




Perceptions of flexible work arrangements in selected African countries during the coronavirus pandemic

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Purpose: Employers and governments on the African continent were forced to implement flexible work arrangements (FWAs) to curtail the spread of coronavirus (COVID-19) without adequate preparations. This study investigated employees' perceptions of FWAs adopted by employers in selected African countries during the pandemic.

Design/methodology/approach: A cross-sectional survey research design rooted in a quantitative approach was adopted for this study. Hence, a combination of purposive sampling and snowball technique was adopted to gather valid information on the use of FWAs, employers' support and safety precautions, information technology (IT) support and productivity in Africa during the lockdown. An online survey link was provided to respondents who were working from home in selected African countries. Data were analysed using a covariance-based structural equation modelling via SmartPLS.

Findings/results: The study found that employers' support and safety precautions, as well as IT support, exert significant influence on the use of FWA in African countries. Therefore, the use of an FWA during the lockdown in selected African countries mediates the relationship between the employer and IT supports, and employees' productivity.

Practical Implications: Employers' backing and IT support are fundamental for the effective implementation of FWAs and enhancement of employees' productivity in African countries.

Originality/value: There is a shortage of studies on the adoption of FWAs during a pandemic in Africa. This study provides empirical evidence on the use of an FWA and its effect on employees' productivity during a pandemic in Africa.

Keywords: Africa; COVID-19; employer support; employees' productivity; IT support; teleworking.

Introduction

Many studies have been conducted on flexible work arrangements (FWAs) (Kossek & Michel, 2011; Mutahaba, 2013; Swanberg, Watson, & Eastman, 2014; Timus, Brough, O'Driscoll, & Kalliat, 2014), but not much research work has been focused on the perceptions of employees on FWAs in African countries (Conradie & De Klerk, 2019; Masuda, Poelmans, Allen, & Spector, 2012; Tasmanian Government, 2020). A study conducted by McGuire, Kenney and Brashler (2010) found that 80% of workers in the study would prefer flexible work options, as long as they did not have negative consequences at work and received the employers' support in the form of information technology (IT) accessibility (Kossek & Michel, 2011). In addition to the above findings, the study revealed that amongst employees who did not work any regularly scheduled hours at home, 89% of the wage salaried workforce and 43% preferred FWAs. About 90% of telecommuters in the study revealed that the opportunity to telecommute better enabled them to balance work and family responsibilities. To this end, half of the telecommuters, about 46%, indicated that they were more productive working from home. Amongst full-time employees, about 20% indicated that they preferred working part-time.

A study of FWAs across multiple countries revealed that considerations of national culture play a significant role in the implementation of FWAs (Peretz, Fried, & Levi, 2018). Accordingly, they found that cultural values exert mediating influence on the use of FWAs and organisational outcomes across multiple countries investigated. There is a dearth of studies on the adoption of FWAs by various organisations in African countries (Conradie & De Klerk, 2019; Hunter, 2019). A recent study found that FWAs are largely adopted by software development companies in South

Africa based on the perceived benefits to employees and employers in the sector (Conradie & De Klerk, 2019). Research on the adoption of FWAs in developing African countries is scarce (Conradie & De Klerk, 2019; Rooplal, 2017).

The reasons for a lack of adoption of FWAs in many African countries could be attributed to a lack of IT infrastructure (Adonis & Kabanda, 2019; Leonardi, Treem, & Jackson 2010; Rooplal, 2017) and African culture (Peretz et al., 2018). However, employers and governments on the African continent were prompted to implement FWAs by the global spread of the coronavirus (COVID-19) pandemic, which has taken the whole world by storm (Tasmanian Government, 2020). COVID-19 is deadly as it spreads amongst groups of people, and hence, there is a need for employers to devise FWAs as a way of curtailing the spread of COVID-19 through social distancing, as well as insisting that workers or employees work from home. Social distancing could be extended depending on rates of infections, deaths and recovery of the infected members of society (Tasmanian Government, 2020). Many company operations were disrupted by the COVID-19 pandemic and people's livelihoods have been severely affected (United Nations, 2020). Therefore, this study investigates the perceptions of employees on the use of FWAs put in place by companies and their influence on employees' productivity in African countries during the lockdown. The 'Literature review' section provides a discussion on FWAs implemented by different companies and governments.

Literature review

Flexible work arrangements

Flexitime or FWAs initially originated from Germany in the 1970s but quickly spread across Western and Northern Europe and the United States of America (USA) at a slower pace (Kossek & Mitchel, 2011). In flexitime, employees have the choice and freedom to vary the times they arrive at work and leave work, which is not the case in times of pandemics such as COVID-19 and Influenza outbreaks. FWAs are devised so that the employee is given time to meet his or her personal needs, and employees are required to choose the time that suits their daily schedules. Employers must approve flexible hours and be subject to IT support for successful implementation.

The need for FWAs arises from the fact that 40% of professionals and managers in the USA and in many other countries are women (Kossek & Michel, 2011). It is not necessarily that this percentage represents the world population. In fact, women have to juggle between caregiving and their formal jobs, and hence the need for companies to design FWAs that serve the interests of the employee (especially women) and the employer (Kossek & Michel, 2011; Masuda et al., 2012). An additional reason for companies coming up with FWAs is to accommodate employees who need to balance work activities and other life responsibilities, amongst employees who are single parents with children under the age of 18, and couples having composite careers

(Mutahaba, 2013; Sharafizad, Paull, & Omari, 2011). Children need to be dropped off and picked up from school and this requires the parent to have FWAs that allow either parent to fulfil this important chore without disturbing work activities. About 82% of US families are engaged in composite careers and are single parents who are responsible for children under the age of 18 (Kossek & Michel, 2011; Mutahaba, 2013; World Economic Forum, 2020). These children spend more time at home and the parents may need to be with them. Moreover, 50% of children in the USA stayed with a single parent until the age of 18 years (Mutahaba, 2013). The sentiments of fathers on FWAs were elicited in the USA and it was found that fathers played a major role in caregiving and valued FWAs more than the previous generations of fathers (Kossek & Michel, 2011; Mutahaba, 2013).

As a reaction to the socio-demographics, product demands, economic uncertainty and new market developments, companies have come up with contingent and part-time flexible work schedules (Mutahaba, 2013). Accordingly, companies have also adopted temporary extra shifts to meet the variations in product demands. Companies may come up with FWAs because of outbreaks of pandemics (Kossek & Michel, 2011; Kossek, Rosokha, & Leana, 2020). The types of FWAs that a company may implement range from telework, flexitime, compressed week, shift work and contingent work (Conradie & De Klerk, 2019; Hunter, 2019; Kossek & Mitchel, 2011; Kossek et al., 2020; Kroll & Nuesch, 2017), but companies operating in African countries must provide the IT support for effective implementation to increase employees' productivity. This study gleans the perceptions of employees on the use of FWAs during the COVID-19 pandemic and their influence on employees' productivity. FWAs such as telework or flexplace, informal teleworking combined with non-standard working time, flexibility in the amount of work (workload and hours), leave, vacation and flexi-leave (Mutahaba, 2013; Ugargol & Patrick, 2018) are discussed in this study.

Compressed workweek

An employee works a compressed week on a full-time schedule in less than 5 days per week (Kossek & Mitchel, 2011). A 40-h workweek could be achieved in 4 days, which roughly translates to a 10-h work schedule per day. In this case, the employee may be off on Monday or Friday. An employee enjoys a 3-day weekend every week with a 10-h per day compressed workweek option (Kossek & Mitchel, 2011; Mutahaba, 2013). According to Presser (2003), cited in Kossek and Mitchel (2011), shift work is common in European countries such as Greece, the United Kingdom and France. Shift work is not often classified as an FWA; however, it can be referred to as a familiar form of non-standard working time. The advantage of shift work is that if one is working at night, one can attend to one's other chores like aftercare during the day and vice versa (Kossek & Mitchel, 2011).

Another form of FWA that a company could come up with is contingent work. In this type of arrangement, an employee does not enter into a long-term contract of employment, implicitly or

explicitly. An employee is engaged for minimum hours of work that vary irregularly. This type of FWA encompasses seasonal work, temporary work and working as a freelancer where in all cases there is no expectation of a continued employment relationship (Kossek & Mitchel, 2011; Masuda et al., 2012).

Telework

In the case of telework or flex-work, employees (telecommuters) work from home for example and not in their normal organisational physical environment. This type of FWA allows employees to work from different locations other than their workplaces. Employees may use different video-conferencing technologies such as Skype, Zoom or Teams, transmitting information, for example, in the event of executives holding a meeting during a pandemic like COVID-19 where social distancing is a requirement. There are several types of telework, but the major ones are telecommuting, satellite offices, neighbourhood work centres and mobile workers, where IT support is provided by the employer (Human Resources, 2016; Kossek & Michel, 2011; Kossek et al., 2020).

In satellite and neighbourhood work centres, employees work outside their homes and their organisation in a satellite office. In neighbourhood work offices, one finds employees from several organisations who share office space in a specific suburb instead of them having to travel to the head offices in town. The advantage of this set-up is that it saves travel time and enables staff to have regular interactions with workmates, leading to higher productivity (Klindzic & Maric, 2019; Kossek & Mitchel, 2011; World Economic Forum, 2020).

Informal teleworking combined with non-standard working is another form of FWA that can be utilised in an organisation under telecommuting. The reality in the digital age is that several jobs have become virtual, flexible and self-regulated with more access to portable technology, which made teleworking possible with smartphones and laptops. Teleworking and flexi-time options are essential in extending the productive hours of employees in the digital age. One can work in the morning, afternoon, at night and diffusing into the holidays and weekends. Work can also be carried out at home, in the office and places such as cyber cafes, on smartphones, and on a plane, in a car and train whilst travelling or in a park or restaurant. These arrangements can result in increased job satisfaction, decreased turnover intentions, a greater sense of autonomy and psychological control (Kossek & Mitchel, 2011; McGuire et al., 2010; World Economic Forum, 2020).

Flexible work options during normal times could be differentiated to times when there are pandemics (Tasmanian Government, 2020). During normal times, employees are afforded the discretion to choose but during times when there are pandemics such as COVID-19, the employer imposes FWAs that need to be followed (Kossek & Michel, 2011; Tasmanian Government, 2020). Therefore, flexibility can be distinguished and could relate to those adopted for the benefit of the company and the employee during pandemics like COVID-19.

Challenges that African countries faced in implementing flexible work arrangements during COVID-19

The John Hopkins Centre for Health Security aptly described the African countries as being the least prepared for the COVID-19 pandemic. This meant that African countries might not be able to provide IT support for the implementation of FWAs for increased productivity during the COVID-19 period (Lusaro-Prisno, Adebisi, & Xu, 2020). The majority of African countries, as well as some companies, do not have the capacity to put in place internal communication platforms such as an intranet, emails, websites, noticeboards, forums, brown bags and audio mechanisms to disseminate validated information about COVID-19, and hence, there is a failure to provide the guidelines for safety precautions and IT support to workers. Because of the foregoing, wrong information on COVID-19 was being shared on social media platforms (ILO, 2020). In addition, household incomes were affected because people were confined at home without pursuing their economic activities, which paralysed business activities in Africa. People were unable to buy food and could not pay for basic healthcare. Schools were shut down, and children stayed at home without schooling, creating emotional stress for parents (ILO, 2020; Lusaro-Prisno et al., 2020). As if these challenges were not enough, African countries such as Burundi, the DRC, Sudan, Algeria, Egypt, Mauritania, Morocco, Angola, Botswana, Malawi, Zimbabwe, Cape Verde, the Gambia, Liberia, Mali and South Africa had reported by March 2020 COVID-19 fatalities higher than the global rate of 6% (Lusaro-Prisno et al., 2020). However, the other challenges posed were that prices for masks and hand sanitisers were hiked and an artificial shortage was created, posing further challenges to adhering to precautionary measures. Porous borders and congested cities and slums made physical distancing impossible to practice in Africa. These are a few of the many challenges faced in Africa when trying to implement FWAs for increased productivity during the COVID-19 pandemic (ILO, 2020; Lusaro-Prisno et al., 2020; UN, 2020).

Employers' support and safety precautions

Employers' support and safety precautions (ESSP) came in the form of best practice guidelines. These best practice guidelines were in the form of policies and procedures that were established to deal with the pandemic and at the same time try to restrict its spread. Taking a cue from the procedures the governments came up with, companies emphasised the constant washing of hands, self-isolation, social distancing by keeping a distance of 1.5 m and working from home on full pay. In some cases, companies created policies in which only the essential staff were allowed to continue working, and the rest of the staff and those who already had some health conditions that would make them susceptible to COVID-19 infection had to stay home. The form of support the employer gave was to restrict workplace attendance for all workers except for critical services thereby encouraging employees to self-isolate. In all these scenarios, employees

continued enjoying the benefits that they normally enjoyed in the public sector (Government of Alberta, 2009; Kossek & Michel, 2011; Republic of Philippines, 2020).

Through different internal intranet platforms, staff were also inundated with messages on the promotion of the use of masks, hand soaps and sanitisers. Employees were also supplied with soaps, masks and hand sanitisers by the employer, which was a very important support. In addition, there was regular cleaning of the work environment and encouragement of employees to do so with their families, aiding the implementation of FWAs in various organisations (Government of Alberta, 2009; Republic of Philippines, 2020).

The four dimensions of employee well-being, namely, the physical, emotional, financial and social, which are at the centre of the employee experience, were in place. These dimensions are essential to an engaged and productive workforce in normal times. However, it should be noted that in the African countries, the majority of companies are reluctant to implement FWAs and were forced by the COVID-19 pandemic to implement necessary safety measures, and in many cases, this reluctance persisted. Employers' actions in supporting the well-being of employees were critical to building and sustaining workforce resilience. As such, employees received assurances from the governments and some employers that they would keep their jobs and continue receiving their salaries. This reduced stress on staff in some organisations as it had the effect of reduced financial and job insecurity in others. The government, some non-governmental organisations and other companies chipped in with food parcels and provision of accommodation for those who were retrenched and the destitute (Kossek & Michel, 2011; UN, 2020; World Economic Forum, 2020).

Information technology support for flexible work arrangements

Information technology support during the COVID-19 pandemic came in the form of clear communication during all phases of the organisations' responses to the pandemic. Through communication and information centres and staff intranets within organisations and SMS, employees or workers were constantly informed of the health hazards related to COVID-19 and what symptoms to look for, and the hotlines that could be used when seeking assistance from medical practitioners. Besides the above measures, clear and open communication channels at all levels were created in the workplace to encourage everyone's support for, and participation in, health and safety activities. This is very important as workers are more likely to follow health and safety procedures when they are involved in their development and implementation, although in some cases employees were told what to do from the decisions taken by representative committees (Government of Alberta, 2009; Kossek & Michel, 2011; UN, 2020).

Employees who were working from home were given IT support in the form of network connection into new

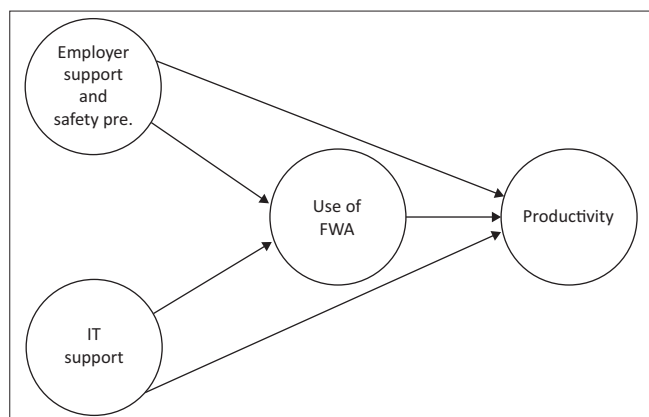
technologies for teleworking, such as Zoom, WhatsApp, newsletters, emails and Facebook to mention a few. This helped large groups of employees working from home and a sizeable number of non-mobile employees to retain a sense of connection and remain active in their different roles towards contributing to the productivity of their organisations. Some organisations even went to the extent of reimbursing the costs incurred by employees towards payments of their Wi-Fi connections. Companies are making all these efforts by emulating China where 63% of the employees were supportive of remote work and 55% believed that their employer-provided them with software, tools and resources to work effectively (Kossek & Michel, 2011; World Economic Forum, 2020).

Information communication technology plays a vital role in promoting the health and safety of people and keeping economies and societies working during pandemics (UN, 2020). Digital government technologies either through information sharing as alluded to earlier on or online services have kept companies and people connected during the pandemic. Digital technology has made it possible for governments and companies to make rapid policy decisions based on real-time data analytics to enhance the capabilities of employees and employers, and local authorities for better coordination and to deploy evidence-based services to those who need them most (Kossek & Michel, 2011; UN, 2020).

COVID-19 has forced several African companies and governments to consider the importance of FWAs. The pandemic has emphasised the importance of technology and the prioritisation of people's security. In the form of IT support, basic information found on national and organisational portals informed people of the outbreak, travel restrictions and practical guidance on protection and response. Governments have published statistics, total number of cases, total fatalities and cases by jurisdiction, and companies have passed on and emphasised the importance of such information through emails and any other relevant channels. Reliable information from these channels, especially from the government, has made it possible for employees or workers to make informed decisions about their daily routines, build trust as well as reduce panic and despondence amongst all the stakeholders (Kossek & Michel, 2011; UN, 2020). The conceptual framework underpinning this study is presented below.

As illustrated in Figure 1, the adoption of FWAs by employers during COVID-19 in selected African countries was informed by the need to ensure health and safety through the safety precautions given to employers' support and IT support. The adoption of a work from home arrangement or teleworking becomes essential in engaging employees and managing their productivity during the pandemic in Africa. This study hypothesised as follows for empirical analysis based on the literature review and the conceptual framework presented in Figure 1:

H1: Employers' support because of safety precautions exerts a significant effect on employees' productivity during the COVID-19 pandemic in selected African countries.



FWA, flexible work arrangement.

FIGURE 1: Use of flexible work arrangements in Africa during a pandemic.

H2: IT support has a significant effect on employees' productivity during the COVID-19 pandemic in selected African countries.

H3: Employers' support because of safety precautions exerts a significant effect on the use of FWAs during the COVID-19 pandemic in selected African countries.

H4: IT support exerts a significant positive influence on the use of FWAs during the COVID-19 pandemic in selected African countries.

H5: Use of FWAs exerts a significant positive effect on employees' productivity during the COVID-19 pandemic in selected African countries.

H6: Use of FWAs mediates the relationship between employers' support because of safety precautions and employees' productivity during the COVID-19 pandemic in selected African countries.

H7: Use of FWAs mediates the relationship between IT support and employee's productivity during the COVID-19 pandemic in selected African countries.

The methods adopted in evaluating employees' perceptions of FWAs adopted by employers in the participating African countries are discussed in the 'Methods' section.

Methods

This study used a cross-sectional survey research design rooted in a quantitative approach (Creswell & Hirose, 2019) to investigate employees' perceptions on FWAs adopted by employers in selected African countries during lockdown periods. Geographically, this study was conducted in African countries, which have recorded cases of novel coronavirus in 2020. The coronavirus affected 52 African countries with over 10 000 cases recorded, 487 deaths and 993 recoveries as of 07 April 2020 (Africanews, 2020). This has made most African countries impose various restrictions to help fight the spread of the pandemic. As of 07 April 2020 when this draft was made, the whole of Africa had rising cases with only two countries exempted. The study was limited to the service industry in participating African countries restrained from working from their offices to working from home using FWAs (technology). For example, companies in Ghana, Namibia, Nigeria and South Africa asked their employees to

work from home as one of the major measures to prevent the rapid spread of the novel coronavirus pandemic (Hadden, 2020; Tjitemisa, 2020a; 2020b). Most companies or businesses in African countries likewise are working from home using the available technology. The rationale behind this coverage was the kind of information required from the respondents taking into consideration the accuracy of the data needed to assess the influence of FWAs imposed by the pandemic on employees' productivity.

Research participants and sampling

The sampling technique adopted in this survey included non-probability, preferably purposive sampling and snowball techniques. The purposive sampling method is a non-probabilistic sampling technique (Saunders & Townsend, 2018) that helps in choosing respondents who are working from home because of the coronavirus pandemic to give valid information on the use of FWAs, ESSP, IT support and their productivity. Thus, purposive sampling was used in reaching out to respondents (who were working from home because of the pandemic) electronically via emails and other social media platforms. Additionally, snowball sampling was used in this study as the population of employees who were working from home in participating African countries is unknown and considering the geographical spread of participants (Jalca, Lopez, Sotelo, & Raymundo, 2019). Snowballing helped in selecting respondents who were in the service industry using technology through referrals. The link to complete the online survey was provided to respondents and they were encouraged to forward the survey link to other associates and colleagues who were working from home in selected African countries. After 6 weeks, there was a follow-up and gentle reminders to respondents regarding completion of the survey electronically if they had not performed so, and a total of 473 responses were retrieved online.

Measures

This study adopted a structured questionnaire to collect information on employees' perceptions of the use of FWAs during the lockdown in selected African countries. The first section of the online survey contained nine items gathering information on the demographic characteristics of respondents. Information on demographic characteristics (gender, age, type of employment, industry, experience, marital status, educational level, country and the number of dependents) were collected from respondents. The second section contained 18 items which were adapted from the Flexible Work Options Questionnaire (FWOQ version 2) developed by Albion (2004), and on the 17 statements developed by Charron and Lowe (2005). The items were adapted to gather information on four sub-sections: (1) use of FWAs in meeting work and family demands during the lockdown, (2) ESSP, (3) IT support and (4) productivity. The items on these sub-sections were designed on a five-point Likert rating scale, ranging from '1 – strongly disagree' to '5 – strongly agree'. The third section contains an open-ended

question useful in gathering additional comments from respondents regarding other opinions on the use of FWAs during the lockdown, relevant to the survey. The result of this grouping of statements helps to examine the attitudes of employees towards flexible work options in more detail. The questionnaire was designed using a Google form to improve access to the respondents through the various online platforms, which enabled respondents to complete the survey electronically using their smartphones, tablets and other personal computers or devices. The online survey tool was chosen to improve the ability to reach as many respondents as possible in selected African countries during lockdown periods.

Procedure

The online survey (Google form) adopted in this study ensured the anonymity of all participants by only providing a link to the survey, in which anonymised data were obtained in an Excel format. This survey did not collect any information that disclosed the identity of any respondent nor the identity of the participant's workplace. The survey began with the introduction as well as an informed consent form, emphasising that participation was voluntary. Participants had the right to refuse to participate in this study and were able to withdraw from the study at any time. It was pointed out that the survey responses would be confidential and anonymous, and only aggregate information (no individual responses) would be published. Based on the sampling techniques adopted in this study, the link to complete the survey online was provided to respondents. Participants were asked to forward the online survey link to their associates and colleagues who were also working from home in selected African countries during the lockdown. Four hundred and seventy-three responses were retrieved online, after 6 weeks of follow up and gentle reminders to participants regarding completion of the online survey.

Data analysis

The data were analysed using both descriptive and inferential statistical tools. Descriptively, the data were summarised for easy description using descriptive statistics (mean scores and standard deviation) via Statistical Package for Social Sciences (SPSS) version 26. The effect of FWAs in African countries on employees' productivity during the pandemic period was assessed using structural equation modelling (SEM). According to Gupta, Kumar, Singh, Foropon and Chandra (2018), there are two types of SEM, namely, partial least square structural equation model (PLS-SEM) and covariance-based structural equation modelling (CB-SEM). The choice of the type of SEM largely depended on whether the objective of the study was to build or test the theory. Covariance-based SEM is used to test the theory, thus a confirmatory technique was used to build theory derived from a well-established set of constructs. To assess the relationship between FWA in African countries and employees' productivity during the pandemic period, the partial least square structural equation model was the appropriate SEM to employ. The model was

built to possess the ability to integrate the measurement model and structural models as required by both types of SEM applications (Roberts, Thatcher, & Grover 2010). The analytical software which aided the estimation of the analysis included SPSS version 26 and SmartPLS 3.2.8.

Ethical consideration

The study strictly adhered to the ethical guidelines in social science research; the ethical clearance application form was completed and submitted with the required supporting documents to the Namibia University of Science and Technology for necessary approval. Ethical clearance was obtained from the Namibia University of Science and Technology Ethical Committee. Data collection then proceeded with the informed written consent of the participants on the cover page of the online survey. Information concerning respondents and their employers' identity was not required in this study.

Results

Data analysis procedures, presentation and interpretation of results emanated from quantitative data collected via an online survey during the lockdown. The first stage of data analysis procedures adopted in this study was the reliability and validity of the research instrument or measurement scales adopted in this study. In assessing the internal consistency of the measurement scales adopted in this study, Cronbach's alpha (α) and composite reliability (CR) coefficients were examined using SmartPLS. The validity of latent variables (constructs) in this study was ascertained statistically using convergent and discriminant validity. During preliminary data analysis to ensure validity and reliability, the following items were expunged consecutively (B4, B7, B5 and B6). Table 1 shows the validity and reliability of constructs that emerged based on employees' perceptions of FWAs adopted by employers during COVID-19 in selected African countries.

The validity of the instrument used in the measurement in this study was confirmed statistically through convergent and discriminant validity. In line with the Fornell-Larcker's criteria, convergent validity was examined using the average variance extracted (AVE) values, which were above the threshold of 0.5. Discriminant validity of the latent variables was ascertained by comparing the square roots of AVE values to the correlations. The square roots of AVE were greater than inter-construct correlations, which was a confirmation of discriminant validity (Hair, Hult, Ringle, & Sarstedt, 2016). Internal consistency of the research instrument adopted was confirmed statistically using Cronbach's alpha and CR coefficients, which were greater than the threshold of 0.7, as evident from the second and third columns in Table 1, respectively. Results provided in Table 1 show the validity and reliability of measurements used in this study (Hair, Hult, Ringle, & Sarstedt, 2016). A structural model explaining the direct and indirect effects of ESSP, as well as IT support (ITS) on the use of FWAs (use of FWA) and employees'

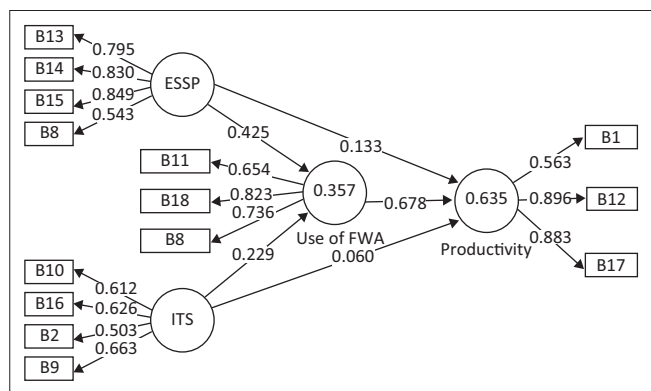
TABLE 1: Validity and reliability of the research instrument.

Latent variables	A	CR	AVE	ESSP	ITS	Productivity	Use of FWA
Employer support/safety precautions	0.751	0.845	0.584	0.764†	-	-	-
IT support	0.705	0.789	0.520	0.637*	0.721†	-	-
Productivity	0.734	0.833	0.633	0.558*	0.484*	0.796†	-
Use of FWA	0.729	0.821	0.549	0.571*	0.500*	0.734*	0.741†

*, Correlation is significant at ($p < 0.001$).

†, the square root of AVE.

CR, composite reliability; AVE, average variance extracted; ESSP, employers' support and safety precaution; ITS, information technology support; FWA, flexible work arrangement; IT, information technology.



ITS, information technology support; FWA, flexible work arrangement; ESSP, employers' support and safety precaution.

FIGURE 2: The mediating influence of flexible work arrangements on productivity.

productivity (productivity) are captured statistically as evident in Figure 2. The R^2 value explaining the joint influence of ESSP, ITS and the use of FWAs on productivity was also captured in Figure 2.

The path coefficient from ESSP to use of FWA ($r = 0.425$, $p < 0.001$, $n = 473$) shows that the ESSP exert a significant positive and direct effect on the use of FWAs. The path from ITS to use of FWA ($r = 0.229$, $p < 0.001$, $n = 473$) implies that ITS exerts a significant direct effect on the use of FWAs. The R^2 value ($R^2 = 0.357$) explains the joint influence of ESSP, as well as ITS on the use of FWAs during the lockdown periods in selected African countries. This result implies that the predictive variables explain 35.7% of the variance in the use of FWAs during the lockdown periods in selected African countries. Therefore, employers' support/safety precautions and ITS exert a significant joint influence on the use of FWAs in African countries.

The path loading from ESSP to productivity ($r = 0.133$, $p < 0.01$, $n = 473$) shows that ESSP exert weak significant but the direct effect on employee productivity during the lockdown. The loading from ITS to productivity ($r = 0.060$, $p > 0.05$, $n = 473$), however, shows that ITS exerts no significant direct effect on employee productivity. Rather, the use of FWA exerts a strong significant direct effect on employee productivity ($r = 0.678$, $p < 0.001$, $n = 473$) in participating African countries during the lockdown because of COVID-19. These results suggest that ITS may not exert a direct influence on employee productivity statistically, but it is evident that it exerts a significant indirect effect on employee productivity via the use of FWA ($r = 0.155$, $p < 0.001$). The R^2 value ($R^2 = 0.635$) explains the joint influence of exogenous and

TABLE 2: Path coefficients on the mediating influence of flexible work arrangements.

Latent variables	Coefficient	T statistics	p
ESSP → productivity	0.133	3.084	0.002
ESSP → use of FWA	0.425	9.136	0.000
ITS → productivity	0.060	1.506	0.132
ITS → use of FWA	0.229	4.323	0.000
Use of FWA → productivity	0.678	22.316	0.000
Total indirect effects			
ESSP → productivity	0.288	8.626	0.000
ITS → productivity	0.155	4.172	0.000
Specific Indirect effects			
ESSP → use of FWA → productivity	0.288	8.626	0.000
ITS → use of FWA → productivity	0.155	4.172	0.000
Total effects			
ESSP → productivity	0.421	8.931	0.000
ESSP → use of FWA	0.425	9.136	0.000
ITS → productivity	0.216	4.408	0.000
ITS → use of FWA	0.229	4.323	0.000
Use of FWA → productivity	0.678	22.316	0.000

ESSP, employers' support and safety precaution; ITS, information technology support; FWA, flexible work arrangement.

mediating latent variables on the endogenous latent variable in the structural model. The implication is that ESSP, ITS and use of FWA jointly explained 63.5% variations in employees' productivity during the lockdown periods in selected African countries. Therefore, employees' productivity during the lockdown in participating African countries was largely dependent on employers' support/safety precautions, ITS and use of FWA in Africa; judging from R^2 value of the endogenous latent variable (productivity). Establishing the mediating role of the use of FWA statistically suggests a further analysis of SmartPLS calculating the Bootstrapping using Bias-corrected and accelerated (Bca) Bootstrap option under the confidence interval method (two-tailed). Results from Bootstrapping showcasing T -statistics and p -values for direct effects, total and specific indirect effects and total effects of path coefficients linking specific latent variables are presented in Table 2.

Table 2 illustrates the total indirect effect of ESSP on productivity ($r = 0.228$, $p < 0.001$), as well as the total indirect effect of ITS on productivity ($r = 0.155$, $p < 0.001$). These results reveal that the exogenous latent variables exert significant indirect effects on employees' productivity during the lockdown in African countries using FWAs. Results point to the mediating role of the use of FWA in the interplay between the exogenous latent variables (employers' support/safety precautions and ITS) and the endogenous latent variable (productivity) in the structural model presented in Figure 2. More evidently, the specific indirect effects presented

in Table 2 confirmed the mediating influence of the use of FWA in the structural model. The specific indirect effect on the route from ESSP through the use of FWA to productivity ($r = 0.228, p < 0.001$) established the mediating effect of the use of FWA. Also, the specific indirect effect on the route from ITS through the use of FWA to productivity ($r = 0.155, p < 0.001$) is another confirmation of full mediation in this study. Therefore, the use of FWA during the lockdown in selected African countries mediates the relationship between employers' support, ITS and employees' productivity. The decisions reached on the research hypotheses based on these empirical findings are summarised in Table 3.

Discussion and practical implications

The findings from this study show that ESSP as well as IT support have a significant influence on the use of FWA in Africa during the lockdown. The use of FWAs (Hunter, 2019), however, exerts a significant influence on employees' productivity. Interestingly, these results corroborate the outcomes of a study conducted in the South African software development sector (Conradie & De Klerk, 2019). Specifically, both studies found a significant relationship between the adoption of FWAs and employees' performance. The exception is that work from home arrangement or teleworking put in place by employers in Africa during the lockdown was based on the need to ensure employees' health and safety.

The results point to the fact that the use of FWAs during the lockdown in selected African countries mediates the relationship between employer support and safety precautions and employees' productivity. Similarly, the relationship between IT support and employee productivity during the lockdown in selected African countries is fully mediated by the use of FWAs. This result is corroborated by a similar study across multiple countries which found a significant relationship between FWAs and organisational outcomes (Peretz et al., 2018). The difference is in the mediating influence of FWAs between employer's support and safety precautions and employees' productivity in African countries. However, Peretz et al. (2018) found that cultural values exert a significant mediating influence on the use of FWAs and organisational outcomes across multiple countries.

The current study empirically highlighted the roles of IT and employers' supports in the use of FWAs and employee productivity in selected African countries. The results

support the previous studies emphasising the need for adequate technological infrastructure to support the use of FWAs by employers in African countries (Adonis & Kabanda, 2019; Rooplal, 2017). These results imply that adequate technological infrastructure is fundamental for teleworking and other work from home arrangements (Leonardi et al., 2010; McGuire et al., 2010). Surprisingly, the current study found an insignificant direct relationship between IT support and productivity during the lockdown in selected African countries based on employees' perceptions. Rather, this study found a significant indirect effect of IT support on productivity through the use of FWAs, which suggests the importance of IT support on the use of FWAs and remotely managing employees' productivity in Africa.

The managerial implications from this study inform that with the changing nature of work and workforce demographics in contemporary workplaces, FWA could be incorporated into the work-life balance strategies of many companies with the growing number of female workers in the post-COVID-19 era. Hence, changing workforce demographics and lifestyles possibly suggest the adoption of FWAs in Africa to enhance work-life balance satisfaction and employee productivity. Therefore, there is a great need for employers' support and adequate provision of required IT devices for effective implementation of teleworking as an FWA in the post-COVID-19 era in African countries.

Limitations and future research

The obvious shortcoming of this study is that the findings emanated from statistical analysis are based on employees' perceptions of FWAs implemented by employers in selected African countries during the lockdown. The reason being that employers' views were not solicited, gathered and analysed in this study. Future research may consider gathering information on the views of employers and employees on the implementation of FWAs in Africa. The methodological limitation of this study could be traced to the use of non-probability sampling techniques (snowballing and purposive) justified based on the need to gather information specifically from employees who were working from home during the pandemic in selected African countries. Therefore, caution should be exercised in generalising based on the findings from this study.

Conclusion

This study examined employees' perceptions of FWAs adopted by employers in selected African countries during

TABLE 3: Summary of results from the hypotheses.

Hypothesis	Latent variable	Coefficient	T-statistics	p	Adjusted R ²	Decision
H1	ESSP → productivity	0.133	3.084	0.002	0.633	Accepted
H2	ITS → productivity	0.060	1.506	0.132	0.633	Rejected
H3	ESSP → use of FWA	0.425	9.136	0.000	0.354	Accepted
H4	ITS → use of FWA	0.229	4.323	0.000	0.354	Accepted
H5	Use of FWA → productivity	0.678	22.32	0.000	0.633	Accepted
H6	ESSP → use of FWA → productivity	0.288	8.626	0.000	0.633	Accepted
H7	ITS → use of FWA → productivity	0.155	4.172	0.000	0.633	Accepted

ESSP, employers' support and safety precaution; ITS, information technology support; FWA, flexible work arrangement.

the COVID-19 pandemic. The uniqueness of this study is built on the fact that there is a dearth of studies on the adoption of FWAs during a pandemic in Africa. Providing empirical evidence on the use of FWAs and their effect on employees' productivity during a pandemic in Africa, this study holds that employers' backing and IT support are fundamental for effective implementation. Remarkably, many companies in Africa adopted teleworking as a precautionary procedure to ensure the health and safety of employees during the COVID-19 pandemic. Engaging employees and managing their productivity during lockdown become more pronounced through teleworking and adopting video-conferencing software such as Skype, Teams and Zoom in Africa.

Statistically, this study concludes that the use of FWA mediates the interplay between employers' support because of safety precautions and employees' productivity during the lockdown in Africa. It is important to note that IT support exerts no direct significant effect on employees' productivity during the COVID-19 pandemic. Rather, it exerts a significant indirect effect on employees' productivity going by the use of an FWA path. Therefore, companies operating in African countries need to embrace flexibility by investing in technological innovation to support the effective implementation of FWAs in the post-COVID-19 era with the increasing number of women in their workforce.

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The authors have declared that no competing interests exist.

Authors' contributions

All authors contributed equally to this work.

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Data availability statement

The data that support the findings of this study are available from the corresponding author, upon reasonable request.

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