

Factors influencing the adoption of ICT for remote work among Zimbabwean SMEs: A case study of Bulawayo Metropolitan province



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ABSTRACT

The study's purpose was to evaluate factors that influence Information and Communication Technology adoption to support remote working by SMEs in Bulawayo, Zimbabwe. The Zimbabwean economy is excessively informal and has the largest informal economy globally, contributing 60.6 percent of the country's national Gross Domestic Product (GDP). Small and medium-sized enterprises are vital economic drivers in the developing world. Today's knowledge society demands firms to intensively apply ICTs for competitive advantage and market share. SMEs face many challenges during the current COVID-19 lockdown, and their survival depends on how they can adopt ICT for remote work. COVID-19 disruptions are being counteracted by e-commerce applications across all other sectors of the global economy. The study adopted a quantitative approach, where a questionnaire was used to gather views from 145 SMEs randomly selected in Bulawayo metropolitan province. From the samples, 113 questionnaires were completed. The study found that ICTs play a pivotal role in ensuring the success of remote working programs. Results indicated that ICT support services positively correlate with remote working and that most SMEs lack appropriate ICT tools to support remote working. Furthermore, SMEs face poor and expensive Internet and erratic electricity supply challenges. The study deduced that firms owned or run by young people promoted ICT adoption for telework. The study recommends improved government support by lowering Internet tariffs and supporting SMEs' ICT acquisition through import duty exemptions. Future work can evaluate the impact of ICT on the financial performance of SMEs after adopting various teleworking schemes.

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1. Introduction

The World Health Organization (WHO) declared COVID-19 a pandemic and called for the international community to take urgent and aggressive action (WHO, 2020). The COVID-19 pandemic forced countries worldwide to institute preventative measures that included lockdowns and social distancing to lower the infection curve. By 28 April 2020, about 4.2 billion people were subject to complete or partial lockdowns, representing 54 percent of the world's population and affecting 60 percent of the world's Gross Domestic Product (GDP)

(IEA, 2020). Globally, over 2.7 billion workers, representing 81 percent of the world's workforce, were affected by pandemic management measures, including full and partial lockdowns (ILO, 2020). The IEA (2020) reports that about 40 percent of the global workforce will become unemployed due to COVID-19, a ratio higher than that witnessed during the 1930s Great Depression.

The International Labour Organization (ILO) stated that over 2 billion people work informally, and the COVID-19 outbreak affected their source of livelihood (ILO, 2020). The International Monetary Fund reported that Zimbabwe had the largest informal economy globally, and its national contribution to GDP was 60.6 percent. Zimbabwe's SMEs contribute 58 percent of the country's GDP (Nyoni and Bonga, 2018). Chaora (2020) affirmed the findings by analyzing that 90 percent of businesses in Zimbabwe were in the informal sector, and business closure due to the pandemic negatively impacted their productivity. At the peak of

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Zimbabwe's initial COVID-19 lockdown between 30 March and 31 May 2020, 35 percent of most Small Medium Enterprises (SME) worked remotely, 32 percent shut down operations entirely, and the rest continued their day-to-day operations with essential staff only (Chaora, 2020). The World Bank Group report concluded that 90 percent of Zimbabwean households cited a drop in revenue, and 44 percent of wage workers reported a reduction or loss of wages altogether. During the lockdown, the inability to remain open resulted in up to 68.5 percent of SMEs failing to restock, suffering individual losses between USD 250 to upwards of USD 100,000.00 (Chaora, 2020).

In most developed countries, remote workers had the opportunity to go through various iterations and reconfigurations of their tactics, processes, and procedures to improve and better function in the work-from-home format. As early as 2010, the US approved legislation that promoted telework, allowing employees to work 20 hours a week remotely (Nicholas, 2014). There is an increase in the adoption of telework in the developed world; however, many organizations in Africa are yet to adopt the practice (Ye, 2012). The African continent's challenges include its underdeveloped infrastructure and haphazard value chains, which have been compounded by challenges associated with the COVID 19 pandemic.

Information and communications technology (ICT) facilitates telework, where workers can work from any time and anywhere (Nicholas, 2014). Large organizations have mobilized ICT services to support work from home. According to Tokarchuk et al. (2021), teleworking gained prominence in the 1970s under various names such as telecommuting, remote working, and work from home. The implementation and execution of telework are through the telework processes' structure. SMEs have limited capacity in terms of human and materials to adopt ICT services for their employees to work from home. A study by Makiwa and Steyn (2016) observed that most organizations own ICT assets but underutilize them. Vrchota et al. (2019) discovered that most businesses, including SMEs, use ICTs. Still, there was low uptake of teleworking, with one-third of all enterprises, despite more than three-quarters of Czech employees preferring to work from home.

Knowledge workers refer to a branch of workers involved in the processing and distributing data compared to those involved in production (Nicholas, 2014). With the developments in the knowledge economy, the number of workers in knowledge work has increased over the years. Management support is one of the processes needed to successfully enable teleworkers to work from home. The impact of telework can be categorized into three groups; organizational impact, societal impact, and employee impact.

A World Bank study reports that the global GDP would fall by an average of 2 percent due to the pandemic, the average for developing countries is 2.5 percent, and 1.8 percent for industrialized

countries, while in worst-affected countries, and it would reach 6.8 percent (Maliszewska et al., 2020). On the economic front, the Centre for Economics and Business Research (CEBR) estimates that the UK had sustained a £251 billion reduction in gross value addition between March 2020 and March 2021 due to COVID-19. The CEBR estimates that the UK's GDP could fall by 5 percent. The US realized a negative GDP growth of 3.5 percent in 2020, the worst since the plunge experienced in World War II.

Tokarchuk et al. (2021) revealed that most SMEs lag in Italy regarding teleworking implementation. Among many problems encountered by SMEs in Italy, were a lack of capacity, knowledge, and skills to use ICTs that support remote working. In Saudi Arabia, AlBar and Hoque (2019) found that SMEs were generally slower than large firms to adopt ICTs. They found that challenges faced by SMEs in Saudi Arabia include lack of access to finance, low entrepreneur and business skills, weak market linkages, and an unfavorable business environment making an investment in ICT unprofitable.

Studies have revealed that SMEs are vital economic drivers in the developing world. Ibrahim (2014) opined that SMEs must not lag as they provide most people in the developing world with sources of livelihood, thereby significantly reducing poverty. In a study that focused on adopting ICTs among Somalian SMEs, Ibrahim (2014) revealed that the fast development of ICTs has brought many benefits and improved livelihood in all facets of life. Barriers to ICT uptake by SMEs include owner-manager characteristics, cost, and return on investment, poor network infrastructure, social, cultural, political, legal, and regulatory challenges. Zimbabwe's technological adoption rates are high at 3.7 on a scale of 1 to 5, 1.2 points above average, while its technological readiness is ranked at 2.8 out of 5 (WEF, 2015). Despite these statistics, Makiwa and Steyn (2016) revealed that most SME organizations in Zimbabwe use manual systems.

In light of these arguments, the study seeks to provide an in-depth analysis of factors that affect the successful implementation of ICT services and facilities that support remote working. The study resonates with the observations of the IEA (2020), which highlighted that the COVID-19 disruptions are being compensated by more significant e-business across all other sectors of the global economy. The study's objective was to determine the factors that influence the adoption of ICT services for remote working among Zimbabwean SMEs.

2. Literature review

2.1. SMEs in Zimbabwe

There are three categories of SMEs in Zimbabwe: Micro, small, and medium. A micro-enterprise has up to 5 permanent employees while small have up to 20 permanent employees and medium up to 100 permanent employees. While SMEs play a critical role in driving economic growth and reducing

unemployment, they face many challenges, especially access to ICTs. [Ye \(2012\)](#) acknowledged that without ICTs, telework may be challenging to implement.

2.2. Theories on the adoption of ICTs for remote working

The Diffusion of Innovation Model (DIM) theory explains the link between organizational innovation and internal, external, and individual elements ([Rogers, 1995](#)). In addition, the theory explains the factors that affect the adoption of ideas, products, and practices within an organization. The theory also focuses on the conditions that facilitate adopting technology or innovation within a given social system.

2.3. The technology, organization, and environment (TOE) framework

[Tornatzky et al. \(1990\)](#) proposed the Technology, Organization, and Environment (TOE) framework, which argues three influential elements in adopting technology. The elements are the organizational, technological, and environmental perspectives. The technological dimension is comprised of all the external and internal technologies that are significant to an organization and traces the impact of new technologies on existing organizational processes. [Ghobakhloo and Tang \(2013\)](#) revealed that introducing new technologies will most often lead to value-related changes in organizations and interrupt the existing organizational processes. The TOE's environmental context comprises the elements that surround an organization. [Oliveira and Martins \(2010\)](#) noted that these elements might include sponsors, suppliers, shareholders, the government, employees, competitors, and the community. These factors can influence an organization's need to adopt an innovation, including its ability to implement and utilize the innovation ([Tornatzky et al., 1990](#)). The TOE model assists in understanding the perceived benefits of adopting an ICT tool, and it reveals critical adoption factors.

2.4. The impact of ICT on the success of teleworking

2.4.1. Information and communication technology (ICT)

According to [Wanyoike et al. \(2012\)](#), ICTs are a range of digital technologies built to collect, organize, store, process, and communicate information within and outside organizations. A study by [Hitt et al. \(2010\)](#) revealed that ICTs enhance information processing, transmission, collection, utilization, and storage. Another study by [Wanyoike et al. \(2012\)](#) indicated that ICTs are now critical for any organization. The commonly used ICT tools key to the success of SMEs includes email, company

website, intranet, extranet, computer network, Internet, and wireless access ([OECD, 2004](#)).

2.4.2. The use and the impact of ICT in remote working

[Bailey and Kurland \(2002\)](#) argued that modern-day organizations increasingly rely on ICTs to support work activities and collaboration between geographically separated workplaces. As a result, ICTs play a central role in supporting working between geographically separated workplaces. Organizations offer flexible ways for their workers to access data, voice, and Internet-mediated services remotely ([Ye, 2012](#)). Another study by [Belzunegui-Eraso and Erro-Garcés \(2020\)](#) affirmed that ICTs constitute a key factor in teleworking and that increase in the use of ICTs and technological improvement with the use of computers and microelectronics accelerate the expansion of teleworking. The study concluded that ICTs have made teleworking easier, faster, more affordable, and convenient. The convergence between information and communication technologies contributes to teleworking, making it cheaper, faster, portable, and convenient ([Makimoto, 2013](#)). This convergence has been necessitated by the emergence of an integrated broadband system relying on ICT.

[Messenger and Gschwind \(2016\)](#) found a positive relationship between technologies and the possibility of working outside of the employer's buildings. The study further reveals that ICT-based practices foster flexible work arrangements, such as flextime and telecommuting, which increase employees' autonomy in their work. An Italian study by [Tokarchuk et al. \(2021\)](#) revealed that the outbreak of the COVID-19 pandemic necessitated the adoption of teleworking for most organizations. However, the survey noted a need for reliable connectivity, primarily via the Internet, for teleworking to be successful. A study in Ghana highlighted that Ericsson had installed appropriate infrastructure that enabled employees to work from any place and anytime ([Ansong and Boateng, 2018](#)).

2.5. ICT infrastructure in Zimbabwe

According to [Kabanda \(2011\)](#), the level of ICT integration in any country depends on the ability of the ICT sector to offer relevant services in a cost-effective and viable manner. Modern ICT equipment remains expensive to most SMEs. Another critical aspect noted is that Zimbabwe has improved in terms of integrated online payment methods, mainly due to cash shortages that have been experienced in the last three years ([Gudhlanga and Madongonda, 2019](#)). Persistent power cuts drive operational costs beyond SMEs and deploy alternative power to run their systems. The cost of the Internet is very high, accounting for over 25% of monthly income for civil servants such as teachers. This means that for most

Zimbabweans, Internet access may still be viewed as a luxury.

2.6. Factors influencing adoption of ICT for teleworking

2.6.1. Individual context factors

According to [Agboh \(2015\)](#), the SME owner or manager is critical in making executive decisions as to whether to adopt ICT or not. Studies from developing countries showed an inferiority complex and thought that ICTs are only for big organizations and the elite ([Alam and Noor, 2009](#)). [Sarosa and Zowghi \(2003\)](#) asserted that education is a critical element that affects ICT adoption. As such, SME owners, managers, and employees need to attain a certain level of education to be technology savvy. [Ibrahim \(2014\)](#) revealed that in Somalia, most SMEs are reluctant to adopt ICTs because their owners are not educated enough to understand the ICT potential for their businesses. Lack of ICT knowledge in terms of use and perceived benefit is a critical factor and barrier to adoption ([OECD, 2004](#)). According to [Abor and Quartey \(2010\)](#), most SME owners fail to identify ICT products or services relevant to their businesses.

The SME manager's experience is a critical factor in influencing ICT adoption by SMEs ([OECD, 2004](#)). OECD further highlights that SME managers who have been in the organization for a long time are negatively impacted by new technology, organizational culture, and structure changes. A study by [Ongori and Migiro \(2010\)](#) established that the age and gender of organizational members could be an inhibiting factor in the adoption of ICTs. Furthermore, [Ibrahim \(2014\)](#) found that SMEs with young supervisors or managers adopt ICT more than older executives. Young managers are often enthusiastic about innovating, taking risks, and achieving more, unlike their conservative senior counterparts.

2.6.2. Organization context factors

Organizational factors include top management support and skill, security, trust and privacy, financial resources, size and ICT training. [Hitt et al. \(2010\)](#) stated that those at the top determine the strategic direction of an organization. SME management or owners are responsible for establishing an appropriate vision, culture, policy of adopting ICTs ([Singh, 2010](#)). [Beatty et al. \(2001\)](#) argued that issues of trust, security and protection are critical when deciding to adopt ICTs. Security concerns that emanate from cyber-attacks, loss of data, hacking and viruses have negatively affected ICT adoption in recent years ([Beatty et al., 2001](#); [Ibrahim, 2014](#)). ICT adoption is affected by the cost of equipment and installation and the determining the rate of return from ICT investments. According to [Ongori and Migiro \(2010\)](#), SMEs in developing

countries fail to cope with costs related to ICT adoption, including training, hardware and software, support, and maintenance costs. Organizational size may have an impact on ICT adoption. According to [Beatty et al. \(2001\)](#), larger organizations have many resources at their disposal; therefore, they can quickly adapt to new technology. A study by [Bharati and Chaudhury \(2015\)](#) reported that SMEs find it challenging to procure ICT systems because of the high setup cost. Additionally, [Apulu and Latham \(2011\)](#) asserted that organizations should train their employees before adopting ICT.

2.6.3. Technological factors

ICT adoption by SMEs in developing countries is relatively low as they face many challenges such as financial, technological, and human expertise. According to [Forman and Zeebroeck \(2015\)](#), SMEs encounter Internet accessibility challenges related to infrastructure and cost in many cases. ICT systems must not be too complex; for example, information management issues such as complexities between the old and new ICT applications ([Ibrahim, 2014](#)). Furthermore, the scholar notes that most SME employees are digitally illiterate and lack Internet access derailing teleworking efforts.

2.6.4. Environmental factors

Several external environmental factors influence whether organizations adopt ICTs or not. [Scupola \(2009\)](#) argued that infrastructure related to the cost and availability of affordable Internet connectivity is key to adopting ICT for remote work. In addition, electricity supply plays a critical role in ensuring ICTs are easy to utilize. [Zanamwe et al. \(1970\)](#) found that lack of access to electricity in Tanzania hindered SMEs from adopting ICTs. Data costs can be a hindrance; for example, Zimbabwe has the most expensive data globally, with one gigabyte costing USD75.00, and this negatively affects remote working by SMEs.

[Scupola \(2009\)](#) opined that for SMEs to use ICTs effectively, there is a need for government involvement, primarily through policies, laws and financial assistance. Research covering Nigerian SMEs by [Ladokun et al. \(2013\)](#) revealed that skills and training, infrastructure, government policies, investment cost, management support, maintenance cost influence ICT adoption. Another study by [Agboh \(2015\)](#) on ICT adoption in Ghana revealed that lack of financial resources, poor infrastructure, lack of skilled personnel to operate the ICT affected ICT adoption by SMEs. Despite these challenges, a study in Zimbabwe revealed an appetite for ICT adoption by SMEs through an upsurge in mobile services, including mobile money services such as paying utility bills, receiving and transferring money, and various mobile banking services ([Masocha and Dzomonda, 2018](#)).

3. Research approach

The study adopted a quantitative approach, where a questionnaire was used to gather views from 145 SMEs randomly selected in Bulawayo metropolitan province. From the 145 chosen samples of SMEs, 113 questionnaires were completed. This represents 77.9 percent of the total population. Kothari (2004) suggested that 30 percent of the sample was large enough not to affect the validity and reliability of data.

3.1. Research instrument validity and reliability

Zikmund et al. (2013) highlighted that the instrument's reliability is an indicator of its internal consistency, meaning how well it results in

consistent scores when administered at different times to the same subjects. The calculated Cronbach's coefficient alpha (CR α) was 0.8, indicating that the instrument was reliable above the 0.7 thresholds suggested by Zikmund et al. (2013).

3.2. Data analysis

The demographics of the participants and SME characteristics are summarized in Table 1. The majority (37.17 percent) of the participants were aged between 20-30 years. Almost half (45.13 percent) of the participants had attained secondary-level education. The majority (29.20 percent) of the participants were in the retail sector, 42.48 percent of the SMEs employed 5-10 people, and 40.71 percent had less than five years in business.

Table 1: Demographics of the respondents and SME characteristics

Variable	Category	Frequency	Percentage
Gender	Male	69	61%
	Female	44	39%
Age (Years)	Below 20 years	21	18.58%
	20-30 years	42	37.17%
	31-40 years	28	24.78%
	41-50 years	18	15.93%
	Over 50 years	4	3.54%
Education	Primary level	15	13.27%
	Secondary level	51	45.13%
	Undergraduate	37	32.74%
	Postgraduate	10	8.85%
Industry sector	Manufacturing industry	8	7.08%
	Services industry	21	18.58%
	Agriculture	23	20.35%
	Mining and quarry industry	6	5.31%
	Construction	9	7.96%
	Retail	33	29.20%
	Energy	3	2.65%
Number of employees	Financial services	10	8.85%
	Below 5	23	20.35%
	5-10	48	42.48%
	10-20	28	24.78%
Years in business	Above 20	14	12.39%
	Below 5	46	40.71%
	5-10	38	33.63%
	10-20	22	19.47%
	Above 20	7	12.39%

Table 2 indicates that the majority of SMEs (77 percent) have ICTs in their business. More than half (55 percent) indicated that they use ICTs for telework. Additionally, 66 percent of the respondents indicated that employees are not using organizational ICT equipment to work from home.

This indicates that SMEs lack adequate ICT tools to implement work from home programs. Furthermore, 87 percent of the respondents revealed that most SME businesses have no formal work from home policies.

Table 2: Influence of ICT on remote working

Question	Yes	No
Do you use ICT in your business?	77%	23%
Does your business use ICT to work from home?	55%	45%
Do employees use the ICT systems you use in your business when working from home?	34%	66%
Does your business provide ICTs for employees who are working from home?	23%	77%
Does your business have a formal work from home policy?	13%	87%

Table 3 ranks the most common uses of ICTs among the respondents. Results show that 82 percent of the respondents use ICTs for information storage, 73 percent for information collection, 98 percent for information transmission, and 86 percent for information processing. These findings indicate that ICTs play an essential role in work from

home programs. Table 4 illustrates that 98 (87 percent) of the respondents connect to the Internet via mobile data, 23 (20.4 percent) connect via a portable device, 15 (13.3 percent) on Public Wi-Fi, 27 (23.9 percent) use Asymmetric Digital Subscriber Line (ADSL), and 11 (9.7 percent) via Fibre Optic Cable. These results indicate that most SMEs face

capacity and reliability limitations as they rely on mobile data to connect to the Internet compared to a fast and more reliable Internet connection through Fibre Optic Cable. The results are similar to Ibrahim (2014), who noted that SMEs connect to slow Internet which affects their operations.

Table 3: The purpose of ICTs in remote working

Purpose	Percentage
Information storage	82
Information collection	73
Information transmission	98
Information processing	86

Table 4: How SMEs connect to the internet

Device	Count
Mobile Data	98
Portable Wi-Fi Device	23
Public Wi-Fi	15
ADSL	27
Fiber Optic Cable	11

Table 5 reveals that 35.4 percent of the respondents used cloud computing for data and information storage, while 20.3 percent had business applications such as Sage Pastel and Open Bravo. In

addition, only 11.5 percent had remote control software such as AnyDesk and TeamViewer. Most SMEs used video conferencing and virtual meeting software, as denoted by 44.2 percent of the respondents.

Table 5: Software tools being used by SMEs in remote working

Software Tool	Count
Cloud Computing	50
Business Applications	13
Remote Control Software	23
Video Conferencing Software	40

Table 6 reveals a Pearson Correlation of 0.952 at a significance level of 0.01, thus indicating a strong positive linear relationship between ICT availability and the adoption of remote working. Table 7 shows that the age of the manager or owner is strongly correlated to ICT adoption for remote work. The results are consistent with those of Ongori and Migiro (2010), who asserted that young managers were likely to adopt ICTs compared to older managers.

Table 6: Correlations

		Availability of ICT assets	Adoption of remote working
Availability of ICT assets	Pearson Correlation	1	.952**
	Sig. (2-tailed)		.000
	N	113	113
Adoption of remote working	Pearson Correlation	.952**	1
	Sig. (2-tailed)	.000	
	N	113	113

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

Table 7: Correlations

		Adopting ICT for remote work	Age of the owner or manager
Adopting ICT for remote work	Pearson Correlation	1	.429**
	Sig. (2-tailed)		.000
	N	113	113
Age of the owner or manager	Pearson Correlation	.429**	1
	Sig. (2-tailed)	.000	
	N	113	113

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

3.3. Readiness of SMEs in adopting ICTs for remote working

All the respondents highlighted that the cost of the Internet and the load shedding interrupted business operations. Over three-quarters, (78 percent) of the respondents noted that some of their equipment was malfunctioning because of the load shedding. Load shedding has a negative impact on teleworking adoption by SMEs. The majority of the respondents (77 percent) revealed that they had plans to ensure that they were up to date with changing trends in the ICT field. On the other hand, 23 percent have not taken any steps to embrace ICT for remote work.

Furthermore, 73 percent said they found new information on ICT adoption online, while 75 percent sought guidance from colleagues. The other 71 percent sought guidance and advice from ICT experts. The findings also reveal that 46 percent of the respondents acquired computer hardware and

software as needed. However, 41 percent indicated that they did not acquire any ICT. Findings also reveal that SMEs were preparing to adopt ICT for remote working by acquiring skills in the technology. Forty-six percent do so through training, 80 percent through YouTube videos, while 13 percent use conferences and seminars.

4. Discussion

The study reveals that most respondents have ICTs in their business; however, SMEs are not providing ICTs to enable their employees to work from home, nor do they have policies for its support. This resonates with findings by Makiwa and Steyn (2016), who revealed that most SMEs could not provide ICTs essential for business operations.

The study results revealed a positive relationship between ICT and remote working. Ibrahim (2014) recommended the need for appropriate ICT for telework support. Messinger and Gschwind (2016)

and Belzunegui-Eraso and Erro-Garcés (2020) found a positive relationship between technologies and the possibility of working outside of the employer's buildings and accelerating the expansion of teleworking. The current study further reveals that SMEs use ICTs for information collection, processing, storage, and transmission.

The study found that SMEs connect to the Internet for remote working purposes through mobile data which is expensive and unreliable, while very few use faster and more reliable Internet such as ADSL and Fibre Optic cable. The findings also reveal that respondents encountered challenges with erratic electricity supply, thus affecting Internet connectivity. The study found that most respondents relied on smartphones and computers in terms of ICT hardware tools. Additionally, the study reveals limited uptake of business applications among SMEs. The study found that most SMEs used video conferencing software with limited use of remote control software which is essential in remote working. This also affects the success of remote working among SMEs.

Factors influencing the adoption of ICTs for remote working among SMEs are classified into individual, organizational, technological and environmental factors. The study has revealed that younger SME managers or employees are more likely to adopt ICTs for remote working than older staff members. This is congruent with Ongori and Migiro (2010), who found that SMEs with young supervisors or managers adopt ICT more than those with older executives. With regards to organizational factors, the study found that SMEs lack the financial resources to acquire ICT tools for remote working. Furthermore, most SMEs view their organizations as too small to adopt ICTs for remote work, and they cannot also train their employees in using ICT for remote work. Apulu and Latham (2011) pointed out that SMEs in developing countries do not consider employee ICT training a critical component of employee development because they fear losing trained employees to competitors; hence, they are reluctant to develop employees' ICT skills.

On technological factors, the study reveals that SMEs view ICTs for remote working as too complex to be easily understood and that Internet connectivity is unreliable. According to Forman and Zeebroeck (2015), Internet accessibility is a challenge due to inadequate infrastructure and cost in many developing countries. In terms of ICT readiness, most of the respondents indicated that they were researching online and seeking guidance from experts or colleagues. Respondents also indicated that they were acquiring ICT hardware and software on a need basis, and 18 percent indicated that they acquire ICTs to match changing trends.

5. Conclusion

The study established a positive linear relationship between the availability of ICT services and the adoption of remote working. ICTs have

several purposes in remote working, including information collection, storage, processing and most importantly, transmission. The results show that most SMEs in Zimbabwe connect to the Internet through mobile data at their homes, resulting in poor connectivity. The study also revealed that SMEs face individual, organizational, technological and environmental factors in adopting ICT for remote work. Individual factors included lack of knowledge, experience, level of education and inferiority complex. Organizational factors include support, lack of capacity to train employees and financial resources. The technological factors were poor Internet connectivity and the perceived complexity of ICT tools and software. Environmental factors include lack of government support, erratic electricity supply, poor Internet and high cost of Internet.

Nevertheless, SMEs researched online, sought guidance from colleagues and experts, and upgraded their skills mainly by watching YouTube videos. The study concludes that, for SMEs to adopt ICT services for remote working successfully, they need to know the appropriate ICT tools required. The study found that the majority of SMEs have no appropriate ICT tools to support remote working. While online administration of questionnaires was the most appropriate data-gathering technique due to COVID-19, some participants had limited access to the Internet. The government should consider providing subsidies and tax exemptions to help SMEs acquire ICT equipment. Internet service providers should offer special packages for SMEs and upgrade their network to improve coverage and reliability.

Compliance with ethical standards

Conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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