

## The Effects of Digital Competences on Productivity of Teleworkers in Post Covid Era. A Case of Staff at Safaricom Limited in Kenya

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### Abstract

**Introduction:** The productivity of teleworkers is greatly impacted by digital competency, mainly through increased productivity, communication, and teamwork. The total impact, however, is largely dependent on efficient management, training, and a friendly digital environment because it also poses problems like information overload and blurring work-life boundaries.

**Purpose:** The main purpose of the study was to determine the effects of digital competences on productivity of teleworkers in post covid era. A case of staff at Safaricom Limited in Kenya.

**Methodology:** The study adopted a quantitative research design. The study involved lower, middle and top-level employees at Safaricom Limited in Kenya headquarters. The data collection approach included the distribution of structured questionnaires to respondents. Data was analyzed using descriptive statistics and simple regression.

**Findings:** The results revealed that digital competences have a positive effect on productivity of teleworkers ( $r = .907$ ,  $t = 7.032$ ,  $p = 0.000$ ). Working online enhances resources efficiency and produces more quantity of output.

**Conclusions:** Improving digital competencies is not simply a response to the issues brought by the COVID-19 pandemic but also a strategic imperative for sustaining teleworker productivity in the long term.

**Keywords:** Digital competences, Productivity, Teleworkers, post covid era, Safaricom limited, Kenya.

### Introduction

Individual productivity contributes to attainment of organizational goals and sustainability (Lane et al., 2020). Literature indicates that digital competences predict employee productivity and organizational success in the 21st digital environment (Rey Marti et al., 2020). Digital competences increase individual speed of work, accessibility to online work, downloading and uploading of work, and the ability to interact and collaborate online. Human resources professionals are looking for workers with these digital skills and behaviours to ensure their success in the current process of digital transformation (Maravilhas & Martins, 2019).

Alexandria (2013) indicates that employee productivity is a function of one's efforts, skills, abilities, and mental status; institutional support; as well as external environmental forces. The post-COVID-19 era has witnessed an increase in the number of teleworkers from around 5% in 2019 to about 42% in 2022 (CIPD Survey, 2022). The digital era requires workers to evolve a teleworking culture for effective online performance (Idogho, 2011; Eurostat, 2020). Global Workplace Analytics (2022) indicates that managers send workers out of the office

with a laptop and expect results; however, several factors drive teleworker productivity and performance.

A study conducted in South Africa indicates that there are many benefits of teleworking that can accrue to the firm, and policymakers should devise strategies, practices, and procedures to leverage teleworking (Thomas, 2016). The challenge for management and human resource managers around the world is how to ensure the virtual workforce delivers quality products and services (ILO, 2020). There are noticeable gaps in knowledge regarding the role of digital competences in the productivity of teleworkers.

This study is guided by self-efficacy theory and the theory of planned behavior. The overarching theory is self-efficacy, as it is well suited to the virtual organization context (Staples et al., 2006).

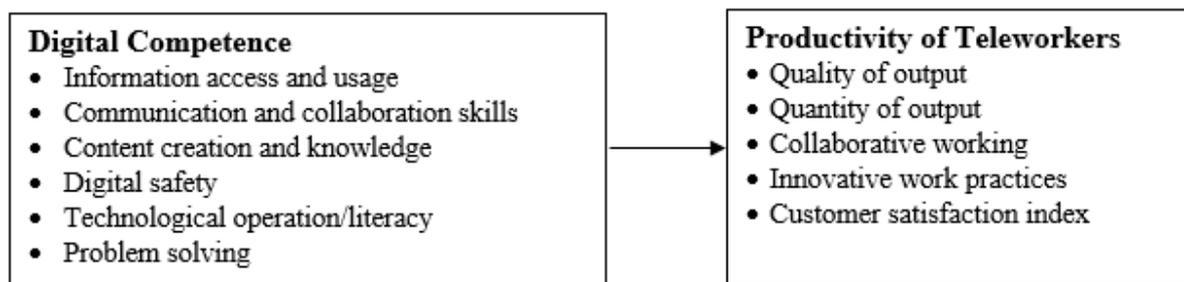
### Statement of the Problem

Teleworking is becoming a common workplace practice and is likely to remain a permanent feature in post-COVID-19 work environments (OECD, 2020). Teleworkers grew from below

5% before COVID-19 to about 42% by 2022 (CIPD Survey, 2022). Bloom et al. (2015) indicated that home working is likely to be disastrous to organizational productivity due to distractions, unsuitable working space, poor ergonomics, and loneliness. On the other hand, Global Workplace Analytics (2022) reports that there are massive benefits associated with teleworking, including up to 95% retention of talent and additional work hours compared to office counterparts.

Studies indicate that digital competences predict employee productivity and organizational success in the 21st digital environment (Rey Marti et al., 2020). This finding is corroborated by Lane et al. (2020), who established that teleworking influences worker efficacy, enables workers to save computing time, increases work hours, and facilitates knowledge creation. Smith et al. (2015) and Windeler et al. (2019) posit that teleworking increases job satisfaction, work discipline, employee autonomy, reduces absenteeism, and

### The Conceptual Framework



### Literature Review

#### Theoretical Review

This study is guided by self-efficacy theory as it is well suited to the virtual organization context (Staples et al., 2006). Psychologist Albert Bandura coined the concept of self-efficacy (Bandura, 1977). Self-efficacy reflects confidence in one's ability to exert control over motivation, behavior, and the social environment. He asserts that when people succeed by sustained effort, they too possess the capabilities to master activities to succeed. In this case, employees with digital competences will execute the tasks of online working effectively.

#### Empirical Review

Teleworking started in the USA in the 1970s (Nilles, 1975), and studies indicate that, as a result of COVID-19, the number of teleworkers increased from around 5% in 2019 to about 40% in 2022, as most organizations have embraced online and blended working and learning (CIPD Survey, 2022). This was as a result of the introduction of restrictive measures by governments across the globe; the measures included social distancing, travel bans, restricted crowding, closure of offices and learning institutions, especially at the peak of the pandemic.

To respond to this pandemic, organizations embraced teleworking and other flexible work arrangements as strategies for continuous operations and sustainable business (ILO, 2020). The digital era requires staff to evolve a teleworking

improves worker efficiency. However, Morikawa (2020) found a negative correlation between teleworking and employee productivity. Despite numerous studies on teleworking, inadequate research has been conducted on the role of digital competence in the productivity of digital workers (Messenger, 2019). Maluke (2020) and Waters (2019) established that many Kenyan institutions, including institutions of higher learning, have not embraced teleworking practices despite its benefits.

### Research Objectives

The broad objective of this study is to determine the effects of digital competences on productivity of teleworkers in post covid era; a case of staff at Safaricom Limited in Kenya.

### Specific Objective

The effect of digital competences on productivity of teleworkers at KSUC and Safaricom in Kenya.

culture for efficient and effective online working (Idogho, 2011; Eurostat, 2020). Advancement in telecommunication further revolutionized teleworking and digitalization of the workplaces, as small, light, and wireless electronic devices like mobile phones, laptops, notebooks, and computers, and widespread internet connectivity have enabled virtual working and led to changes in labour relationship practices (Messenger, 2020).

Telework is defined as the use of information and communications technologies (ICTs), such as smartphones, tablets, laptops, and desktop computers, for work that is performed outside the employer's premises (Eurofound & ILO, 2017). Ferrari (2013) defined digital competence as the set of knowledge, skills, and attitudes which include abilities, strategies, values, and awareness that are required when using ICT and digital media to perform tasks. These competences help an individual to solve problems; communicate; manage information; collaborate; create and share content; build knowledge effectively, efficiently, appropriately, critically, creatively, autonomously, flexibly, ethically, reflectively for work, leisure, participation, learning, socializing, consuming, and empowerment.

Vieru (2015) viewed digital competence as the ability to efficiently and critically use information technology for employment, learning, self-development, and participation in society. Whereas Gekara et al. (2019) defined digital

competences as the combination of digital knowledge, cognitive know-how, practical know-how, competence, and digital attitude, areas which employees need. Ala-Mutka (2011) conceptual model on digital competences is based on three clusters of instrumental skills and knowledge, advanced skills and knowledge, and attitudes. The 21st century digital age requires that digital competences go beyond skills, knowledge, and attitude, as individuals require ethical and socially responsible use of internet and digital devices (Jannsen et al., 2013; Van Laar et al., 2019).

This study will adopt the five specific sets of measures of digital competences involved, namely information access and usage, communication and collaboration skills, content creation and knowledge, digital safety, technological operation/literacy, and problem solving (Ferrari, 2013). Teleworking provided an opportunity for alternative work practices to ensure that work continued (Brossevich et al., 2020). Digital competences predict employee productivity and organizational success in the 21st digital environment (Rey Marti et al., 2020). Digital competences increase individual speed of work, accessibility to online work, downloading and uploading of work, and the ability to interact and collaborate online; human resources professionals are looking for workers with these digital skills and behaviours to ensure their success in the current process of digital transformation (Martins, 2019).

Studies indicate that there is a negative correlation between teleworking and employee productivity (Morikawa, 2020). This finding is corroborated by studies done by Rahman and Arif (2021), which indicate that teleworking improves workers' productivity. Teleworking in compatible jobs can improve or undermine organizational performance (Martin & McDonnel, 2012). Lane et al. (2020) established that teleworking influences worker efficacy, enables workers to save computing time, thus extending work hours, and being online facilitates knowledge creation. Smith et al. (2015) and Windeler et al. (2019) posit that teleworking increases job satisfaction, better work discipline, employee autonomy, less absenteeism, and worker efficiency.

However, Bridoux (2010) argues that teleworking makes individuals work alone, inhibits teamwork, and prevents knowledge sharing. Digital competences increase individual speed of work, accessibility to online work, downloading and uploading of work, and the ability to interact and collaborate online; human resources professionals are looking for workers with these digital skills and behaviours to ensure their success

in the current process of digital transformation (Maravilhas & Martins, 2019). Newlin and Grasiab (2021) indicate that digital working in universities requires digitally competent lecturers, and many trainers are faced with incompetence in regard to ICT skills and the ability to adapt to modern teaching methods, including designing materials and content for online lectures.

Teleworking in compatible jobs can improve or undermine organizational performance (Martin & McDonnel, 2012). Saijal and Oludolapo (2020) conducted a study in South Africa on the effect of remote working on employees' productivity levels and established that employees are fairly productive when they telework; however, people factors that underpin productivity include lack of work-life balance (WLB), inconsiderate employees, and mental health issues, while digital competences were not examined in relation to staff productivity. Twalib (2021) conducted a study on flexi work systems and employees' performance in large telecommunication firms in Kenya and concluded that employees prefer to work from home to increase their productivity.

Good reward strategies without ensuring that employees have the requisite digital competences do not lead to effective teleworking. The challenge for management and human resource managers around the world is how to ensure that the virtual workforce has the requisite skills to deliver in terms of quantity and quality of products and services (ILO, 2020e). Employees with digital skills and behaviours relevant to the current phase of digital transformation are what employers are looking for (Maravilhas & Martins, 2019).

## Research Methodology

### Methodology

The study adopted a quantitative research design. The study involved 117 respondents; 62 lower, 34 middle and 21 top-level employees at Safaricom Limited in Kenya headquarters.

### Data Analysis and Presentation

The data collection approach included the distribution of structured questionnaires to respondents. Data was analyzed using descriptive statistics and simple regression and presented using frequency tables.

## Findings

### Digital Comptences

The findings of influence of digital competences on the employee's productivity while teleworking or working online is shown below.

**Table 1:** Aspects of digital competences

Statements	Mean	Std dev
Being able to access and usage information online	4.23	0.13
Having skills that enables me to communicate and collaboration with other online users	4.54	1.09
Having skills that facilitate content creation and knowledge about it teleworking	4.91	0.32
Being able to manage online security risk and ensure digital safety	4.37	0.65
Being able to manage technological operation and having computer literacy	4.18	0.12
Solving emerging online problem while working virtually	4.23	0.11

From the findings, a large number of respondents indicated that the digital competencies affect their productivity was among others being able to access and usage information online as shown by a mean of 4.23 and a standard deviation of 0.13. Having skills that enables them to communicate and collaboration with other online users as indicated by a mean of 4.54 and a standard deviation of 1.09. Having skills that facilitate content creation and knowledge about it teleworking as revealed by a mean of 4.91 and a standard deviation of 0.32. Being able to manage online security risk and ensure digital

safety as shown by a mean of 4.37 and a standard deviation of 0.65. Being able to manage technological operation and having computer literacy as indicated by a mean of 4.18 and a standard deviation of 0.12. Solving emerging online problem while working virtually as revealed by a mean of 4.23 and a standard deviation of 0.11.

### Productivity of Teleworkers

The findings concerning the employee productivity of teleworkers is shown below.

**Table 2:** Productivity of teleworkers

Statements	Mean	Std dev
While working online I produce quality work or output	4.32	1.02
Working online enhances I spend little resources and produce more quantity of output	4.53	0.32
While working online I produce more with little time spend	4.26	0.02
I am able to collaborate effectively with other users while working online	4.16	0.25
Working online has enhanced my innovative work practices	4.62	1.02
Customer satisfaction index has improved when I offer services to them online	4.44	0.23

From the findings, majority of the respondents agreed that while working online their produce quality work or output as shown by a mean of 4.32 and a standard deviation of 1.02. A large number agreed that working online enhances their spending little resources and produce more quantity of output as revealed by a mean of 4.53 and a standard deviation of 0.32. Majority agreed that while working online their produce more with little time spend as indicated by a mean of 4.26 and a standard deviation of 0.02. The employees are able to collaborate effectively with other users while working online as shown by a mean of 4.16 and a standard deviation of 0.25. Working online had enhanced the employees innovative work practices as revealed by a mean of 4.62 and a standard deviation of 1.02. Customer satisfaction index had improved when they offer services to them online as indicated by a mean of 4.44 and a standard deviation of 0.23.

### Regression Analysis

The study hypothesized that digital competences have no significant influence on productivity of teleworkers. The results are presented in Table 3.

**Table 3:** Digital competences and Productivity of teleworkers Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.912 <sup>a</sup>	.832	.815	.461

a. Predictors: (Constant), Digital competences

The study hypothesized that digital competences have no significant influence on productivity of teleworkers in Safaricom Limited. The results are presented in Table 5.

**Table 5:** Digital competences and Productivity of teleworkers Model Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.339	.503		.675	.515
	Digital competences	.907	.129	.912	7.032	.000

a. Dependent Variable: Productivity of teleworkers

The coefficient of correlation between digital competences and productivity of teleworkers was 0.912 indicating a positive relationship between digital competences and productivity of teleworkers. The coefficient of determination of 0.832 indicated that 83.2% of Productivity of teleworkers could be explained by digital competences. The remaining percentage could be explained by other factors excluded from the model. The standard error of estimate (0.683) showed the average deviation of the independent variables from the lie of best fit.

**Table 4:** Digital competences and Productivity of teleworkers Model Anova

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.405	1	6.405	5.414	.000 <sup>b</sup>
	Residual	137.231	116	1.183		
	Total	143.636	117			

a. Dependent Variable: Productivity of teleworkers

b. Predictors: (Constant), Digital competences

The findings revealed (F=5.414, p value = .000b). The results indicate that the significance of F is 0.000 which is less than 0.05, this, therefore, implies that the regression model statistically significantly predicts the outcome variable and is, therefore, a good fit for the data. This is an indication that there exists a significant relationship between digital competences and productivity of teleworkers at Safaricom Limited.

The study findings indicated that there was a positive significant relationship between digital competences and productivity of teleworkers ( $\beta = 0.912$ ,  $t = 7.032$  and  $p$  value 0.000). This therefore, means that an increase in digital competences will increase productivity of teleworkers significantly. Since the  $t$  was 7.032 which is greater than zero, the null hypothesis that digital competences have no significant influence on productivity of teleworkers in Safaricom limited was rejected and the alterative hypothesis accepted. It was therefore concluded that digital competences have positive significant influence on Productivity of teleworkers in Safaricom Limited.

## Conclusions

It can be concluded that digital competences have a positive effect on productivity of teleworkers ( $r = .907$ ,  $t = 7.032$ ,  $p = 0.000$ ). Improving digital competencies is not simply a response to the issues brought by the COVID-19 pandemic but also a strategic imperative for sustaining teleworker productivity in the long term. Organizations that engage in digital skills development are more likely to achieve improved productivity, employee happiness, and resilience in the evolving world of work.

## Recommendations

Based on the results, it is suggested that organizational assistance, including digital training, dependable ICT infrastructure, and managerial advice, enhances the favorable correlation between digital competencies and productivity. Teleworkers who have access to ongoing digital upskilling opportunities are more prepared to keep up with new technology and do well in remote work environments.

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