scale					
Stage	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Scale	1	2	3	4	5

3.10 Data Analysis.

Data analysis is the most critical element of any study. Researchers can use data analysis to assist them summarise the information gathered through the survey approach. The process of collecting, modelling, and analysing data to extract insights that aid decision-making is known as data analysis (Bernardita Calzon, 2022). This data analysis also aims to extract useful information, which will be used by researchers to make decisions.

Research uses several methods to analyse data. The first thing is to identify the data. The researcher will determine what type of research to conduct in this first stage. The researcher will collect the data needed to conduct the study in the second step. The researcher will determine the information which will be used and how that information will be used at this stage. Quantitative surveys or secondary data can be used to obtain information.

Third, once the researcher has acquired the necessary data, the researcher should inspect data up and prepare it for analysis because not all the data collected will be used in this study because some of it is unsuitable for the study. Finally, the data must be analysed and interpreted. Various approaches, like as regression, statistical analysis, reliability, and others, are used to evaluate, and alter data at this stage in order to help the researcher reach a conclusion. To examine the data in this study, the researcher employs descriptive analysis, reliability analysis, Pearson Correlation analysis, and linear regression analysis.

3.10.1 Descriptive Analysis

Statistical analysis is another term for descriptive analysis. One form of data analysis is statistical analysis. By u sing past data in the form of a dashboard, statistical analysis demonstrates "What happened?" Statistical analysis is the process of collecting, analysing, interpreting, presenting, and modelling data from a data set or sample of data. There are three types of descriptive statistics which is distribution, average value, and range. Where is concerned with the frequency of each value. The average value, such as mode, median, and mean, is concerned with the central

tendency. While the distribution of values is evaluated, variability or distribution is studied on. The range, standard deviation, and variance, on the other hand, all show distinct propagation characteristics. In this study, the researcher chooses several demographic parameters such as age, gender, and relationship status or any background that related toward respondent in this research. Percentages are often used by the researcher to characterise the sample or population obtained through the survey method.

3.10.2 Reliability Analysis

The researcher can analyse the nature of the measuring scale and the variables that make it up using reliability analysis. The Reliability Analysis technique calculates a variety of commonly used scale reliability measures as well as information on scale item relationships. The researcher can utilise reliability analysis to determine how closely the questionnaire items are related to one another.

The researcher also can obtain an overall index of the scale's repeatability or internal consistency, as well as identify problematic items that should be eliminated. Cronbach's Alpha is a scale reliability measure that can be used to determine how closely a set of items are related. It's also typically used when a survey/questionnaire has a lot of Likert items on it and the researcher wants to see if the scale is dependable.

Additional practical rules apply to dichotomy questions, such as those with two alternative answers or Likert scale questions: the internal consistency table for interpreting the Alpha.

Table 2: Internal Consistency of Cronbach's Alpha.

Cronbach's Alpha	Internal Consistency
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

3.10.3 Pearson Correlation Analysis

Correlation analysis is term that describes a relationship or correlation between two or more quantitative variables. Meanwhile, a correlation coefficient is a number between -1 and 1 that reflects the strength or direction of the association between two variables. Each of these correlations has indications and forms that indicate whether the movement is positive, negative, or neutral. A positive correlation indicates that both variables move in the same direction, with one increasing as the other declines or both falling at the same time. Both variables move in opposite directions when they have a negative correlation; as one increases, the other decreases, and vice versa. However, there was no relationship between the two variables if there has case of a neutral correlation.

Pearson's coefficient is a correlation coefficient that shows how two variables measured on an interval scale or the same ratio scale are related. The linear relationship between two quantitative variables is described as Pearson correlation, often known as Pearson's r. The size of the correlation coefficients is shown in Table 1 below (strength).

Table 3: How to interpret the size (strength) of a correlation coefficient.

Size of Correlation	Interpretation
.90 to 1.00 (-.90 to -1.00)	Very high positive (negative) correlation
.70 to .90 (-.70 to -.90)	High positive (negative) correlation
.50 to .70 (-.50 to -.70)	Moderate positive (negative) correlation
.30 to .50 (-.30 to -. 50)	Low positive (negative) correlation
.00 to .30 (.00 to -.30)	Negligible correlation

3.10.4 Linear Regression Analysis

Linear regression is the most fundamental sort of statistical modelling, and it's used to show how a dependent (outcome) variable interacts with an independent (predictor) variable. The regression model describes the connection between variables by linking lines to the observed data. In a regression study, the correlation

coefficient (R) represents the link or correlation between an independent and a dependent variable. R-Squared is a statistical measure of appropriateness that shows how much variance in the dependent variable can be explained by the independent variable. R-Squared only works as intended in a simple linear regression model with one explanatory variable, but it does not operate in adjusted multiple regressions with multiple independent variables.

The t-test is a statistical comparison of two groups' means. It's commonly employed in hypothesis testing to evaluate if a technique or treatment has an effect on the population of interest or if the two groups differ. The t-test entails a single population for which the researcher can perform a paired t-test, as well as two samples. Samples from two different people are used in a t-test. The F-test for linear regression, on the other hand, assesses if any of the independent variables in a multiple linear regression model are significant.

Multiple linear regression can predict the result of a response variable by combining multiple explanatory variables and estimating the link between two or more independent variables and one dependent variable. In addition, this regression models a linear relationship between the illumination (independent) and response variables (dependent). When a researcher wishes to discover the amount of a link between two independent variables and one dependent variable, multiple linear regression might be used. For example, the effectiveness of graduate marketability depends on message content, job matching, and job specialty. Rebecca Bevans (2020) also presents a formula for performing multiple regression.

$y = \beta 0 + \beta 1X1 + \ldots + \beta nXn + \varepsilon$

y = the predicted value of dependent variable

$\beta 0$ = y-intercept (the value of y when all other parameters are set to 0)

$\beta 1X1$ = regression coefficient ($\beta 1$) of the first independent variable ($X1$) or the effect that increase the value of the independent variable has on the predicted y value)

… = do the same for however many independent variables researcher is testing

βnXn = regression coefficient of the last independent variable

e = model error or how much variation there is in our estimate of y.

3.11 Summary

In conclusion, research design and strategy are critical since they can ensure the success of this study. Quantitative data is also used in this study, with researchers choosing survey methods and secondary data to collect data or resources for their studies. Furthermore, one of the distinctive characteristics of descriptive research is the ability to analyse both quantitative and qualitative research methodologies. As a result, while performing descriptive research, researchers might employ a range of strategies to improve the study process. As data for this study, researchers will collect samples employees from Melaka that who worked in offices. The data from the questionnaire will be examined and interpreted using a variety of techniques, including descriptive statistics, reliability, Pearson Correlation, and linear regression.

CHAPTER 4

RESULT AND DISCUSSION

4.0 Introduction

In chapter 4, the researcher needs to analyse the finding of the study. The questionnaire distributed on 348 towards target respondent to investigate the impact of Digital Office towards office workers based on characteristic of potential respondents. Unfortunately, only 253 respondents survey can be collected.

According to chapter 3, the pilot test must be collected first to know the questionnaire could be used for real data collection. By that, researcher has using pilot test to know if the questionnaire that been distributed can be used for data collection. The data collection including the pilot test has taken 5 weeks to complete. The researcher aim is to determine if independent variable and dependent variable to have a relationship. The questionnaire is divided into two parts where the first part contains a demographic of respondent, and second part are contained of independent and dependent variables.

The researcher is using Statistical Software Package for Social Science (SPSS) to analyse the pilot test data and real data collection set. This software enables researchers to assess and measure data, create tables, analyse complex statistics, and identify patterns in distributions, descriptive statistics, and tabular reports. According to Arifa Rahman *et.al,* (2021), SPSS include data management and data documentation. SPSS is a powerful and user-friendly software package for all sorts of statistical analysis of data where it requires defining a set of variables and further create cases by suitable input of data within these variables. A dependent variable, on the other hand, is an effect whose value depends on changes in the independent variable. Researchers may simply interpret the data with the aid of statistical information provided using SPPS.

4.1 Respondent Profile Information

In questionnaire, there has 3 sections where indicates Section A, B, and C. The Section A indicates demographic factor meanwhile in Section B indicates Independent Variables and Section C indicates Dependent variables. The respondent profile information been collected in section A.

With a total of 348 questionnaire that been distributed, researcher accomplish to collect 253 surveys return from respondents completely. Target respondent have been asked to answer question about demographic factor of respondent where respondents gave information about respondent's profile information such as gender, age, position in organisation, years of experience and if employees ever work from home method, how internet, IT device, software, cloud services and digital training could help them in implementing digital office as culture in a company.

Table 4 presents the descriptive data of demographic respondents which is consists of items on gender, age, position in organization, years of experience and yes and no answer for question 'if employees ever work from home method'. Table 4 present the descriptive data of demographic respondent sample.

Table 4: Descriptive data of Demographic Respondent Sample.

(Source from SPSS output).

Items		Frequency	%
Gender	Male	132	52.2
	Female	121	47.8
	Total	**253**	**100.0**
Age	21 – 29	103	40.7
	30 – 39	95	37.5
	40 – 49	30	11.9
	50 – 59	25	9.9
	Total	**253**	**100.0**
Position in Office	Accountant	48	19.0
	Data Department	32	12.6
	Human Resources Department	23	9.1
	Leader	35	13.8
	Manager	25	9.9
	Marketing Department	23	9.1
	R&D Department	24	9.5
	Supervisor	42	16.6
	Technician	1	0.4
	Total	**253**	**100.0**
Year of experience	Below 5 years	99	39.1
	5 to 10 years	105	41.5
	10 years above	49	19.4
	Total	**253**	**100.0**
If employees ever work from home method	Yes	240	94.9
	No	13	5.1
	Total	**253**	**100.0**

The male respondents were 132 (52.2%) and female respondents were (47.8%) over 253 total respondents. Most of respondent are belong in group age of 21-29 years old with frequency of 103 people (40.7%), age of 30-39 years old at frequency 95 people (37.5%) and 40-49 years old at frequency of 30 people (11.9%) and the rest were 25 peoples in range of 50-59 years old with 9.9% of total populations.

4.2 Descriptive Analysis

4.2.1 Position In Office.

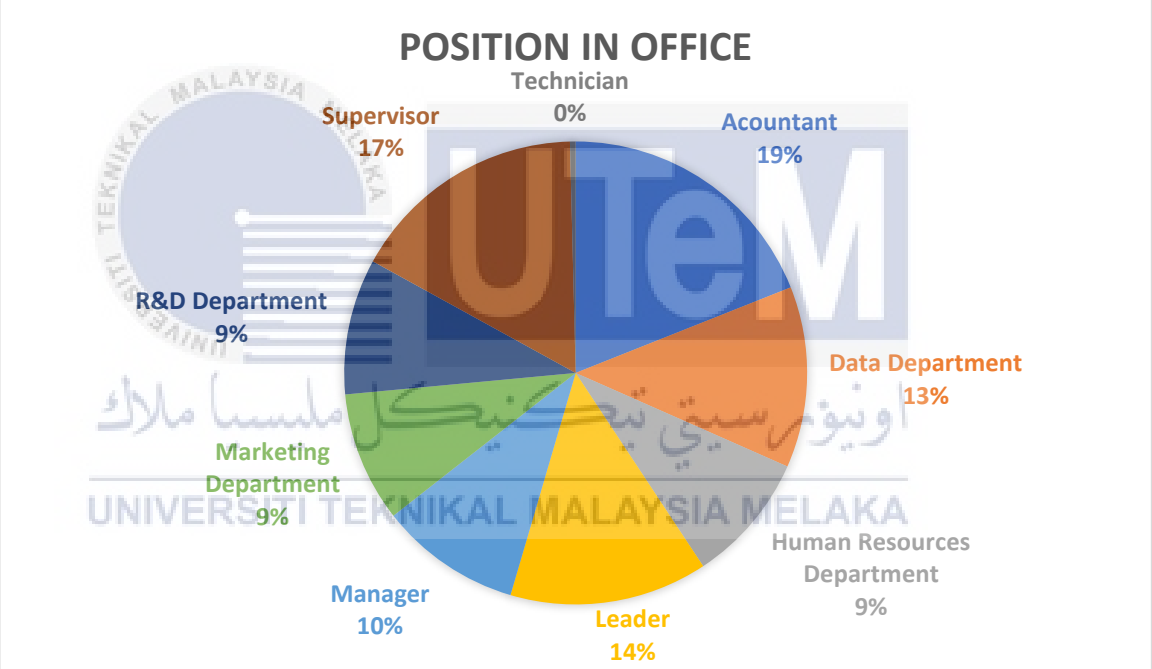

Figure 3: Position in Office

Not only that, respondent that belong into group position in office are based on descriptive above which is show that a frequency that belong into Accountant 48 people (19%), Data Department 32 people (12.6%), Human Resources Department of 23 people (9.1%), Leader of 35 people (13.8%), Manager of 25 people (9.9%), Marketing Department of 23 people (9.1%), R&D Department of 24 people (9.5%), Supervisor of 42 people (16.6%) and Technician of 1 person (0.4%).

4.2.2 Experience in Management Office.

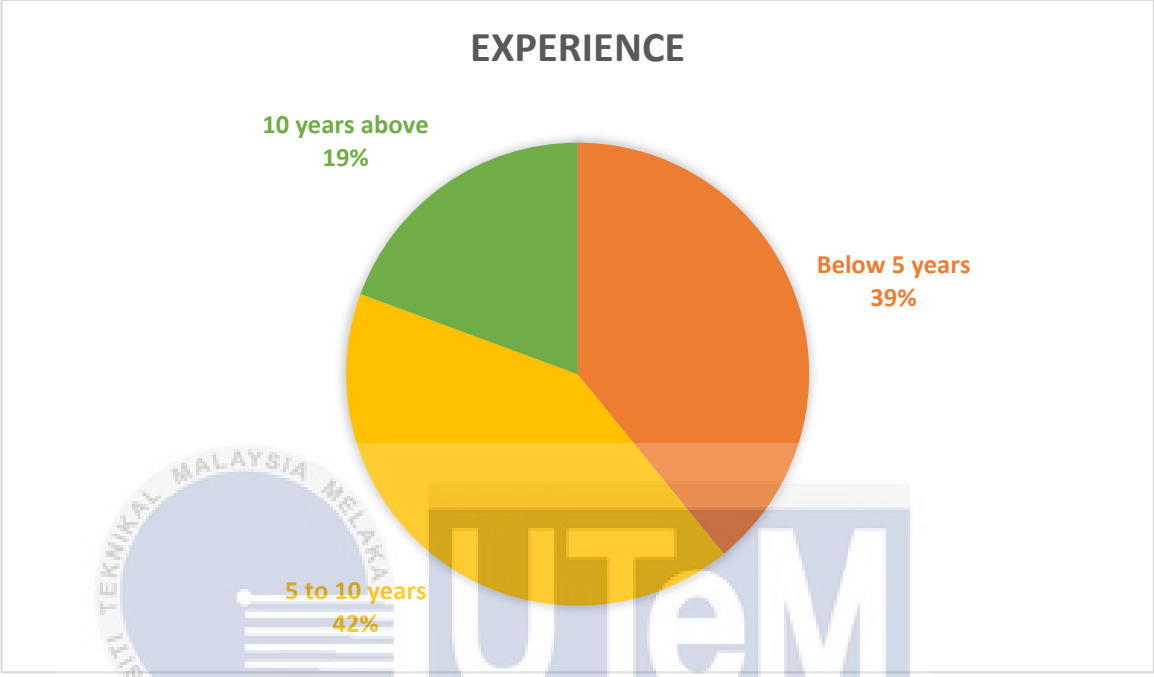

Figure 4: Experience in Management Office

Respondents also been grouped in years of experience in office management which is there has 3 groups. The group is 5 years below where total respondent experience of 5 years below frequency is 99 people (39.1%). The frequency of group of 5 to 10 years of experience is 105 people with 41.5% of total respondents. And the last group which consist experience of 10 years above in office management frequency is 49 people where indicates of 19.4% of total respondents.

4.2.3 Ever company or management use remote work or work from home method to operate?

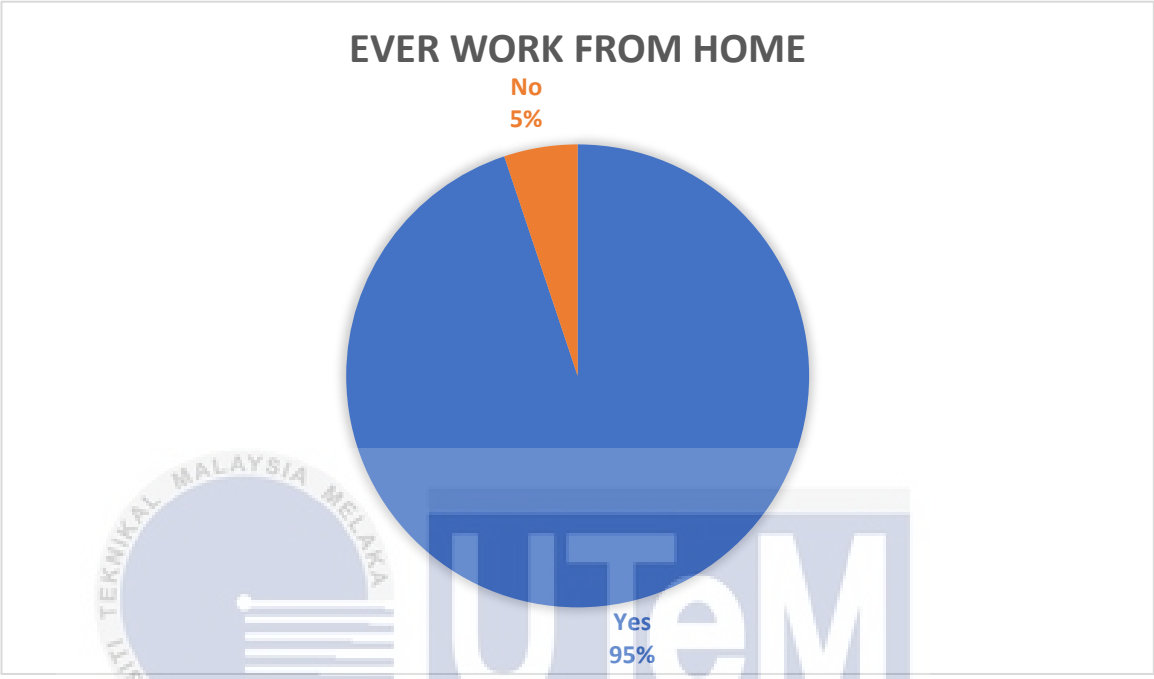

Figure 5: Ever company or management use remote work or work from home method to operate?

The last demographic respondent's questionnaire is 'if employees ever work from home' where the question is based on yes or no answer. From table above, we can see that total respondents that not agreed with the statement are answer 'No' are around 13 people where consist of 5.1% of total respondent towards the questions. And the balance of it was the respondent that answer 'Yes' is around 240 people where consist of 94.9% of total respondents.

4.3 Result Analysis.

4.3.1 Pilot Test Result.

Pilot test is method that use by researcher to find out the reliability of questionnaire before distributed into respondent. The researcher uses sample of 30 respondents as pilot test study. The result of pilot test study will determine if the questionnaire will be updated to have a better understanding or reliability between independent variables and dependent variables or no need and continue the real data collection. Table 5 present the case summary where it reveals that 30 respondents have a valid data and all data that been processed without gaps.

Table 5: Present the case summary

(Source from SPSS output)

		N	%
Cases	**Valid**	30	100.0
	Exclude[a]	0	.0
	Total	**30**	**100.0**

Cronbach Alpha is a measure of the dependability of pilot test outcomes. According to Douglass and Thomas (2014) where Cronbach's alpha reliability describes the reliability of a sum (or average) of q measurements where is referred to as a measure of "internal consistency" reliability. It said that Cronbach's Alpha quantifies the level of agreement on a standardized 0 to 1 scale. Higher values indicate higher agreement between items. The Cronbach's Alpha that below than 0.6 are considered as unacceptable where it below 0.6 is signifies the questions are not valid. Meanwhile the value on 0.7 and above define that questions are valid and acceptable.

The pilot test is tested 29 questions and the value for the Cronbach's Alpha for independent variables (IV) is IV 1 (Internet) is 0.849 with 4 items, IV 2 (IT Device) is 0.845 with 3 items, IV 3 (Software) is 0.900 with 4 items, IV 4 (Cloud Services) is 0.911 with 4 items, and IV 5 (Digital Training) is 0.838 with 5 items. Meanwhile the

dependent variables which is transformation into digital office where the Cronbach's Alpha is 0.723 with 9 items.

According to pilot test above, the Cronbach's Alpha for pilot test has been discussed in the table 6. Where the value of Cronbach's Alpha for each independent variables is mostly around 0.8 to 0.9 where the scale for internal consistency for Internet (0.849), IT Device (0.845) and Digital Training (0.838) are in good meanwhile independent variables for Software (0.900) and Cloud Services (0.911) is considered as excellent. The Cronbach's Alpha for dependent variables is on 0.723, where the transformation into digital office internal consistency is acceptable. By the result of SPSS for pilot study, researcher can conclude that the questionnaire is acceptable to distribute towards potential respondent based on scope researcher.

Table 6: Pilot Test Reliability Statistic

(Source from SPSS)

Variables	Cronbach alpha	No of items
Internet	0.849	4
IT Device	0.845	3
Software	0.900	4
Cloud Services	0.911	4
Digital Training	0.838	5
Transformation Into Digital Office	0.723	9

4.3.2 Reliability Analysis.

In the reliability analysis, researcher will show the case processing summary by using total of 253 respondents to determine whether the questionnaires reliabilities are still valid for this research purposes.

Table 7: Case Processing Summary

(Source from SPSS output)

Case Processing Summary			
		N	%
Cases	Valid	253	100.0
	Exclude[a]	0	.0
	Total	253	100.0
a. Listwise deletion based on all variables in the procedure.			

Meanwhile in table 8, researcher will show the Cronbach's Alpha for the five (5) items. The first one is Internet with 0.700 which is acceptable. Second, the internal consistency for IT Devices is 0.720 where it is acceptable also. The third internal consistency for independent variables is Software where the Cronbach's Alpha for IV 3 is 0.764 and it is acceptable. The fourth IV is 0.698 where the internal consistency are labelled as questionable. And the last IV is Digital Training with 0.762 and the internal consistency are labelled as acceptable. Internal consistency for dependent variables which is Transformation Into Digital Office is 0.839 where it is labelled as good.

Table 8: Cronbach' Alpha of respondent

(Source from SPSS output)

Variables	Cronbach Alpha	No of items
Internet	0.700	4
IT Device	0.720	3
Software	0.764	4
Cloud Services	0.698	4
Digital Training	0.762	5
Transformation Into Digital Office	0.839	9

4.3.3 Correlation Analysis

The function of correlation analysis is to investigates the relationship of variables or to manipulate any variables. Correlation in statistics is a predicted relationship between two variables that can be used to determine the nature, direction, and intensity of the correlation between two elements. (Cash & Akash, 2020). The table 9, show the result of correlation test between the variables.

Table 9 explains the result of the study on the relationship between solution of physical office through the transformation into digital office. Pearson correlations analysis for Internet is r = 0.690. The value of r is to indicate a correlation value where it refers to Pearson correlation coefficient (r) strength table.

Table 9: Correlation results.

(Source from SPSS output)

Correlations							
		INTERNET	IT DEVICES	SOFTWARE	CLOUD SERVICES	DIGITAL TRAINING	TRANSFORMATION INTO DIGITAL OFFICE
INTERNET	Pearson Correlation	1	.723**	.729**	.720**	.745**	.690**
	Sig. (2-tailed)		<.001	<.001	<.001	<.001	<.001
	N	253	253	253	253	253	253
IT DEVICES	Pearson Correlation	.723**	1	.729**	.705**	.776**	.730**
	Sig. (2-tailed)	<.001		<.001	<.001	<.001	<.001
	N	253	253	253	253	253	253
SOFTWARE	Pearson Correlation	.729**	.729**	1	.730**	.776**	.699**
	Sig. (2-tailed)	<.001	<.001		<.001	<.001	<.001
	N	253	253	253	253	253	253
CLOUD SERVICES	Pearson Correlation	.720**	.705**	.730**	1	.742**	.681**
	Sig. (2-tailed)	<.001	<.001	<.001		<.001	<.001
	N	253	253	253	253	253	253
DIGITAL TRAINING	Pearson Correlation	.745**	.776**	.776**	.742**	1	.738**
	Sig. (2-tailed)	<.001	<.001	<.001	<.001		<.001
	N	253	253	253	253	253	253
TRANSFORMATION INTO DIGITAL OFFICE	Pearson Correlation	.690**	.730**	.699**	.681**	.738**	1
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	<.001	
	N	253	253	253	253	253	253
**. Correlation is significant at the 0.01 level (2-tailed).							

Table 10: Pearson Correlation Coefficient (r) strength value.
(Source from Journal of Clinical Medicine 8 (3): 337)

Strength of Correlation	Range of Absolute Correlation Coefficient (r)
Very Strong	0.8 – 1.0
Strong	0.6 – 0.79
Moderate	0.4 – 0.59
Weak	0.2 – 0.39
Very weak	0.00 – 0.19

According to Table 10., the value of Pearson correlation of Internet shows a strong correlation. And for the significant values, p = 0.01 is lower than set of significant level of 0.05. When a P-value is less than a level of significance, researcher can reject null hypothesis because it has strong evidence (Smirati Sharma, 2017). As a result, there is a strong link between the internet and the transformation to a digital office. As a result, hypothesis 1 is supported.

For next independent variable (IV) which is IT Devices, it shows that the Pearson correlation analysis value for r = 0.730. According to the Pearson Correlation table, its state that there has strong correlation relationship between these two variables. For the significant value, the p = 0.01. Which is lower than significant level of 5%. Because of that, it shows there has a significant relationship between the IV and DV. As a result, hypothesis 2 is supported.

Next, the Pearson correlation for Software show that the value for r is r = 0.699. From the table above, we can see that there has strong correlation between software and transformation into digital office. The significant value for this IV is p = 0.01 where it low than significant level of 5%. By that, we can see that the relationship between IV and DV is significant. With this, it can show that the hypothesis 3 is supported.

For the IV 4 which is Cloud Services, the Pearson correlation analysis value is r = 0.681. From the table of Pearson Correlation, its states that there has strong correlation relationship between IV and DV. The significant level for this IV is p = 0.01 where it lower than significant level of 5%. Because of that, we can see that relationship between IV and DV is significant. By this, we can see that the hypothesis 4 is supported.

The last IV is Digital Training where the Pearson correlation show that the r value is r = 0.738. According to the table 8, it states that there has strong correlation relationship between IV and DV. The significant level for this IV is p = 0.01, which is lower than 5% significant level. By that, we can see relationship between IV and DV is significant and the hypothesis 5 is labelled as supported.

4.3.4 Regression Analysis.

Regression analysis is a set of statistical techniques used to make inferences about correlations between connected variables (Michael & Hokwon, 2010). Regression analysis is used to discover the correlation between two or more variables that have a cause-effect relationship and to create predictions for the issue utilising the relationship (G.Kaya & N. Guler, 2013). To explain the transformation into digital office that been influence by Internet, IT Devices, Software, Cloud Services and Digital Training, the multiple regression been used to estimate all the independent variables toward dependent variables.

4.3.4.1 R-square

The value for determination or in other word is R^2 that show in table 11 is 0.639. As result, the transformation into digital office which is internet, IT devices, software, cloud services and digital training explain around 63.9% of the solution of physical office. By that, we can see that $R^2 = 0.639$ for solution of physical office has strong variance.

Table 11: Multiple Regression Analysis Between Transformation Into Digital Office and Internet, IT Devices, Software, Cloud Services, and Digital Training. (R-Square)
(Source from SPSS)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.799[a]	0.639	0.631	0.32539
a. Predictors: (Constant), MEANIV5, MEANIV4, MEANIV1, MEANIV2, MEANIV3				

4.3.4.2 F-value.

Table 12. show the value of F = 87.342 and the P-value is less than 0.05. By this, the result has significant relationship with transformation into digital office.

Table 12: Multiple Regression Analysis Between Transformation Into Digital Office and Internet, IT Devices, Software, Cloud Services, and Digital Training. (Anova Table)
(Source from SPSS)

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	46.239	5	9.248	87.342	.000[b]
	Residual	26.152	247	0.106		
	Total	72.391	252			
a. Dependent Variable: MEANDV						
b. Predictors: (Constant), MEANIV5, MEANIV4, MEANIV1, MEANIV2, MEANIV3						

4.3.4.3 T-value.

For the value of internet, IT devices, and digital training are significant based on the t-value meanwhile for software and cloud services is not significant because has exceed more than 5% of significant level based on data that been compute in table 13.

Table 13 indicates that the beta coefficient is positive, the interpretation for every 1 unit increase in the predictor variables and the result variable will also increase by the beta coefficient value. As a result, the IT devices have a highest t-value.

Table 13: Multiple Regression Analysis Between Transformation Into Digital Office and Internet, IT Devices, Software, Cloud Services, and Digital Training. (Source from SPSS)

Coefficients[a]						
Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	(Constant)	0.688	0.189		3.636	<.001
	INTERNET	0.123	0.058	0.138	2.105	0.036
	IT DEVICES	0.225	0.058	0.262	3.901	<.001
	SOFTWARE	0.122	0.064	0.132	1.921	0.056
	CLOUD SERVICES	0.131	0.068	0.125	1.939	0.054
	DIGITAL TRAINING	0.232	0.072	0.238	3.216	0.001
a. Dependent Variable: MEANDV						

4.3.5 Hypothesis Testing

A statistical hypothesis test is a statistical inference procedure that is used to discover a potential conclusion from two diverse, and likely contradictory, hypotheses. A null hypothesis and an alternative hypothesis for the probability distribution of the data are proposed in a statistical hypothesis test. If the produced sample has a probability of occurrence smaller than the pre-specified threshold probability, the significance level, and the null hypothesis is true, the difference between the sample and the null hypothesis is judged statistically significant. The hypothesis test may then result in the null hypothesis being rejected and the alternate hypothesis being accepted (K.Abas & M.Sarwar, 2021). Table 14 below shows the result of hypothesis testing.

H1: There has a significant relationship between Internet and employees' connectivity through implementation of digital office transformation where the p value is lower than 5% significant level, $p < 0.05$ and H1 is supported.

H2: There has a significant relationship between IT Devices through the implementation of the digital office transformation where p value is lower than 5% significant level, $p < 0.05$ and H2 is supported.

Meanwhile in H3: There has a significant relationship between Software as employees' tools through implementing the digital office transformation where the p value is higher than 5% significant level, $p > 0.05$. Thus, H3 are rejected.

Same with H3, H4: There has a significant relationship between Cloud Services and employees' accessibility through implementing digital office transformation where the p value is higher than 5% significant level, $p > 0.05$. And because of that, H4 was rejected.

For the last hypothesis is H5: There has a significant relationship between Digital Training and employees' retentions towards implementing digital office transformation where the p value is lower than 5% significant level, $p < 0.05$ and H5 is supported.

Table 14: Result of Hypothesis Testing

(Source from SPSS output)

Hypothesis	p-value	Support / Not Support
H1: There has a significant relationship between Internet and employees' connectivity through implementation of digital office transformation.	0.036	Support
H2: There has a significant relationship between IT Devices through implementing the digital office transformation.	<0.01	Support
H3: There has a significant relationship between Software as employees' tools through implementing the digital office transformation.	0.056	Not Support
H4: There has a significant relationship between Cloud Services and employees' accessibility through implementing digital office transformation.	0.054	Not Support
H5: There has a significant relationship between Digital Training and employees' retentions towards implementing digital office transformation.	0.01	Support

CHAPTER 5

CONCLUSION

5.1 Introduction.

In this chapter, researcher will summarize all result that researcher gets from output in the Chapter 4 and then to evaluate the hypothesis based on the findings and result from this research. This chapter will address the research questions and examine how the objectives were met. Finally, in this chapter, conclusion and recommendations for future relevant research will be presented.

5.2 Achievement of Research Objectives.

5.2.1 Research Objective 1.

In this research objective 1 where researcher want to examine the effectiveness of digital offices in term of productivity or performance. The indicator for researcher to determine the effectiveness of digital office in term of productivity or performance is based on dependent variables in the questionnaire where it asked about employees' opinion about transformation into digital office. According to SPSS output, Cronbach's Alpha for dependent variables (DV) based on table 8, it shows that the dependent variable which is Transformation Into Digital Office has good indicator of internal consistency which is by 0.839. By that, we can see the majority opinion of employees toward effectiveness digital office in term of productivity and performance are good. Which mean employees accept digital office can increase effectiveness of productivity and performance.

This can be confirmed by Mohsen, *et.al,* (2019) where work in the office has shifted from repetitive activities to knowledge-based, flexible, and adaptive tasks. It has been demonstrated that when employees have access to the relevant information at the right time and work in accordance with productive work habits, they waste much less time and corporate resources. Employees in today's workplace should have a consistent, consumer-like user experience that is completely aligned with how people operate today. Top tier management anticipate that their digital workplace solutions (DWS) will enhance employee engagement, allow employees to achieve business results faster, and empower people to save costs and increase efficiency. Employees increasingly expect a digitally driven work experience that is personalized, real-time, mobile-enabled, collaborative, and takes advantage of consumer-oriented styles and technologies.

5.2.2 Research Objective 2.

In this research objective 2, researcher want to analyse the descriptive analysis on life balance. The indicator that researcher used is based on question 5 of the dependent variables which is Transformation Into Digital Office.

The question 5 in dependent variables which is workload and working time reduce with same productivity could enhance work life balance employees. Based on 253 respondents who answer the question, total that agreed upon the question is 97 respondents and 87 respondent that answered totally agreed. And around 60 respondents that answered neutral. For disagreed answer, there has 8 respondents that choose the answer and 1 respondent choose totally disagreed with question 5. The highest chosen answer was agreed where it cover 38.6% of entire chart pie. And the lowest chosen answer was totally disagreed where it covers 0.4% of entire chart pie.

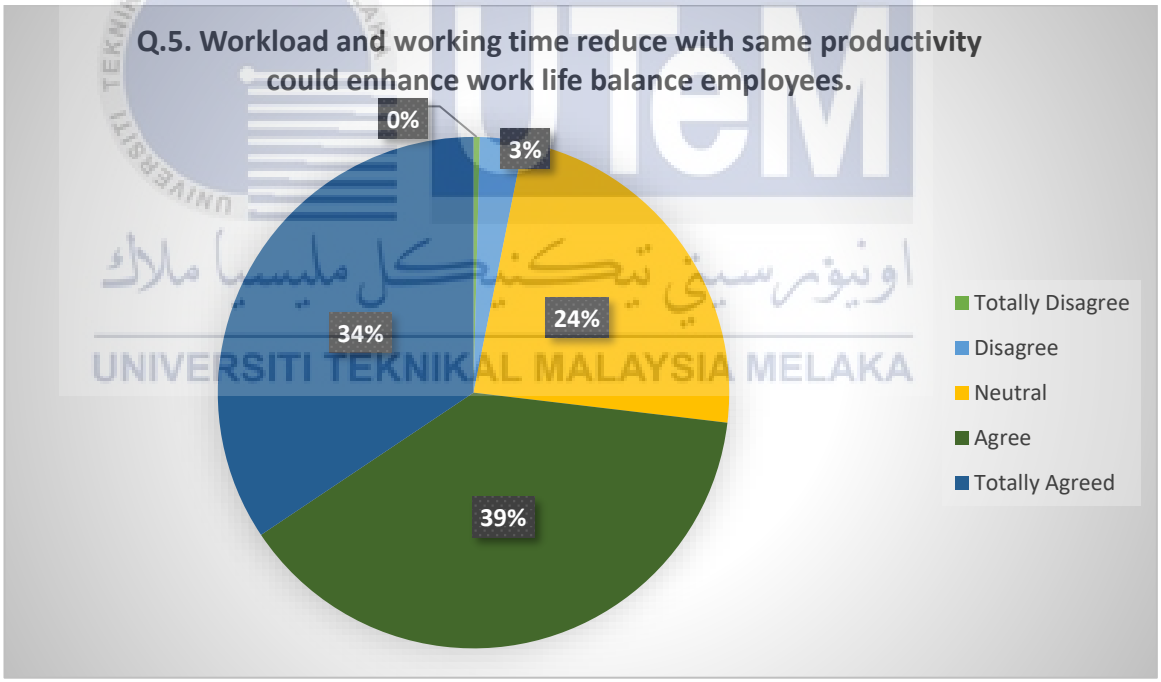

Figure 6: Question 5 of dependent variables.

Based on survey that been answered by respondents, we can see that majority of respondents are agreed with questions number 5 where digital office could help reducing workload and time with maintaining the productivity can enhance the work life balance of employees.

There is rising fear that as work hours increase, combined with new pressures and responsibilities, there will be very little opportunity for meaningful leisure outside of the workplace. Work-life balance is the result of a positive approach from both the person and the business to recognising the value of a balanced and satisfying work life as well as life outside work limits. According to H.R Hooja (2018), Employees with better work-life balance in organisations that prioritize efficiency and effectiveness can contribute more substantially to organisational growth and success.

It also because we have pass pandemic Covid-19 era where majority of employees are using work from home method to keep organisation and business running. This can be proved by chart pie from demographic respondents in figure below.

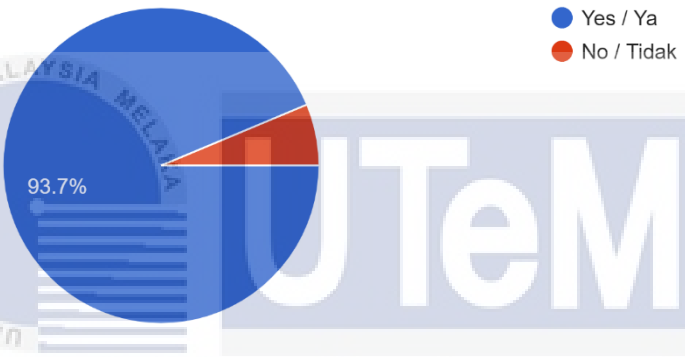

Figure 7: Demographic respondent.

The figure show that majority of respondent that covers 93.7% of chart pie (238 respondents) that answer yes for question ever company or management use remote work or work from home method to operate meanwhile 16 respondents answer no for the question. Because of that, respondents understand and could relate that work from home method could improve their work life-balance. By that, we can say that digital office implementation could help in ease employees working and reduce workload and time to settle down. It is a two-way benefit towards employees and also organisations to keep productivity and improve employee's motivation.

5.2.3 Research Objective 3.

In this research objective 3, researcher would like to ideate the dominant transformation from traditional office variables into digital office that can impact the role of management sector. Based on SPSS output on coefficient table above, researcher focus on T-value where it points out the most dominant independent variables that influence the impact on management sector.

The standardised beta coefficient compares the strength of each independent variable's influence on the dependent variable. As such, the regression equation is as follows:

$$\hat{Y} = b_0 + b_1X_1 + b_2X_2 + \ldots + b_pX_p ,$$

Where $\hat{Y}$ is the predicted or expected value of the dependent variable, X1 through Xp are p distinct independent or predictor variables, b0 is the value of Y when all of the independent variables (X1 through Xp) are equal to zero, and b1 through bp are the estimated regression coefficients. In SPSS, the regression equation is be written as transformation into digital office = 0.688 + 0.123 (Internet) + 0.225 (IT Devices) + 0.122 (Software) + 0.131 (Cloud Services) + 0.232 (Digital Training).

Based on coefficient table on table 13, the T-value for the most dominant independent variables is IT Devices where it has point of 3.901, highest value in the t-value with significance of 0.001. The significance value is lower than significance level of 5% or 0.05 are indicates that the independent variables are accepted.

Meanwhile for the least independent variables that influence this research is Internet with 2.105 of t-value with 0.036 of significance. With the significance that lower than significance level of 5%, it indicates that the independent variables are accepted.

This conclude that the most dominant transformation from office variables that impact the role of management sector is the IT Devices. IT devices is a medium of information system where it the type of work that human using machine to do work which is capturing, transmitting, storing, retrieving, manipulating and displaying information that human brain isn’t suited well such as handling large amount of data, performing complex calculations and controlling many simultaneous processes

(Yekini Nureni, 2014). Because of that, IT Devices helps employees to implement digital office in management to do task that been said above more easily and be a most dominant towards transformation into digital office.

5.2.4 Research Objective 4.

In this research objective 4, researcher would like to examine the correlation between independent variables and dependent variables. Table 9 show the result of correlation between transformation into digital office variables. We can see the correlation between variables are described strongly and the pattern of relationship was positive. By that, we can see roughly that the correlation for this research was relevant.

Transformation into digital office has correlation between Internet, IT Devices, Software, Cloud Services, and Digital Training. From the SPSS output shown that, the R-values for each independent variable are = 0.690 (Internet), = 0.730 (IT Devices), = 0.699 (Software), = 0.681 (Cloud Services) and = 0.738 (Digital Training).

For independent variable 1 which is Internet, it has strong correlation with other independent variables. The correlation between Internet and IT Devices, it shows that the Pearson value around 0.723. The correlation between Internet and Software, it shows the Pearson value is 0.729. The correlation between Internet and Cloud Services, it shows the Pearson value is 0.720. The correlation between Internet and Digital Training, it shows the Pearson value is 0.745.

For independent variable 2 which is IT Devices, the table shows that correlation between each independent variable is strong. For correlation between IT Devices and Internet, it shows that the Pearson value is 0.723. For correlation between IT Devices and Software, it shows that the Pearson value is 0.729. For correlation between IT Devices and Cloud Services, it shows that the Pearson value is 0.705. For correlation between IT Devices and Digital Training, it shows that the Pearson value is 0.776.

For independent variable 3 which is Software, the table shows that the correlation between each independent variable is strong. For correlation between Software and

Internet, it shows that the Pearson value is 0.729. For the correlation between Software and IT Devices, it shows that the Pearson value is 0.729. For the correlation between Software and Cloud Services, it shows that the Pearson value is 0.730. For the correlation between Software and Digital Training, it shows that the Pearson value is 0.776.

For independent variable 4 which is Cloud Services, the table show that the correlation between each independent variable is strong. For correlation between Cloud Services and Internet, it shows that the Pearson value is 0.720. For the correlation between Cloud Services and IT Devices, it shows that the Pearson value is 0.705. For the correlation between Cloud Services and Software, it shows that the Pearson value is 0.730. For the correlation between Cloud Services and Digital Training, it shows that the Pearson value is 0.742.

Lastly, for independent variable 5 which is Digital Training, the table show that the correlation between each independent variable is strong. For correlation between Digital Training and Internet, it shows that the Pearson value is 0.745. For the correlation between Digital Training and IT Devices, it shows that the Pearson value is 0.776. For the correlation between Digital Training and Software, it shows that the Pearson value is 0.776. For the correlation between Digital Training and Cloud Services, it shows that the Pearson value is 0.742.

By having each independent variables that has strong relationship in between, researcher can conclude that there has high significant of each independent variable. By that, each independent variable has suitable items that could be relate to each other and respondent are totally understand what researcher want to achieve from this study.

5.3 Analysis Research Hypothesis.

In this study model, researcher include 5 hypotheses according to the variables. The data analysis of research hypotheses is retrieved from table 14, where it shows the significant of each hypothesis through the significance level. In H1: There has a significant relationship between Internet and employees' connectivity through

implementation of digital office transformation with the p-value = 0.036, following H2: There has a significant relationship between IT Devices through implementing the digital office transformation with the p-value = 0.001, following H3: There has a significant relationship between Software as employees' tools through implementing the digital office transformation with p-value = 0.056, following H4: There has a significant relationship between Cloud Services and employees' accessibility through implementing digital office transformation with p-value = 0.054, and lastly H5: There has a significant relationship between Digital Training and employees' retentions towards implementing digital office transformation with p-value = 0.01.

Firstly, the result indicate that Internet has a significant relationship between employees' connectivity through the implementation of digital office transformation (H1). This is because in order to implement the digital office, there needs connectivity medium and the medium is internet where it can connect between employees with cloud storage to retrieve, manipulate and sent data from employees to other employees or to data storage. If there has no internet in the first place, employees and organisation cannot implement the digital office because the main item for digital implementation is missing (internet). According to descriptive analysis on independent variables 1, it shows that 60.1% of respondent agreed for question about security of IP Address, 83% of respondents agreed about internet speed, 64% of respondents agreed about needed sufficient quota internet and 89.7% of respondents are agreed with internet coverage are crucial for finishing work. By this pattern, researcher can conclude that majority of respondents are agreed with choosing internet for transformation into digital office. Therefore, the hypothesis for H1: There has a significant relationship between Internet and employees' connectivity through implementation of digital office transformation is accepted.

Second, the result indicates that there has a significant relationship between IT Devices through implementing the digital office transformation (H2). The main purpose of IT Devices as a tool to help employees to communicate in digital world. By retrieving, manipulating, and sending data, the use of IT Devices helps employees to do work that hard for human brain to do such as handle large amount of data where the IT Devices could do that without problem because it has database that can be retrieve from storage. Not like human brain that always forget about little things or not important or raw data that brain cannot find the relevancy. Because of that, the

use of IT Devices is big help for human to be productive, help in managing the organisation and the businesses, and also help employees and top management to make decision based on data that retrieve from their customer to deliver a better solution and services towards their employees (services after sales). Therefore, there has a significant relationship between IT Devices through implementing digital office transformation.

Third, the result indicates that there had no significant relationship between Software as employees' tools through implementing the digital transformation (H3). According to Regionel Patrick (2014), the null hypothesis is stated in such a way that there is no difference between the two variables. Which mean, the software is not affecting employees comprehensively because there has a ton of software system that been marketed in web. If the system is not reliable towards the organisation, there has substitute software that organisation could use with a same function to help employees to do their work in order to implementing digital office transformation. Besides, without software, employees also can do the work, but it will be hard because there has no assist from technology that help human do large workload. Therefore, there are null hypothesis which is no significant relationship between Software as employees' tools through implementing the digital transformation (H3).

Fourth, the result indicates that there has no significant relationship between Cloud Services and employees' accessibility through implementing digital office transformation (H4). This is same situation like in hypothesis 3 where the use of cloud services can be replaced with older technology such as hard drive and it can be use with or without internet involvement. In this hypothesis analysis, we can see that cloud services are not affecting employees comprehensively for the implementation into digital office because cloud services have substitute which is offline database where employees can access anywhere at any time without need an internet. Besides, the cloud services still new in market and usually new technology hard to be implemented because new things need time for employees to get used to it. Therefore, there are null hypothesis where Cloud Services has no significant relationship with employees' accessibility through implementing digital office transformation (H4).

And the last one is hypothesis 5 which is there has a significant relationship between Digital Training and employees' retention towards implementing digital office transformation. According to Sergey Golubenko (2018), employees training is required to be less-consuming, preferably deliver on the job in small task, remain efficient and relevant to the current job responsibilities of a particular employee. This is precision with digital training where employees can improve their knowledge and skills without hindering business continuity and decreasing productivity. By implementing digital training, it helps employees to learn new dimension of office management where it focussed on how-to-do with proper training from instructor and mentor rather than figuring out themselves. Digital training includes the mix of self-learning, continuous learning and microlearning about management office, helps employees to improve skills and talent in their career, increase productivity of company with new idea than can be generate from digital training to make organisation grow stronger. Because of that, the Digital Training can be a core towards digital office transformation where it can help employee's growth in career. Therefore, there has significant relationship between Digital Training with employees' retention towards implementing digital office transformation.

5.4 Research Contribution.

This research investigates the Solution of Physical Office Through the Transformation Into Digital Office among employees who worked at Melaka. By doing research about digital office, this study is expected to introduce important guideline for company or organisation that want to move from conventional office into digital office by referencing the independent variables that submitted by the researcher to applying in the organisation. This study also introduces to new entrepreneurs to enter the world of digitalization for business purposes where in this research tell readers about what things to focus on into digital office. In addition, this research also can open employees' eyes towards benefits of implementing digital office in the organisation, make changes of conventional office that can ease employee's effort to achieve same or higher production of company.

Lastly, this study also can give example to countries affected by the Covid 19 pandemic where employees that related to office management was unable to work due to the movement control order (MCO) that were impose by the government to curb the Covid 19 pandemic. According to the Department of Statistics Malaysia Official Labour Force Survey Report Malaysia in 2021, unemployment increased as the pandemic surrounding the country for a longer amount of time than the previous year, and this condition was also met in the global labour market. Because of this, the application of digital office can be a big help in maintaining the number of employees from been laid off as a result of the company not being able to pay salaries to employees because the company is unable to operate normally. By this, we can keep the economy runs in countries even movement control order has taken the place.

5.5 Recommendation of Further Research.

Researcher have made some recommendation for further study for purpose on increase the research quality under the relevant topic on digital office. Other researcher could focus on digital document management where it assists organisation to help, organize, and access document electronically. Researcher could discuss more deeply about digital document management that could enhance this research topic. Besides that, other recommendation that researcher can take for further research is mobile device management whereas more employees use their own devices to access work-related information. It is important to have a system in place to manage and secure the devices. This can include setting up policies for device use and implementing mobile devices management software to ease employees in the future. Area of this research also can be grow by do research on cloud computing that can be used for remote working by the access through the internet rather than on local servers or personal devices where it could enhance organisation flexibility and agile.

5.6 Conclusions.

In summary, this research aims to know and understand about solution of physical office through the transformation into digital office. The analysis of finding obtains from 253 respondents around Melaka and researcher also used Statistical Package for the Social Science (SPSS) to conduct research analysis in this study. From the finding and discussion, researcher found out that Internet, IT Devices, and Digital Training data are positively associate with transformation into digital office. Meanwhile Software and Cloud Services has the strong relationship with other independent variables but there is no significance towards transformation into digital office. Researcher includes 5 hypotheses among the variable which is H1: There has a significant relationship between Internet and employees' connectivity through implementation of digital office transformation, following H2: There has a significant relationship between IT Devices through implementing the digital office transformation, following H3: There has a significant relationship between Software as employees' tools through implementing the digital office transformation, following H4: There has a significant relationship between Cloud Services and employees' accessibility through implementing digital office transformation, following H5: There has a significant relationship between Digital Training and employees' retentions towards implementing digital office transformation. Hypotheses 1, 2 and 5 are accepted with the p-value is less than 0.05 meanwhile hypotheses 3 and 4 are rejected because has exceed the amount of significance level of 5%,

REFERENCES

Attaran, M., S. A., & Kirkland, D. (2019, January). The need for digital workplace: Increasing workforce productivity in ... Retrieved from https://www.researchgate.net/publication/329844969_The_Need_for_Digital_Workplace_Increasing_Workforce_Productivity_in_the_Information_Age

Bauer, S., Clark, D., & W. (2010, August). Download Pdf | understanding broadband speed measurements – researchgate. Retrieve from https://www.researchgate.net/publication/228280854_Understanding_Broadband_Speed_Measurements

Bevans, R. (2022). Multiple Linear Regression | A Quick Guide (Examples). Retrieved from https://www.scribbr.com/statistics/multiple-linear-regression/

Bhandari, P. (2022). A step-by-step guide to data collection. Retrieved from https://www.scribbr.com/methodology/data-collection/

Bhandari, P. (2022). Questionnaire Design | Methods, Question Types & Examples. Retrieved from https://www.scribbr.com/methodology/questionnaire/

Boyarsky, K. (2022). What Is Office Management? Here's Everything You Need to Know. Retrieved from https://resources.owllabs.com/blog/office-management

Calzon, B. (2022). What Is Data Analysis? Methods, Techniques, Types & How-To. Retrieved from https://www.datapine.com/blog/data-analysis-methods-and-techniques/#data-analysis-definition

Cascio, W., & Montealegre, R. (2016). How Technology Is Changing Work and Organizations. Retrieve from https://www.researchgate.net/publication/299400943_How_Technology_Is_Changing_Work_and_OrganizationsReferences

Dahiru, T. (2008, June). P-value, a true test of statistical significance? A cautionary note. Retrieved January 11, 2023, from https://www.researchgate.net/publication/265095542_P-value_A_true_test_of_statistical_significance_A_cautionary_note

Department of Statistics Malaysia Official Portal. (2022). from https://www.dosm.gov.my/v1/index.php?r=column/cone&menu_id=TmlOYTJZTEJJZXg5QUZQMUxrRVFKUT09

Flores, R. (2022). What Is a Questionnaire | Types of Questionnaires in Research. Retrieved from https://luc.id/knowledgehub/what-is-a-questionnaire/

Golubenko, S. (2018). Digital transformation of employee training and development. Retrieved from https://www.scnsoft.com/blog/digital-transformation-of-employee-training-development

Golberg, M., & Cho, H. (2010, January). (PDF) introduction to regression analysis – researchgate. Retrieved from https://www.researchgate.net/publication/264700780_Introduction_to_Regression_Analysis

Hooja, H. R. (2018, January). (PDF) work-life balance: An overview - researchgate. Retrieved, from https://www.researchgate.net/publication/348164280_WORK-LIFE_BALANCE_AN_OVERVIEW

J. Black, M., Berard, F., Jepson, A., Newman, W., Saund, E., Socher, G., & J. Taylor, M. (2022). The Digital Office: Overview. *Research Centre Europe*. Retrieved from http://www.csri.utoronto.ca/~jepson/papers/BlackEtAlAAAI1998.pdf

Kapur, R. (2018). Office Management.

Kaushalya, R. Retrieved 16 June 2022, from https://jdgsmahilacollege.files.wordpress.com/2014/01/ch3.pdf

Khan, A., & Mir, M. S. (2021, December). (PDF) hypothesis testing - researchgate. Retrieved from https://www.researchgate.net/publication/357097539_Hypothesis_Testing

Kumar and Yung-Hsiang, (2010). Cloud computing for mobile users: can offloading computation save energy? K. Kumar and L. Yung-Hsiang Computer, 43 (2010), pp. 51-56

K. Yang and X. Jia (2012), Data storage auditing service in cloud computing: challenges, methods, and opportunities. World Wide Web, 15 pp. 409-42

Manuel, R. (2019). 10 Essential Tools to Support Your Digital Transformation. Retrieved from https://www.lumapps.com/solutions/digital-transformation/digital-transformation-tools/

McCombes, S. (2022). An introduction to sampling methods. Retrieved from https://www.scribbr.com/methodology/sampling-methods/

McCombes, S. (2022). How to create a research design. Retrieved from https://www.scribbr.com/methodology/research-design/

Multiple Linear Regression Analysis. (2013, January). Retrieved from https://sphweb.bumc.bu.edu/otlt/MPH-Modules/BS/BS704_Multivariable/BS704_Multivariable7.html

Nassaji, H. (2022). Qualitative and descriptive research: Data type versus data analysis. Retrieved from https://www.researchgate.net/profile/Hossein-Nassaji/publication/276397426_Qualitative_and_descriptive_research_Data_type_versus_data_analysis/links/5700875408ae650a64f80f31/Qualitative-and-descriptive-research-Data-type-versus-data-analysis.pdf

N., S., B., & C. (2021, February). Driving digital competency model towards IR 4.0 in Malaysia - researchgate. Retrieved January 11, 2023, from https://www.researchgate.net/publication/349931833_Driving_Digital_Competency_Model_Towards_IR_40_In_Malaysia

Nureni, Y. (2014, June). (PDF) Information Communication Technology (ICT) [concepts and application]. Retrieved January 11, 2023, from https://www.researchgate.net/publication/297403818_INFORMATION_COMMUNICATION_TECHNOLOGY_ICT_Concepts_and_Application

P. Mell and T. Grance, (2022). The NIST definition of cloud computing (draft), vol. 800, National Institute of Standards and Technology (NIST) Special Publication, United States (2011), p. 145Research Guides: Public Health Research Guide: Primary & Secondary Data Definitions. Retrieved from https://researchguides.ben.edu/c.php?g=282050&p=4036581

Philip M. Sedgwick. (2014, July). (PDF) understanding P values - researchgate. Retrieved from https://www.researchgate.net/publication/263863149_Understanding_P_values

Queensland, B. (2022). Benefits of cloud computing | Business Queensland. Retrieved from https://www.business.qld.gov.au/running-business/digital-business/digital-risk-compliance/cloud-computing/benefits

Rosencrance, L. (2021). What is Software? Definition, Types and Examples. Retrieved from https://www.techtarget.com/searchapparchitecture/definition/software

S.B, J. (2019, July 11). Why aren't cloud services living up to expectations? Retrieved from https://techhq.com/2019/07/why-arent-cloud-services-living-up-to-expectations/

Sarstedt, M., & Mooi, E. (2014, March). (PDF) regression analysis - researchgate. Retrieved January 11, 2023, from https://www.researchgate.net/publication/300403700_Regression_Analysis

Seddigh, A. (2015). Office type, performance and well-being.

Sharma, V. (2023, January 06). Impact of internet on business essay. Retrieved January 12, 2023, from https://www.klientsolutech.com/impact-of-internet-on-business-essay/

Smrati Sharma. (2017, November 29). P-value and level of significance explained. Retrieved January 12, 2023, from https://www.datasciencecentral.com/p-value-and-level-of-significance-explained/

Software. *Cambridge Dictionary*. Retrieved from https://dictionary.cambridge.org/dictionary/english/software

Spaceist, S. (2021). Differences Between Traditional & Modern Offices. Retrieved 16 June 2022, from https://www.spaceist.co.uk/blog/differences-between-traditional-modern-offices/

Target, T. (2022). What is the Internet? Definition from WhatIs.com. Retrieved 16 June 2022, from https://www.techtarget.com/whatis/definition/Internet

Teknion, T. (2022). Modern Office. Retrieved from https://www.teknion.com/inspiration/product-design/modern-office-2

Thomas, L. (2022). Cross-Sectional Study | Definitions, Uses & Examples. Retrieved from https://www.scribbr.com/methodology/cross-sectional-study/

Uyanık, G. K., & Güler, N. (2013, December). A study on multiple linear regression analysis - researchgate. Retrieved from https://www.researchgate.net/publication/260015447_A_Study_on_Multiple_Linear_Regression_Analysis/fulltext/53d10d7a0cf2fd75bc5d63f5/A-Study-on-Multiple-Linear-Regression-Analysis.pdf

Wang C, Wang Q, Ren K, Lou WJ, (2010). Privacy-preserving public auditing for data storage security in cloud computing. In: Proceedings IEEE INFOCOM. San Diego, CA; 2010. p. 1–9.

W. Cong, R. Kui, L. Wenjing and L. Jin (2010), Toward publicly auditable secure cloud data storage services Netw IEEE, pp. 19-24.

Wright, M., & So, N. (2022). Pilot Testing Can Improve Your User Research – Widerfunnel. Retrieved from https://www.widerfunnel.com/blog/pilot-testing-user-research/

Zhibin and Dijiang, (2012)

Zhibin Z, Dijiang H. Efficient and secure data storage operations for mobile cloud computing network and service management (CNSM), In: 8th international conference and 2012 workshop on systems virtualiztion management.

APPENDIX A

Gantt Chart PSM 1

Weeks / Activities	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
FYP 1 Briefing	■															
Supervisor distribution		■														
Topic Selection			■	■												
Chapter 1					■	■	■	■	■							
Chapter 2										■	■	■				
Chapter 3												■	■			
Proposal Submission														■		
Preparation															■	
Presentation															■	
Final Proposal Submission															■	

Gantt Chart PSM 2

Weeks / Activities	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
FYP 2 Briefing	■															
Questionnaire		■	■													
Pilot Test				■												
Data Collection					■	■	■	■	■							
Chapter 4										■	■	■				
Chapter 5												■	■			
Proposal Submission													■			
Preparation														■		
Presentation															■	
Final Proposal Submission																■

APPENDIX B

QUESTIONNAIRES

SECTION A: **DEMOGRAPHIC INFORMATION**

The following is a questionnaire prepared by the researcher to collect data regarding the title of the researcher's study, namely SOLUTION OF PHYSICAL OFFICE THROUGH THE TRANSFORMATION INTO DIGITAL OFFICE. Respondents to answer this questionnaire are employees who working in office administration around Melaka. Respondents will also be asked regarding personal information such as age, gender, position, and experience. Therefore, this section will analyse and further summarize the demographic details of the respondents.

1. Gender

- ☐ Male
- ☐ Female

2. Age

- ☐ 21– 29
- ☐ 30 – 39
- ☐ 40 – 49
- ☐ 50 – 59

3. Position.

- ☐ Leader
- ☐ Manager
- ☐ R&D department
- ☐ Supervisor
- ☐ Accountant
- ☐ Data department
- ☐ Marketing department

☐ Human Resources department

4. Experience in management office.

☐ Below 5 years.

☐ 5 to 10 years.

☐ 10 years above.

5.. Ever company or management use remote work or work from home method to operate?

☐ Yes

☐ No

SECTION B: **THE IMPLEMENTATION OF DIGITAL TRANSFORMATION INTO OFFICE ENVIRONMENT.**

Iv1: The Internet.

No.	Statement (In my opinion)	1 Totally Disagree	2 Disagree	3 Neutral	4 Agree	5 Totally Agree
IV1.1	**IP address** needed for effective network for securities purposes.					
IV1.2	**Internet speed** give better connection to do work.					
IV1.3	Sufficient **quota internet** is needed to work remotely anywhere.					
IV1.4	**Internet coverage** is the most crucial to finishing task while on outstation.					

Iv 2: IT Devices.

No.	Statement (In my opinion…)	1 Totally Disagree	2 Disagree	3 Neutral	4 Agree	5 Totally Agree
IV2.1	Help employees to **access** their work anytime.					
IV2.2	Assist employees to be able **communicate** each other.					
IV2.3	Could help out employees to increase **productivity** towards their task.					

Iv 3: Software.

No.	Statement (In my opinion…)	1 Totally Disagree	2 Disagree	3 Neutral	4 Agree	5 Totally Agree
IV3.1	Helps employees to **operate** their related task with software application programs.					
IV3.2	Enable employees to **improve** company data management.					
IV3.3	Help employees to **share information** across company.					
IV3.4	Enhance capabilities to provide effective **solution** to their work.					

Iv 4: Cloud Services.

No.	Statement (In my opinion, the use cloud services are for…)	1 Totally Disagree	2 Disagree	3 Neutral	4 Agree	5 Totally Agree
IV4.1.	Help in time and cost **efficiency** for employees to share task progress.					
IV4.2	Enhance **data securities** where all data is stored online to avoid data corruption in hardware.					
IV4.3	Increase **flexibility** in handling data management of company.					
IV4.4	Can **manage** high volume of data transfers every day.					

Iv 5: Digital Training.

No.	Statement (In my opinion, digital training…)	1 Totally Disagree	2 Disagree	3 Neutral	4 Agree	5 Totally Agree
IV5.1	Need to **refine** employees IT skills towards digital office implementation in company.					
IV5.2	Help increase **performance** in handling latest IT applications and system.					
IV5.3	Could use task-related functions to help employees to training while working where it could help in **shorten time training.**					
IV5.4	Can make better **design** in working system.					
IV5.5	Using **IT techniques** for digital training simulation can help solve work-related problems.					

SECTION C: **SOLUTION OF PHYSICAL OFFICE THROUGH THE TRANSFORMATION INTO DIGITAL OFFICE.**

No.	Statement (In my opinion…)	1 Totally Disagree	2 Disagree	3 Neutral	4 Agree	5 Totally Agree
DV1	The work can easily **distribute** into one digital platform to all employees.					
DV2	Employees can finish their task **anywhere** except for limited access of internet.					
DV3	Enhance employee's **engagement**.					
DV4	Increase self-value by **empowering** employee's skills toward software knowledge.					
DV5	Workload and working time reduce with same **productivity** could enhance work life balance employees.					
DV6	Ever-green working **environmental** towards employees.					
DV7	Founding a new scope and **position** that suitable needs for digital office.					
DV8	Create more **chances** to part-timer employees to work remotely.					

DV9	Help in **career development** by take side job, creating portfolio and achievement of side job for future career.					

For further information regarding this questionnaire, please contact: AMMAR DANIAL BIN SHARIZAL

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