Independent Colleges
learn to succeed

Applied Project
Submission

LEARNER NUMBER	51704641
NAME	Cesar Correia de Sousa
COURSE	Bachelor of Arts (Honours) in Business Studies – Information Technology
DISSERTATION TOPIC	Information technology tools and employees' performance
SUPERVISOR	Raza Butt
WORD COUNT	6984
DUE DATE	30/11/2022

I certify that:

I consent to having my dissertation be retained in the library for the purpose of future research.　　　　　Yes ☒　　　　No ☐

[Note that if no check boxes are selected, this dissertation will be regarded as NOT properly submitted, and may be subject to a late submission penalty]

INTELLECTUAL PROPERTY STATEMENT

By checking the box below: I/we (if submitting on behalf of a group) certify that this assignment is my/our own work and is free from plagiarism. I/we understand that the assignment may be checked for plagiarism by electronic or other means and may be transferred and stored in a database for the purposes of data-matching to help detect plagiarism. The assignment has not previously been submitted for assessment in any other module or to any other institution.

☒ Agree

Signature: Cesar Correia de Sousa

Date:　　30/11/2022

Notes:

Information Technology Tools and Employees' Performance - What is the relation

between Information Technology tools and employee' performance?

Compiled by

Cesar Correia de Sousa

This project is submitted in part fulfilment of the Degree of Bachelor of Arts (Honours) in Business Studies.

Independent College, Dublin November 2022.

Information Technology Tools and Employees' Performance - What is the relation

between Information Technology tools and employee' performance?

Thesis Approved:

_____

_____

_____

ABSTRACT

Information technology within organisations has been playing such an important part in all aspects of business and it is crucial to understand the influence and relation between IT tools and employees' performance and the issues involved when implement new IT tools, when working from home, when communicating between teams and also the negative effects of IT tools on employees' performance. Companies on their digital transformation journey have invested heavily in IT tools to optimize their business performance however it is crucial to understand how IT tools effect employee's performance. The purpose of this study is to examine the effects of information technology on employee's performance. This research followed the pragmatism method which involves a survey which was distributed to professionals in the industry based mainly in Ireland and in Brazil and a qualitative interview which emphasis is to understand individuals and their experience of the world around them. Analysing the responses there was a strong support to the literature review which states that there is a strong relation between IT tools and employee's performance and if organisations neglect it those IT tools, can have a negative effect leading to low motivation and low levels of job satisfaction. The results indicate that IT tools have a strong effect on employees' performance however it is important for organisation not only equip employees with the right IT tools but also create environment where employees can engage and feel valued.

Table of Contents

Chapter I

Information Technology Tools and Employees' Performance - What is the relation between Information Technology tools and employee' performance?

Introduction

Bill Gates once said *"Information technology and business are becoming inextricably interwoven. I don't think anybody can talk meaningfully about one without the talking about the other."*

Information technology within organisations has been playing such an important part in all aspects of business. The purpose of this study is to examine the effects of information technology in employee's and business performance in a growth manufacturer of IOT solution.

One of the objectives of this research is to have a better understanding of the implications of new technology and system implemented within organisation, and how these technologies can affect the employee's performance and consequently the impact on the employees' productivity and performance. It is fascinating how Information technology has been used as a such crucial tool in any organisation from, storing customer information, automate repetitive task, share information, enhance customers experience, reduce cost, maximize profits and mostly important it supports organisations' corporate strategies.

1.1 Research aims

Information Technology and business are two terms that cannot be separated. Over the past twenty years we have seen how important information technologies tools are to enable business to disrupt new markets, create amazing products and provide an outstanding service. However, an important part of the equation is people. Machines do not have the ability to come up with ideas consequently employees are key element on this whole system and the relationship between information technology and employee skills must be matched to go above and beyond. This research aims to explore the relation of information technology and employee's performance within organisation which can impact on the business performance, customer experience and other factors. Also, in the future the researcher is considering using this research to create he is own business which can fill the gaps in the market and help business reach their top performance by using these technologies which according to PWC (2016) there is a potential contribution to the global economy of $15 trillion by 2030.

1.2 Purpose of the Study

The purpose of this research is to understand the positive and negative effects of information technology has on employee's performance and the key factors that managers should be considered when dealing with IT tools and employees' performance. This research also gives a holistic view of where organisation should pay attention regarding to Information Technology tools and managing employees in this new generation

1.3 Research objectives

- To analyse the relation between information technology and employees' productivity

- To understand key factors of Information technologies and employees' adoption

- To analyse the importance of information technology to keep employees engaged working from home.

- To find out how Information technology tools can support employees' communication across departments.

- To find out when IT tools can negatively impact employee's performance.

CHAPTER II

Information Technology Tools and Employees' Performance - What is the relation between Information Technology tools and employee' performance?

Literature Review

Introduction

This chapter focus on theorical foundation based on literature review of the conceptual basis for this research. Seeking to find relevant research on the topic in order to answer the main research question. This literature review is extremely important to find relevant studies which can support or not the primary research to answer the main research question. It includes theories that explain the relation between information technology and employee's productivity, employee's adoption, employees' engagement when working from home, and the negative effects on employees' performance.

2.1 Relation between information technology and employees' productivity

Technological advancements have been revolutionising the triggered sustained increases in productivity (David. 1990). With new technologies and new ways of working and availability of information could massively effect productivity growth.

Employee productivity is a vital factor that contributes to the overall performance and success of any organisation. We are living in a dynamic world where employees need to perform at their best, by executing a quality work with agile attitude to respond quickly on the demanding organisations' strategies.

Improving employee's productivity is a key and fundamental factor for companies to survive in a very competitive market. Productivity is the best method we must create capital and wealth and improve the quality of working life (Drucker, 2001)

According to Haag and Keen (1996), information technology is a set of tools that help humans work with information and perform tasks related to information processing. According to Martin in Kadir (2003), information technology is not only limited to computer technology (hardware and software) which will be used to process and store information but also includes communication technology for sending and sharing knowledge.

According to different reports, enterprises that effectively use IT in their operations and business process have greater productivity which leads to greater competitive advantage that promotes sustainable economic growth. (Biagi, 2013a). Abri and (Mahmoudzadeh, 2014)

Access to information as an effective and critical tool and acquiring central and strategic information is an advantage in every organization, because higher, faster, more appropriate, and efficient production depends on the use of information and its proper turnover. Research shows that IT usage leads to higher level of productivity as employees that have access to database conduct work simultaneously and finish projects faster. Martin in Kadir (2003).

2.2 Information technologies and employees' adoption

Employee performance is a vital factor that contributes to the overall performance and success of any organisation. We are living in a dynamic world where employees need to perform at their best, by executing a quality work with agile attitude to respond quickly on the demanding organisations' strategies.

According to different research there are many factors that can impact on employees' performance and having the right tool for the job and it where information technology enters.

Nowadays the use of information technology within organisations are extremely important consequently organisations must provide the right tools, develop, and train their employees in order to perform well. Not having the right tool can impact on productivity and waste of a lot of money and time. It is clear that IT tools can be beneficial on employee's performance and productivity however it can be only achieved if the technology implemented is well understood and adopted by employees. (Oliveira and Martins 2012).

Information technology is in a constant change which requires employees to adapt quickly to these new technologies implemented to support the strategies of the organisation. Some employees will understand that new technologies are opportunities to improve their performance (Venkatesh and Bala, 2015), However there also employees that need more time to adapt and managers need to able to guide and consider all these variables to have a positive outcome. (Beaudry & Pinsonneault, 2005).

New IT tools implementations is not just a technical enhancement but also a managerial decision that should involve redesigning and reengineering of organisational functions and operations (Ahmad et al, 1995).

According to (Chinedu Eze, 2013) there are key factors that play a crucial role regarding to IT tools adoptions. The findings suggests that shared support, customer focus, ease of use, managerial time still remining the recurring factors. Furthermore, openness to change also has been shown as important factors as well. (Chinedu Eze, 2013).

Singh, K. (2015) states that there is resistance to change, and it is related to be fear of overload, loss of power, lack of appropriate reward policies, increasing workload and from employee perspective need to learn and relearn. The study also found out that it is essential create a environment where employees and manager feel comfortable in accepting change by being supported with training another knowledgeable sources. Singh, K. (2015).

Another key point when it comes to employees' adoption it is crucial for organisations to explain and communicate about the changes and how those changes will benefit employees. Manager also should stablish participations the work fort when a change process is planned (Singh, K. (2015).

2.3 The importance of information technology to keep employees engaged working from home.

Information technology have a massive impact employee performance. (Abbas, Mahmood and Muzaffar, 2014). We are experience a drop on the employee performance during and after the pandemic. Employees working from home believe that they have more control over their job and a new trend called "quiet quitting" where employees do not go above and beyond and just are doing the minimum, so they can keep their job, is really affecting business performance and the economy. (Yang, L.E. and A. 2022).

According to research, the Great resignation has been affecting the economy new cycles. A recent survey from Gallup Inc, G. (2021), showed employee engagement in the US dropping for the first annual decline in a decade, dipping from 36% in 2020 to 34 in 34% in 2021.

However, according to the author (Ward, 2017) working from home, allowed employees to have a better and more positive work life balance. As result they feel more productive, motivated, and engaged and have higher levels of job satisfactions (Ward, 2017).

Working from home also gives employees more flexibility and work engagement as it empowers them to enjoy more flexible time to perform their work task without following office hours (Grant et al. 2019; Purwanto et al. 2020).

In order to keep employees engaged when working from home, IT tools play a crucial role. In a study by McCartney and Evans (2005) says that providing the correct equipment and tools necessary to allow employees to perform their job task successfully it is extremely important.

During lockdown in 2020, employees were forces to increase the use of information tools in order to enable them to continue to work on their tasks and projects, and main their social relationship and engagement. (Waizenegger et al., 2020).

Even though IT tools are crucial to keep employees engage Pullan (2016) states that leading virtual teams can be quite complex and having self-motivated team members are key element. After ensuring that employees have the right IT tools to perform their task, managers need to invest more time organising how the team cooperated and finish their tasks. As result they can have a better interaction between works and consequently keeping employees engaged. (Cooper and Kurland, 2002).

Furthermore (The Work Foundation, 2018) states that a vital component to keep employees engaged is a clear way communication. Engaged managers offer appreciation of employee's effort and contribution and treat them as individuals and ensure that work is organised efficiently, and IT tools enable them to manage and have effective engagement. (The Work Foundation, 2018).

2.4 How Information technology can support employees on the communication across departments

In a new era after the pandemic, jobs are moving to remote work based, information technology is a key enabler to make this happens. Companies need to develop new ways of communication by investing in new technologies. These technologies allow the connection of employees from anywhere, gives employees flexibility and ability to employees to communicate between teams and departments. With remote work communication became more directly dependent on Information technology tools (Cakula and Pratt, 2021).

Regarding to communication, most of human interactions are non-verbal and using

technology this may not be as effective as face-to-face meeting. (Pratt et al., 2020). Creating an environment by using information technology tools where reduce the barrier is essential to enable employees to communicate effectively. As information technology tools has a wide variety, people's ability to adapt is critical when implement those tools. As (Pratt et al., 2020c), state not all employees have natural ability to communicate effective as result this can be critical for top-level management to implement a systematic method to implement those technologies (Tusubira, 2004).

According to (Alhadlaq, 2016) there are many different methods that technology can be used to within an organisation, such as blogs, phones, emails, online chats, and videos calls. Currently emails and online chats are most preferred methods of communication between teams. By embraced these methods of passing information employees can find and share information and minimize the layers of control and increase the flow of communication (Edward, et al 1991).

(Waizenegger et al., 2020) states that to have a functional communication required adjustment due to limitation of technology tools. As (Pratt et al., 2020c) mentioned that companies need to create an environment where mirror a face-to-face communication IT tools cannot replace those interactions. As result findings suggest that it can be challenged to have group conversation in remote interactions

2.5 When can information technology impact negatively employee's performance?

Technology cannot operate alone and the relation with employees are massively strong, and when there is a lack of sophisticate management techniques to support the use of IT tools such as, lack of training, problems with systems, infrastructure, and connectivity, it can have a negative effect on employees' performance. (The Work Foundation, 2018).

With these factors, is crucial for organisations to have the right approach and make the right choice about how to use, when and what to invest in, to realise the benefits of using Information Technology tools. (The Work Foundation, 2018).

According to previous research, some concluded that information technology has a negative impact on productivity. According to Dedrick et al. (2003), "Studies have failed to identify a relationship between Information technology investment and firm profitability." Taking a look at previous research and literature, there is not concluded evidence whether IT tools has had a positive impact on employees' productivity, (Mahmood & Mann, 2005). The term "productivity paradox", illustrate information technology's inability to increase productive. (Smith, 2008)

One factor that information technology can impact employee's performance negatively, is the implementation of new tools without taking into consideration employees' insights. By testing new tools to a pilot group in order for them to see the positive and negative sides of the new IT tools, contribute for them to engage with the new tools, instead of deploying it and forcing them to use something that they do not understand. (AL Mandlawi, 2020)

Furthermore, information technology can negatively impact employee's performance is that enables employees to be connected anytime from anywhere. Study found that having access to mobile devices leads to technology overload and it has negative consequences. (Ayyagari et al., 2011; Choi & Lim, 2016; Delpechitre et al., 2019). Giving employees to many ways of connectivity, create technology overload resulting in interruptions at the workplace (Karr-Wisniewski & Lu, 2010). According to (Ayyagari et al., 2011) companies need to create training programs and workshop on the "right to disconnect" to overcome this technology overload.

Additional factor which can impact employee's performance is implementing complex IT tools without training. When complex IT tools is implemented in the workplace it can lead to complicated multitasking and consequently leading to stress which affect job satisfaction and performance (Yin et al., 2018).

CHAPTER III

Information Technology Tools and Employees' Performance - What is the relation between Information Technology tools and employee' performance?

Methodology

3.1 introduction

The objective of this chapter is to communicate the methodology used in the study. To support secondary research, primary research was conduct within employees that use information tools to perform daily tasks. Focusing on the relation between information technology tools and employee's performance to have a better understanding of the topic.

"The central endeavour of the Interpretivist paradigm is to understand the subjective world of human experience" (Guba & Lincoln, 1989)

The pragmatism is closely to the interpretivist approach which emphasis is to understand the individuals and their interpretation of their experience of the world around them. (Guba & Lincoln, 1989). The pragmatism philosophy which is associated with the mixed methods approach focussed is only depends on qualitative research (interpretivism) and on quantitative (positivism) (Dezncombe 2007). Furthermore, pragmatism gives the researcher freedom to choose different process, systems, and methods to best suit to their research purpose. Pragmatism is used to understand how people think and interpret what they are thinking or making several methods, worldview and contrasting assumptions and multiple forms of gathering and analysing this information (Cherry Holmes 1992, Morgan 2007, and Bryman 2008).

3.2. justification for the adoption of method.

The research was composted of quantitative question and qualitative interviews (see appendix II) which was developed to have a holistic view from the quantitative and a deeper understanding of the viewpoint, beliefs, experience, and motivation of the interviewees to express their ideas freely without any judgments. The quantitative research was conduct by using google forms and was compost of seventeen question. The questions had the objective to know the profile of the responds, their relationship with information technology tools, training, user experience, working from home. The main objective was to collect information from a wide range of people on how information technology contributes to their productive, their communication across department, when working from home and how it affects their negatively.

In terms of the qualitative research was conduct with employees that work in the office and use information technology tools to perform their job. The question was design by basing on the five themes and was conduct by using Microsoft teams.

3.3. Sampling technique

Sampling techniques provide a range of methods that enable you to reduce the amount of data you need to collect by considering only data from a subgroup rather than all possible cases or elements. (Saunders, Lewis and Thornhill, 2007)

To obtain a deep knowledge about the topic, this research adopted a common sampling technique. First the survey gathered information from responds on LinkedIn which majority of them work with information technology and have many years of experience and can contribute with valuable insights. The responds also are students which use Information Technology tools to perform their daily tasks, which also can be transferred to this research.

For the interviews, the respondents are all employees of a global company which rely on information technology tools to perform their job. They also work in a hybrid system which made them a real good sample to contribute to this research as when talking about

information technology tools and working from.

By having this diverse samples, the researcher sought to identify the common issues between information technology tools and employees' productive and performance. The sample chosen was within the Internet of Thing industry with emphasis on global mid-sized business. The company rely heavily on information technology tools to perform its activities as they are a global organisation and have more than four hundred employees around the world in different management levels.

3.4 Method employed

This research adopted two primary methods: (semi-sctructured interivewm one to one interiview and 2) questionarie. In the quantitative research the survey was released in the college WhatsApp group composted of students and was posted on my LinkedIn which most of my connections are people who work in the information technology industry. The survey had forty-three participants who was willing to take part and contribute with their insights. Before releasing the survey to the public one fellow researcher helped the researcher by giving some insights with the questions whether them should include.

Regarding to qualitative interview, one invitation was released by where employees were willing to participate in the interview conducted by Microsoft teams. Once they accepted my invitation the question was then sent with a brief of the research including the informed of Consent form. The two respondents took around 5-7 days to arrange the interview and then it was conducting by using Microsoft Teams.

3.5 Data analysis

In this research a survey and qualitative research was developed to understand the relation between information technology tools and employee's productivity and performance. After gathering data from the survey and qualitative research, a thematic analysis was developed to have a better interpretation of the information and to identify patterns.

Table 1 - Thematic analysis of qualitative data - Q1.

In your opinion how does information technology impact on your productivity and quality of your work? • Does it change when working at the office or home	Codes - Theme 1 - Keywords in interview
R1 - So obviously the better the equipment you have, the faster you're going to be able to get through your work. That's one of the first things, especially on the hardware side. Then when you use the correct software for your job, say like project management tools like Smartsheet, like monday.com, Asana, all of those, it will lead to kind of better productivity and better collaboration even between the team members. Regarding working from home, I used to have a separate setup, but now I just use my laptop and use the docking station so that I find that much easier and you the use of like two or three screens as always is always helpful as well. So that's kind of a hardware overview of it. But I do kind of tend to use the same software when I'm at home versus when I'm in the office. In terms of productivity, I don't think it changes. I find sometimes I can get more done at home if I have a hectic day full of calls, I tend to do it at home, so I'm not disturbing anyone in the office. But if I've got something that is very urgent, need to get done, I might do that at home as well just in case, because I get a lot of questions. With my job, I get asked a lot of questions on teams and everything and in person, so I planned it, find it a bit easier to work from home and concentrate sometimes, but then in the office I'm similar as well like I can concentrate in there too.	The better the equipment the faster you're going to be done with your work, hardware side, correct software, project management tools, better productivity, better collaboration, between teams. Separated set up, use my laptop, find much easier, two screens as always, hardware overview, the same software when at home. I don't think it changes, get done more at home, hectic day, disturbing anyone, very urgent, I get lot of question, easier to work from home, concentrations
R2 - Perfect. Well, it does have a big, big impact, especially while we do. We work with a lot of different medias, so pictures, videos and all that sort of stuff. So having a good computer, it's a big part of of the tests that we have to do. Other than that, like software. Like you need to have the specific software to work with images to	Big impact, different medias, good computer, specific software to work with images

work with videos to create documents. So that's very important as well. So you need to have access to those tools and other than that does a lot of automation that you can do with tools such as SAP and other tools that we currently are developing in our putting into our routine here at Taoglas because we used to do everything on Excel spreadsheets and smart sheets and we have like four or five different tools and we're trying to now just migrate everything to Microsoft. So having those tools integrated into one thing. You can always go to that place and find the thing that you're looking for is very important of, you know, getting your productivity up if you have to look for. One document in like 3 or 4 places. You're wasting time, and that's definitely not very helpful on the productivity side. And it does affect when working from home, especially because there's no one to ask, you know, like well, you can send a chat or something. So that's another thing that you can use chat to talk with your colleagues. You get calls. It's easy to do. But working from home, if you have one place that you know where your documents are like, that's the best way of working. When, yeah, when I joined Taoglas, we used to have like four or five places to keep files. So, it was a bit of a of a hustle. Yeah, to get stuff done. So yeah, we're on the right track. And they're important to, to performance for sure and productivity.	Have access to those tools, a lot of automation, everything on excel spreadsheets and smart sheets, different tools, migrate everything to Microsoft, tools integrated into one thing, getting your productivity up Document in different place, wasting time, working from home, no one to ask, send a chat or something, chat to talk with your colleagues, easy to do, place where the documents are, hustle to get stuff done, important for performance and productivity

3.6. Ethical Section

Ensuring the appropriate way to reduce bias, this research was careful conducted in terms of ethical considerations relevant to the project. Taking into consideration the sincerity and authenticity of the questionary, the process was created in plain language to make sure an accurate and reliable data compilation to mitigate any possibility of bias or influence of the researcher.

Whoever has taken part in this research was entirely voluntary and strictly confidential. All the participants who engaged in the survey and in the interview were informed of the confidentiality of their personal information. A consent form with a brief and objective bout the project was attached to the survey and sent to the participant who participated in the interview. (See appendix I). To ensure their privacy, all personal information was kept out of this research, they were referred as "participants", "respondents", "interviewees" or "managers".

CHAPTER IV

Information Technology Tools and Employees' Performance - What is the relation between Information Technology tools and employee' performance?

Findings and Discussions

4.1 Introduction

This research was conducted to find out the relation between Information Technology tools and employees' performance and the key factors which could affect employees' productivity and quality of work, employee's adoption and employee's engagement when working from home. This chapter focuses on showing the evidences collected in the primary research with the aim to compare with the literature review to support evidences to answer the main research question.

4.2 Data analysis

The data gathered from the quantitative survey was analysed and it is shown in the appendices. Regarding to the qualitative interview a thematic analysis was created in order to understand patterns and to support the literature review.

4.2.1 To analyse the relation between information technology and employees' productivity

**How can information technology maximize employees' productivity and performance?**

This theme had as objective to explore in general how information technology maximizes employees' productivity and performance discussed in Chapter 2.1 of this paper. In order to have a better understanding on this topic, in a qualitative research interview from a global middle size company were asked in their experience how information technologies impacts on their productivity and quality of their work. According to the interviewee 1 said _"the better the equipment you have, the faster you're going to be able to get through your work"_ which also agrees with the survey where 85% strongly agrees that by using IT tools they can increase their productivity and quality of their work. Also, the interview 2 also mentioned that "_it does have a big impact, especially what we do. We work with a lot of different medias, so pictures, videos and all that sort of stuff. So having a good computer, it's a big part of what we have to do"_. The literature review suggests, IT usage predicted higher level of productivity and also employees that has to access to database finish their tasks and project faster. (Marin in Kadir, 2003). In summary, looking at the literature review and the primary research we can conclude that there is a great relation between Information technology tools and employees' productive and having faster hardware and software is a key factor for employees to perform their job at the best. However, doing a further analysis as the literature and primary suggest, that is not just about having the faster hardware and software that contributes to employees' productivity but also having access to the right IT tools such database and different software allows employees to work simultaneously in different task and finish their project faster, (Martin in Kadir 2003), which was mentioned by the interview 1 _"…using the correct software for your job, will lead to kind of better productivity and better collaboration even between the team members."_ and interview 2also mentioned that "_having those tools integrated into one thing. You can always go to that place and find the thing that you're looking for is very important for getting your productivity up"_. We can see that the interviewee 1 and 2 answers aligned with the literature review where the author highlighted that IT tools enable worker to have new forms of organisation and communications which are increasingly asynchronous, geographically dispersed and sustained over period of the day (Hinds & Kiesler 2002).

In conclusion, Information technology tool and employee's productivity have a strong relation. IT tools can maximize employees' productivity and overall performance by allowing them to perform their task simultaneously and finish their project faster. IT tools also enable employees streamline information giving them access to information such as database anytime and anywhere very quickly where they can save time when researching for some guidance which consequently will enhance their productivity and overall performance.

4.2.2 To understand key factors of Information technologies and employees' adoption

**Information technologies and employees' adoption and Training & development?**

In this theme had as focus to explore the key factors when implementing new IT tools end employee's performance discussed in the Chapter 2.2 of this paper.

According to the literature view it is said that it takes time for employees to adapt to new technologies and companies lack the capacity to train and implement new strategies and initiatives Robert & David (2015). This is also agreed with my survey where 45% of the responses said they never had a formal IT training on how to use IT tools. Furthermore 60% of response said they should receive training every six months which show that there is a lack of training, when it comes to using Information Technologies tools. Having a lack of training can massively impact on employees' adoptions of the new IT tools which will take more time than usual for them to learn how to use these new tools.

Another factor raised in the literature view was that key factors such as ease of use, availability of the technology can have a massive impact on the on the employee's adoption (Meuter, Ostrom, Roundtree, & Bitner, 2000) and it was confirmed through my primary research survey where more than 60% of the responses said that friendly use interface, easy to navigate and integration with different system are key factors that they consider when adopting new IT tools to perform they job effectively.

Another important component regarding to employee's adoption of new IT tools is the communication with users as the interview 1 said, "_I think showing the clear benefits early on are helpful. So, showing how this way this specific like program or software or hardware or whatever it's going to be, will improve the employee's life"._ The interview 2 mentioned that "_training is_

paramount. If you want to get people on board but not just training, you kind of need to tailor it to explain why you're doing this and what's the goal that you want to achieve when introducing a new tool".

In conclusion communication with users, training, user interface and integration with different systems are key factor when implementing new IT tools and it takes time for employees to adapt to new IT tools. Furthermore, companies need to put a massive effort in training and development to reduce resistance and mitigate the negative effects when implementing new IT tools.

4.2.3 **To analyse the importance of information technology to keep employees engaged working from home**.

How can information technology support employee's engagement working from home?

This theme had as object to explore the importance of information technologies tools to keep employees engaged working from home discussed in the Chapter 2.3 of this paper.
As we know working from is a wide topic and in this subject must be considered when we are talking about IT tools and employees' performance specially after the pandemic where many people are now only working from home and feel that it is a great benefit as we found in the literature review and primary research.

As we saw on the literature the author says that working outside the company premises improves workers' work-life balance, company culture and both employee and organisation productivity Tuyo, 2020; Baard & Thomas, 2010). The author Ward, H. (2017) agrees that employees working from home allows to go through their workload in order to complete work tasks and get the job done. The interview one also agrees and believes that working from home productivity can be similar or improved, *"In terms of productivity, I don't think it changes. I find sometimes I can get more done at home if I have a hectic day full of calls, I tend to do it at home so I'm not disturbing anyone in the office. But if I've got something that is very urgent, need to get done, I might do that at home as well just in case".*

The interview 2 pointed out that *"I think that that's probably a mix of leadership and IT so if you don't have leadership and you don't have a nice structure too, you know, talk to your employees and communicating with them, there's no tool that's going to make them in engage in work.*

IT tools enables employee to work from home by proving access to the companies database, software, and system from anywhere anytime. However, looking at the literature review and primary research survey was found that 30% of the respondents did not have the same access to software and systems when working from home which consequently affect their ability to keep the similar engagement when outside the office. As the interview one said *"if you have a tool that makes your job very difficult, you're not going to engage with that very well, it's something that's going to just, you know, kind of dishearten you and kind of lower your motivations"*

In conclusion we found that IT tools are essential when working from home and employees can have similar engagement as long, they have the appropriate tools which as we found in the research it not the case. Still a lack of providing the appropriates tools and distraction when working from home which can have a massive negative effect on employees' engagement. It is also shown that not only appropriate IT tools are essential to keep employees engage but also leadership and management.

4.2.4 How Information technology can support employees on the communication across departments?

The main objective of this theme is to explore the how information technologies tools can support employees on the communication across departments discussed in the Chapter 2.4.

The author (Bordia, N. (2017) in the literature review says that with information technology tools bring employees from anywhere on the same platform by allowing them to interact and communicate virtually. The literature review also mentioned that IT tools can minimize layers of control, increase communication and the flow of information across departments (Edward, et al 1991).

According to the carried survey 35% of the respondents use more than three communications tools at work and 16% use more than four communication tools i.e., Email, Skype, Microsoft teams, WhatsApp, telephone and other). The interviewee 1 mentioned that variety of IT communications tools is common in the organisation as they use for many different purpose *"…you can use your software platforms like Microsoft Teams to discuss with them on a sort of a less rigid approach as opposed to like an e-mail, so you can kind of find out who these people are".* However having the organisation needs to regulate it and manage properly and acquire one tool as standard to minimize communications problems, which can occur having many tools, "*… if there one person wanted to use Microsoft Teams and another person, we wanted to use zoom or use Google chat or whatever, It kind of fragmented a bit, so if we have kind of one standard thing that uh, that pushes it out across the board. I think that's very helpful like Microsoft Teams."*

Having one IT communication tool as standard also is very important within global organisation. As the interviewee 1 pointed out *"We have teams on five or six different time zones and we must be very adaptable with our meeting times. So, they're going to have to be in teams and everybody must use the same software."*

Another benefits that IT communications tools offer is the ability to get to know who you are talking to within the organisation. "*I think not knowing the right person to go to and each department, so I'm not knowing who the correct person is to ask the question to in each department can be difficult sometimes. So, an IT tool like a HR system that kind of shows you everybody's title, who they report to, all that kind of information is very helpful for stuff like that".*

In conclusion IT communications tools within the organization are crucial to support the company performance throughout communication specially in global organisations where teams have different time zones and come from all over the world. However, it is also important for organisations to regulate this communication tools in order to keep a hight quality communication between employees.

4.2.5 The negative effects of information technology on employee's performance

When can information technology impact negatively employee's performance?

In this theme had as focus to explore the negative impacts of information technology on employee's performance discussed in the Chapter 2.5 of this paper.

In the literature review the author mentioned that being connected anywhere and anytime can overload employee's performance. (Ayyagari et al., 2011). The literature review also shows that employees are getting frustrated by the amount of technology at workplace. (Brumberg, 2018). On my primary research survey more than 60% says that by being connected anywhere and anytime help them to keep up with their job tasks. More than 30% agrees that they find hard to switch off from work when using portable devices and more than 15% agrees that their physical and mental has been affected by the using portable devices too much. The interviewee 1 also mentioned that finds hard to switch off *"…Another point is switching off after work. it can be, I find it difficult, I can for me personally what I do is, I have a setting on my work phone that I don't get any notifications after 7 until 7 the next morning. So, if something is urgent, it's going to have to wait."* So, it important to employees to know the limits of usage of portable devices and find ways to manage it. Also, the organisations need to put a plan in place to help those employees that find hard to switch off from work to work on their mental health.

Another factor that primary research says is that more than 55% say slow hardware/system, heavily manual data entry, complex to navigate/understand are the big factor that can affect their performance negatively.

In conclusion slow hardware and system have a massive effect on employees' performance furthermore implementing new software without having employees' insights taken into considerations can also negatively impact employee's performance and final mobile devices can overload employees and affect their performance negatively

CHAPTER V

Information Technology Tools and Employees' Performance - What is the relation

between Information Technology tools and employee' performance?

Conclusion, Recommendations & Limitations

5.1 Conclusion

Information technology tools have a strong relation with employee's performance, it can improve employee's productivity and quality of work as long the employees use IT tools that match with their skills. However, when implementing new IT tools, communication with users throughout the process is a key factor for the success of the business and to improve employees' performance.

Thought the research it was found that having access the same tools working from home does not mean it cannot have a negative effect on employee's productivity as different factors must be taken into consideration e.g., distraction, motivation, leadership, employees' ability to self-management task and time.

IT communications tools within the organisation is crucial to maintain employees on the same page. However, the company must adopt standard IT tools to minimize communications problems, which can occur having too many it.

During this study the researcher also found out that outdated hardware and system, complex to understand, lack of training, have a massive effect on employees' performance.

Another factor that can impact employee's performance negatively is implement new IT tools without having employees' insights taken into considerations.

According to finding in this research, mobile devices can help employees keep up their tasks however it can also overload them as they are able to be connected all the time from anywhere and also, they might find hard to switch off from work which affect negatively their mental health and consequently their performance.

5.2 Recommendations

For further study the recommendations are that researchers should focus on a particular industry, company size, or any other characteristic.

They should also try to understand the physical and psychological negative effect of IT tools on employee's performance.

Another recommendation for further study would be to study the effects of IT tools on male and female workers

5.3 Limitations

This research did not have a focused in only particular industry (middle sized manufacture), and for this reason the finding can vary depending on the type of industry, company size and many other factors and the sample size was relatively small and for this reason the data quality can be considered as a limitation.

Due time concern the researcher found difficult to have a deeper level of conversation with the participants which might have affected the results and consequently limited the quality of the study. Furthermore, the results are limited and valid for the group that participated in the interview.

References

Abri, A.G. and Mahmoudzadeh, M. (2015). *Impact of information technology on productivity and efficiency in Iranian manufacturing industries*. Dissertation.

Ahmed, A. (2021). *Performance Management of Remote Teams in the Irish Tech Sector*. Master of Business Administration.

AL Mandlawi, L. (2020). *Digital Technology Adoption in The Context Of Asset Management*. Master of Science Thesis.

Alhadlaq, I. (2016). How Technology Influences Communication. *International Journal of Scientific & Engineering Research*, 7(1). doi:ISSN 2229-5518.

Aral, S., Brynjolfsson, E. and Van Alstyn, M. (2007). *Information, Technology, and Information Worker Productivity: Task Level Evidence*.

Beaudry, A. and Pinsonneault, A. (2005). Understanding User Responses to Information Technology: A Coping Model of User Adaption. *University of Minnesota, Management Information Systems Research Center*. doi:10230725148693.

Bordia, N. (2017). *Role of Technology Selection in Supporting Collaboration and Communication in Globally Distributed Virtual Teams*. MSc Science.

Cakula, S. and Pratt, M. (2021). *Communication Technologies in a Remote Workplace*. Dissertation.

Chinedu Eze, S. (2013). *Understanding Dynamic Process of Emerging ICT Adoption in UK Service SMEs: An Actor-Network Approach*. PhD THESIS.

David, P.A. (1990). The Dynamo and the Computer: An Historical Perspective on the Modern Productivity Paradox. *The American Economic Review*, 80(2).

Drucker, P.F. (2001). *Implementing the Effective Management of Knowledge: Knowledge-Worker Productivity: The Biggest Challenge*. 1st ed.

Hajiali, I., Mahfudnurnajamuddin and Suriyanti (2021). Effect of Information Technology, Training, and Compensation on Employee Work Motivation. *Point of View Research Management*, 2(2).

Mahmood, H., Muzaffar, A. and Abbas, J. (2014). Impact of Technology on Performance of Employees (A Case Study on Allied Bank Ltd, Pakistan).

Maria Barrero, J., Bloom, N. and J. Davids, S. (2021). *Why Working From Home Will Stick*. Working Paper.

Martins, M. and Oliveira, T. (2012). *Determinants of Information Technology Diffusion: a Study at the Firm Level for Portugal*. Thesis.

McCartney, C. and Evans, C. (2005). Lilly UK Makes Flexible Working work: Support from the Top Is a Major Reason for Success. *Human Resource Management International Digest*, 13(2).

Meuter, M.L., Ostrom, A.L., Roundtree, R.I. and Bitner, M.J. (2000). Self-Service Technologies: Understanding Customer Satisfaction with Technology-Based Service Encounters. *Journal of Marketing*.

Pearlson, K., Saunders, C.S. and Galletta, D.F. (2016). *Managing and using information systems: a strategic approach*. Hoboken, Nj: Wiley.

Purwanto, A., Asbari, M., Fahlevi, M., Mufid, A., Agistiawati, E., Cahyono, Y. and Suryani, P. (2020). Impact of Work From Home (WFH) on Indonesian Teachers Performance During the Covid-19 Pandemic: An Exploratory Study. *International Journal of Advanced Science and Technology,* 29(05).

Savić, D. (2020). COVID-19 and Work from Home: Digital Transformation of the Workforce. *Grey Journal*, 16(2).

Singh, K. (2015). *The study of Key Factors Resistance to Change When Adoption of New Technologies in the Companies*. Undergraduate Dissertation.

Smith, J. (2008). *Information Technology's Influence on Productive*. MSc Thesis.

The Work Foundation (2018). *Productivity, Technology & Working Anywhere*.

van der Lippe, T. and Lippényi, Z. (2019). Co-workers working from home and individual and team performance. *Wiley Online Library*.

Venkatesh, V. and Bala, H. (2015). *Adaptation to Information Technology: A Holistic Nomological Network from Implementation to Job Outcomes*. Thesis.

Vyas, L. and Butakhieo, N. (2020). The Impact of Working from Home during COVID-19 on Work and Life Domains: an Exploratory Study on Hong Kong. *Policy Design and Practice*, [online] 4(1), pp.1–18. doi:10.1080/25741292.2020.1863560.

Waizenegger, L., McKenna, B., Cai, W. and Bendz, T. (2020). An affordance perspective of team collaboration and enforced working from home during COVID-19. *European Journal of Information Systems*.

Ward, H. (2017). *The Impact That Working from Home Has on the Overall Motivation and Performance Levels of Employees Working Withing a Banking Organisation*. Master of Arts.