

Dynamics of Information Communication Technology (ICTs) on Performance of Selected organizations in the Telecommunication Sector in Zimbabwe during Covid-19 Global Pandemic

BY

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Abstract

Telecommunications organizations in Zimbabwe during Covid 19 Global Pandemic. The study was guided by Positivism research Philosophy. Questionnaires were used to collect data from managers, senior employees and supervisors using a sample size of 103 respondents. Descriptive statistical analysis, exploratory factor analysis and regression analysis were performed in SPSS to test research hypotheses. The study found that ICTs have a positive effect on the organization's performance. This study established that inadequate information on ICTs, key resources (tangible and intangible), lack of cooperation from employees were some of the main challenges affecting implementation of ICTs. The study also established that organizations in the telecommunication sector can realize several benefits such as improving company image, enhanced customer service, enhance customer satisfaction, improved communication both internally and externally if ICT is fully utilized. The study established that overall ICT is a significant enhancer of organization's performance. Organizations in the telecommunications sector must continuously invest in their ICT infrastructure so as to stay abreast of competition especially in the new world order of decongesting the workplaces and work from home. Organizations are further advised to come up with certain training programs or mentoring by professionals for the employees so as to enhance their skills as well as updating them on the current technology so as to yield better results on performance. Organizations in the telecommunication sector are therefore urged to consider investing in programs that enhance the skills of their employees and management since skill is a determining factor of the effective usage of ICT initiatives. Telecommunication organizations are also urged to pay attention to their systems, processes, availability of information and ICT policies since these have a serious bearing on the effectiveness of ICT implementation.

Keywords: Information Communication Technology (ICTs), Performance, Telecommunications, Zimbabwe.

Introduction and Background of the Study

Information and Communication Technology (ICT) is becoming increasingly useful within business organizations around the globe. Throughout any business, there are probably a huge number of devices that are integral to internal as well as external communications. Mobile phones, PCs, laptops, and any device that allows for communication to and from the home office fall within

the umbrella of ICT. Globally the coronavirus has mostly negatively affected the working conditions of various companies. The virus was first detected in China in late December 2019 but the impact on various economies was perceived only later. According to various surveys conducted over different time periods in various countries showed the largest share of companies that experienced a

decline in demand and sales for their products. In some countries such as Colombia and the United States of America, there were mass layoffs and closures which occurred just a few weeks into the crisis (Bartik, Bertrand, Cullen, and Glaeser, 2020). In America, a company such as Slack and Gates foundation has made the abrupt shift to working from home and has adopted ICT to facilitate working from home.

In South Africa companies such as ABSA bank and Telkom has undertaken a response plan of working from home during the covid 19 pandemic era with the aid of ICT. Many industries in South Africa have undergone a recognizable metamorphosis and they have resorted to finding many avenues of operation on ICT during the covid 19 era so as to provide convenience to their customers (Nokaneng, 2019). Working from home is a working arrangement in which a worker fulfills the essential responsibilities of his or her job while remaining at home, using information and communications technology (ICT). International Labour Organization (2020) defined the term working from home to refer uniquely to home-based teleworking as a temporary, alternative working arrangement. It requires shared responsibility and commitment by both employers and workers to ensure business continuity and employment. Progress in information communication technology has enabled and facilitated alternative working arrangements, including working from home, teleworking, telecommuting, and remote working (Abbasi, Tarhini, Hassouna, and Shah, 2020).

Working from home, teleworking, telecommuting, and remote working are often used interchangeably to refer to new and evolving models of working outside the employers' premises or workplace. There may be slight differences among these terminologies. For example, some may imply a temporary arrangement while others may imply a long-term arrangement. Working from home is considered to be home-based telework and may not always be a substitute for commuting, but they are relatively minor. Many worksites and premises are closed across the entire company as a precautionary measure or as a result of a government directive, companies may be able to implement working from home arrangements to achieve continuity of service, maintain productivity, and preserve jobs while safeguarding the safety and health of workers. The International Labour Organization (2020) estimated that close to 18 percent of workers have occupations that are suitable for working from home and live in countries with the infrastructure to enable working from home.

The responsibility for working from home arrangements is shared, and it requires the commitment of both employers and workers to make it successful. Both employers and workers should be practical, flexible, and sensible to each other's situation when implementing working from home arrangements (International Labour Organization, 2020). Before rolling out working from home arrangements, employers of various organizations assess if it is possible and practical for the job functions and the jobholder to identify if the job functions and tasks can be done off-site. This may involve innovation and creativity to do things differently from the norm. They also assess mechanisms for connectivity such as regular video conferencing calls and other means. Moreover, some

organizations assess the infrastructure, facilities, and tools available for working from homes such as Internet connectivity and the availability of reliable power supply.

In Zimbabwe, many organizations have suffered a lot of disruptions in supply chains due to the ravaging global health pandemic Covid 19. Telecommunication organizations such as Telecel Zimbabwe, Econet, and Netone have adopted ICT facilitates to ensure proper working from home in the Covid 19 era. Mazikana (2020) noted that organizations such as Telecel have assessed the legal requirements, obligations, and potential liability, taking into consideration the worker's situation and the job functions, equipment, and tools needed, assessed the worker's situation in terms of safety and health in his or her domestic environment and actual ability to carry out the tasks required at home and considered the potential impact of the worker's living arrangements. For example, workers may have a child or dependent care responsibilities, relationship strain or domestic violence, long-term health conditions, or disabilities in facilitating working from home phenomena.

In Zimbabwe, Wireless communication technology, particularly cellular networks have spread rapidly throughout Zimbabwe within the past decades making it the main form of telecommunication in the country. The existence of three main players in the sector which are Econet, Telecel, and NetOne has given way to high competition in a wide range of areas in pursuit of attracting customers and keeping present ones (Kabweza, 2011). This research study focuses on telecommunication organizations such as Telecel Zimbabwe, which is one of Zimbabwe's mobile telecommunications network service providers. Telecel Zimbabwe is the third-largest mobile telecommunications network service provider in Zimbabwe with the government of Zimbabwe being the major shareholder.

The organization has listened to employee feedback and expanded its policy to include home office equipment such as desks and desk chairs. It is important to note that while advances in ICT have enabled working from home, not all job functions and tasks can be done outside the employers' premises or the specified workplace. For telecommunication organizations, there are some occupations and tasks which are not practical or feasible, whilst working from home. Some telecommunication organizations have faced many challenges in embracing various forms of ICT in necessitating working from home during the covid 19 lockdown. Therefore, it is against this background that the study seeks to investigate the influence of Information Communication Technology in the Performance of Selected Telecommunications organizations in times of Covid 19 Global Pandemics in Zimbabwe.

Statement of the Problem

Many clients out of frustration and unnecessary delays do complain of the operations of Telecommunication organizations during the Covid 19 era. Since modern-day customers are always in a hurry, they often leave telecommunication services for some telecommunication organizations such as Econet Wireless which they refer to as offering fast-track consumer services. Some telecommunication organizations such as Telecel have resorted to

ICT which facilitates them in working from home during Covid 19 era. Telecel has faced many challenges in embracing various forms of ICTs in necessitating working from home. Contextually, this current worrisome state of affairs in the telecommunication sector of Zimbabwe necessitated this unique study on investigating the extent to which ICT facilitates working from home phenomena in the Covid 19 era. As such, technological advancements have made working more adaptable, acceptable, and affordable to many organizations (Nunkoo, Juwahee, and Rambhunju, 2013). Therefore, this study sought to establish how ICT impact the performance of Telecommunications entities in the Zimbabwe context

Research Objectives

1. To analyze the influence of Information Communication Technology on Performance of Selected Telecommunications Organizations during Covid 19 Global Pandemics in Zimbabwe.

Research hypothesis

H₁: ICT positively enhances the performance of telecommunication organizations during the covid 19 pandemic era in Zimbabwe.

Methodology

The study was guided by Positivism research Philosophy. Questionnaires were used to collect data from managers, senior employees, and supervisors using a sample size of 103 respondents. Descriptive statistical analysis, exploratory factor analysis, and regression analysis were performed in SPSS to test the research hypothesis.

Theoretical Framework

The Dynamic Capability theory was used to guide this study. The Dynamic Capability theory is suitable for ICTs studies as it pulls management, technology, and talent capabilities to improve organizational agility as proposed by Wamba et al. (2016). Drawing on the Dynamic Capability theory, the success of the ICT system count upon a holistic process that provides robust insights for real-time decision-making using various technological, managerial, and personnel capabilities. Although the experimental results about the efficiency of installing ICT systems have been contradictory in the past, there is growing recognition of its significance in the modern business world. Fosso Wamba, Gunasekaran et al. (2017) have established a significant positive relationship between investment in ICT capability and organizational outcomes. This was confirmed by Jean (2020) who indicated that in the new world of e-commerce which businesses endeavor to step in to gain market share, they realized that electronic systems powered by enterprise resource planning systems are the new norm and no entity can operate without. Varma and Khan (2014) revealed that businesses can gather vital information along with the entire e-business and react quickly to any predictable market changes, thereby gaining a competitive advantage by effectively exploiting electronic systems. More so, electronic systems intensively use information technology tools that enable organizations to collect, store, process, and disseminate information within and across the entire organization. Varma and Khan (2014) added that ICT systems can easily manage the flow of

information with key business processes, materials, money within and outside the networks and contributes to firm profits by improving quality and by reducing coordination costs and transaction risks. However, in industries where change is too frequent, dynamic capability theory vividly explains how organizations can develop a competitive advantage as cited by Rameshwar, Nezih et al. (2018).

Review of Related Literature

2. The influence of Information Communication Technology on Performance of Selected Telecommunications Organizations during Covid 19 Global Pandemics in Zimbabwe.

Hond et al (2017) acclaimed that the effect of ICT on workers in organizations has not received much attention from researchers. Studies have been conducted to confirm that ICT can be used by organizations as a tool to catch competent workers (Nurn and Tan, 2017). Some researchers believe that firms that adopt ICT practices are regarded as being generous and fair to the welfare of employees and this quality has a positive psychological effect on people who are looking for employment in the organization (Djelic and Etchanchu 2015). Bashir et al (2017) exposed that when workers see their company engaging in ICT activities they develop positive attitudes towards the company and this, in turn, enhances the workers' loyalty and commitment to the achievement of organizational goals. Workers in ICT practicing companies copy the good behavior of their companies and develop strong feelings of love and respect for the management (Zafar and Farooq, 2017).

Employees who are happy with the ICT activities of their firm are prepared to bring in friends and relatives to work for the same firm (Murrilo and Lozano, 2013). Firms that support community projects and make their ICT activities known to customers, increase their goodwill (Brown and Vrioni, 2017:209). A number of studies on ICT and customer satisfaction agree "that the greater a firm's contribution to social welfare, the better its reputation" (Nareeman and Hassan, 2013). The literature on ICT and customer satisfaction reveals that customers prefer the products and services of firms that engage in ICT activities (Nareen and Hassan, 2013). However, Mohr et al. (2017) argue that there is no evidence to suggest that ICT has an influence on consumer behavior. Ali et al, (2018) carried out an exploratory study to investigate the link between ICT and customer satisfaction. The findings were inconclusive. Furthermore, Becker Olsen et al. (2017) stated that ICT practices do not change the buying behavior of consumers. Chih, Chih, and Chen (2018) in their research of 520 financial firms from 34 countries conclude that firms in countries with more cooperating employer-employee relations, higher-quality management schools, and better macroeconomic environment are more ICT minded.

Information and Communication Technology (ICT) is becoming increasingly useful within business organizations around the globe. As technology advances and more efficient communications solutions are introduced to the labor force, companies are finding that production levels are significantly increased, employee satisfaction is at an all-time high, and overall, business efficiency is benefiting from the speed at which communications can take place.

According to Khan and Shahzad (2014), real-time data, rapid data exchange and data availability provided by the Internet allow efficient coordination and cooperation between different businesses and better trade values for both businesses and consumers. Apart from that, Graham and Hardaker (2000) highlighted that reduced time to market, reduced operating expenses, increased revenue growth, and enhanced customer service level as economic benefits that can be enjoyed from the use of electronic systems in an organization. The successes brought about by information technology capabilities inspire many companies to use the Internet to streamline their various job-related activities.

From customer satisfaction to improved communications between staffers and management, ICT is accelerating the rate of growth in businesses large and small. Companies across the globe have managed to boost customer satisfaction through improved communications (Cordella and Paletti, 2018). Throughout any business, there are probably a huge number of devices that are integral to internal as well as external communications. Mobile phones, PCs, laptops, and any device that allows for communication to and from the home office fall within the umbrella of ICT. With a customer service department fitted with computers and the internet, customers can get answers through emails and live chat in real-time (Maime, 2014).

More so, in Asia Sharma (2015) conducted a study on achieving business success through Information and Communication Technologies Adoption by Small and Medium Enterprises in Oman. He noted that effective management of information and communication technologies can improve the productivity and performance of an organization. He identified key factors that are essential for achieving business value by Organizations through ICT adoption. Results of the study showed that the size of an organization plays an important role in its ICT infrastructure. The study has identified seven factors that assess the business value of ICT adoption in Organizations. These factors include: organization and management practices, strategic, informational, transactional, and organizational change benefits, the impetus for ICT investment, and support from government contribute to achieving business value through ICT. As such, ICTs are vital for business, they support the process of collection, manipulation, storage, distribution, and utilization of an organization's information resources, business processes, and operations (Maime, 2017). Analysis by (Oshikoya & Hussain, 2008) shows that information technology's recent developments are becoming essential to the socio-economic growth process.

IT offers innovative ways of sharing knowledge and transacting business, transforms the structure of the financial and other service industries, and provides powerful means of utilizing human and institutional capabilities of countries, in both public and private sectors. In fiscal monitoring, for example, governments may use information systems to design and monitor the tax collection process and validate their revenue collections against their expenses. Information technology provides modeling tools in fiscal forecasting to both optimize income and minimize the tax pressure on selected revenue classes and economic sectors. Government is responsible for providing certain services to the citizens, just like

an organization is responsible for managing a value chain that leads to output. Information and communication technologies are an extensional term for information technology (IT) that stresses the role of unified communications and the integration of telecommunications that is telephone lines and wireless signals and computers, as well as necessary enterprise software, middleware, storage and audiovisual, that enable users to access, store, transmit, and manipulate information (Gillings et al., 2016).

Mazurkiewics et al. (2016) carried out a study to investigate both internal and external benefits that accrue to a firm as a result of adopting ICT practices. The results showed that ICT practicing firms developed a strong financial background as a result of increased sales and profits. A number of studies support the assertion that there is a strong link between ICT and the financial performance of the firm (Lev et al., 2016). However, Margolis and Walsh (2003) in Frynas and Stephens (2015) argue that there is no link between ICT and firm performance. Saxena and Kohli (2016) argue that studies on the relationship between ICT practices and firm performance do not give conclusive results and that not all firms that engage in ICT activities register positive financial gains.

In Africa, the use of ICT has been found to improve business competitiveness, with the internet providing opportunities for businesses to compete on equal terms with international companies (Mazikana, 2021). In South Africa, as digital disruption and transformation take hold across sector sectors and economies, speed-to-market pressure is growing. However, many organizations are struggling to ramp up transformation to deliver value at the velocity of business change securely (Masilela, 2021). Information Technology has numerous capabilities some of which include the ability to facilitate information management, enhance the flow of information which makes the supply chain more robust and flexible without compromising competence as suggested by Pereira (2009).

The Accenture SA DevSecOps study (2021) states that organizations in South Africa are adopting exponential technologies like cloud, microservices, artificial intelligence (AI), and blockchain, along with agile development methodologies to keep pace with customer demand and remain competitive. However, more technology and agile IT is not translating into more value for many of them. According to Christie's (2021) study in South Africa in collaboration with Microfocus, which posed key questions to 3,500 South African IT professionals across eight key sector sectors including IT, financial services, manufacturing, retail, and telecommunications about their application landscapes, their development practices, and security strategies. The majority of respondents noted that the development for the Web and mobile, use of cloud technologies and agile methodologies is still low in South Africa and security is not an integral part of development.

Jansen (2016) conducted a study on the understanding of ICTs in the public sector and their impact on governance. According to Jansen (2016), the visions and goals for the use of ICTs in the public sector are huge, both related to efficiency, effectiveness, and for strengthening democratic functions. The realization of such a diverse set of goals requires a broad range of means and measures.

However, do the managers really understand the many functions and roles ICTs have and how they should be governed? The research discussed what functions that ICTs have in the public sector, and analyzed existing ICT governance approaches in the Norwegian government. The findings indicated that there exists a mismatch between the functions implicit in the objectives that are stated for e-Government and the way ICTs are governed. This mismatch, can, at least partly, be attributed to an inadequate understanding of ICTs and their many functions. E-government is the use of ICT to promote more efficient and cost-effective government, facilitate more convenient government services, allow greater public access to information, and make government more transparent and accountable to citizens.

Asian Development bank (2017) also wrote on public service delivery: role of information and communication technology in improving governance and development impact. The focus of this paper was on improving governance through the use of information and communication technology (ICT) in the delivery of services to the poor that is improving efficiency, accountability, and transparency, and reducing bribery. A number of papers recognized the potential benefits but they also pointed out that it has not been easy to harness this potential

Results and Discussion

Response Rate Analysis

The total number of study participants who participated in the quantitative survey was 98 from the selected organization. From the total sample of 103, only 98 respondents successfully completed and returned their questionnaires making a high response rate of 95%. Such a response rate clearly indicates that the data is very good to provide acceptance and credibility of quantitative findings in this study. Abd-el-salam and Shawky (2013) suggest that at least a 75% response rate is a true representative and acceptable response rate for any research while earlier, Ponto (2015) asserts that 60% is good and above 70% is very good (excellent).

Scale Validation

Before conducting further analysis in the study, data were validated through exploratory factor analysis (EFA), reliability analysis, convergent validity, and discriminant validity. These analyses were done in SPSS® version 22.

Sample Adequacy

In the current study, data were initially tested for adequacy of the sample through the use of two statistical tests such as Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy together with Bartlett's Test of Sphericity for factorability of intercorrelation matrix using SPSS Version 22. Bartlett's Test of Sphericity investigates if any of the variables are significantly correlated (Speklé and Verbeeten, 2014; Deat, 2016; Ali, 2018). These tests were thus performed in order to establish whether or not factor analysis could be executed. The sample was found to be adequate and data were found to allow factor analysis to be conducted (KMO statistic=0.845; Approx. Chi-Square=16989.468; Degrees of freedom (df)= 1640; sig=0.000). According to Field (2009) values between 0.8 and 0.9 are great hence the sampling adequacy

for this research 0.845 falls within this great range and is therefore adequate for factor analysis. The results also meant that the sample was acceptable and therefore permitted exploratory factor analysis to be performed (Field, 2009). EFA was thus performed with the intention of refining and decreasing a large number of related variables to a more significant and manageable number before using them for further analyses.

Table 1.1: Testing data for sampling adequacy

KMO and Bartlett's Test			
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.			.845
Bartlett's Test of Sphericity	Approx. Chi-Square		16989.468
	Df		1640
	Sig		.000

Source: Survey (2021)

Exploratory Factor Analysis

An exploratory factor analysis (EFA) was conducted including all items of the questionnaire to explore the empirical data structure through reducing the number of variables as well as examining the structure or relationship between the variables (Yong and Pearce, 2013; Gaudenzi et al., 2015; Etter et al., 2019). The analysis assessed if the items were grouped into meaningful factors as well as to establish if they loaded substantially on their proposed factors. The factor loadings represent the strength of the correlation between the variable and the factor (Tsvere et al., 2013; Deat, 2016; Pallant, 2016). In this study, factors that loaded poorly or that had double loadings were deleted.

Table 1.2 presents factor loadings for each factor. Factor loadings of less than 0.4 were suppressed as suggested by Steven that only factor loadings above 0.4 should be interpreted so as to make interpretation considerably easier (Field, 2009). The following items CHA6, CHA3, BEN4, and PERF1 were excluded due to poor factor loadings while ICT4 was excluded due to double loadings (Field, 2009). Therefore results in Table 4.3 show that all factor loadings were above 0.6 which is the minimum cut-off point for factor loadings (Bagozzi and Yi, 1988; Lewis-Beck, 1994).

The varimax method was used in order to simplify the analysis of factors. The method was selected due to the fact that it tries to make the most of the distribution of loadings within factors which result in clusters of factors that can be easily interpreted (Ponto Julie, 2015; Ali et al., 2015; Nyoni and Bonga, 2017). Zikmund and Babin (2016) described factor rotation as a mathematical method of simplifying factor results for better interpretation. The varimax method was used in order to simplify the analysis of factors. The method was selected due to the fact that it tries to make the most of the distribution of loadings within factors which

result in clusters of factors that can be easily interpreted (Field, 2009).

Table 1. 2: Construct, Items and Factor Loadings

Construct	Items	Factor Loadings	
Challenges of implementing ICT	CHA1	0.846	
	CHA2	0.987	
	CHA4	0.964	
	CHA5	0.844	
	CHA7	0.798	
	CHA8	0.874	
	Benefits of using ICT	BEN1	0.789
		BEN2	0.822
BEN3		0.911	
BEN5		0.837	
BEN6		0.974	
ICT and Performance		ICT1	0.783
	ICT2	0.816	
	ICT3	0.803	
	ICT5	0.891	
	ICT6	0.811	
	Performance	PERF2	0.870
PERF3		0.857	
PERF4		0.765	
PERF5		0.749	

	PERF5	0.749
	PERF6	0.762

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 4 iterations.

Based on Eigenvalues > 1.00

Total variance explained = 87.072%

Loadings of less than 0.4 were suppressed

Source: Survey (2021)

As shown in Table 1.2, rotation converged in 4 iterations and the total variance explained by the data was 87.07% which is above the acceptable limit of 60% (Atalay, Anafarta, and Sarvan, 2013). As expected, the results presented in Table 1.2 show that the rotated component matrix solution gave 4 components, namely CHA, BEN, ICT, PERF.

Descriptive Statistics

The segment is characterized by results on descriptive statistics which consist of arithmetic means (M), and standard deviations (SD) on all the study’s constructs. Meanwhile, descriptive statistics on challenges encountered during implementation, benefits of ICT, and the effect of ICT on performance were covered. The SD speaks of the degree to which answers are unswerving which is the distribution of the answers around the mean. As such, the understanding of the data is enhanced if mean and SD are used together. The scale used in the study had the following response points: 1 strongly disagree, 2 disagree, 3 Neutral, 4 agree, 5 strongly agree.

Descriptive Statistics for Challenges faced during implementation of ICT

Table 1.3 presents the mean scores and the standard deviations of items that were used to measure the organization’s challenges they face during the implementation of it. The mean scores and standard deviations of every item are shown in Table 1.3.

Table 1. 3: Descriptive Statistics for Challenges

Item Code	Item Description	Mean score	Mean response	SD
CHA1	Lack of adequate information.	4.25	Agree	0.925
CHA2	There is poor infrastructure to support ICT initiatives	4.45	Agree	0.741
CHA3	Power cuts disrupts smooth flow of operations	3.86	Agree	0.754

CHA4	There is lack of full management support	3.89	Agree	0.687
CHA5	Slow adoption of ICT initiatives from clients	4.06	Agree	0.898
CHA6	Lack of skilled personnel	2.32	Disagree	0.513
CHA7	Lack of cooperation from the employees	4.24	Agree	0.830
CHA8	Lack of financial support to support ICT implementation.	4.41	Agree	0.958
	Overall	3.68	Agree	0.763

Results in Table 1.3 show that the mean responses ranged between 2.24, SD = 0.630 (item CHA2) and 4.45, SD = 0.995 (item CHA5). From Table 1.3 it can be seen that respondents agreed to the challenge of inadequate information affecting the implementation of ICT. More respondents surveyed in the study further agreed that there was inadequate financial support to implement ICT initiatives at the organization. Another challenge that respondents concurred to have affected the implementation of ICT at the organization was the power cuts which are said to affect the smooth flow of operations in working from home. Likewise, the surveyed respondents also agreed to the fact that there was a lack of management support in the implementation of ICT facilities at the organization. Another critical challenge that respondents have been affecting the implementation of ICT at the organization was the slow adoption of the ICT initiatives from clients. More so, the respondents further agreed to another major factor affecting the full

implementation of ICT initiatives at Telecel Zimbabwe being poor infrastructure which cannot support the ICT implementation. According to the findings, respondents agreed that lack of cooperation from the employees is a major hindrance when it comes to the implementation of ICT. Likewise, it was also the case on the lack of skilled personnel was another challenge in the implementation of ICT initiatives at the organization.

4.5.2 Descriptive Statistics for the Benefits of ICT during the covid 19 in the telecommunication sector in Zimbabwe

Table 1.4 presents the mean scores and the standard deviations of items that were used to measure the organization’s benefits of implementation of ICTs during the Covid 19 in the Telecommunication sector. The mean scores and standard deviations of every item are shown in Table 1.4.

Table 1.4: Descriptive Statistics for the Benefits of ICT during the covid 19 in the telecommunication sector

Item Code	Item Description	Mean score	Mean response	SD
BEN1	Positive company image	4.65	Agree	0.925
BEN2	Attracts more customers	1.84	Disagree	0.530
BEN3	Helps to safeguard employees’ exposition to the disease	4.01	Agree	0.754
BEN4	Improves communication	3.98	Agree	0.698
BEN5	Enables the organization to have a competitive edge	2.06	Disagree	0.598
BEN6	Encourages innovation amongst employees in knowledge sharing	3.75	Agree	0.713
	Overall	3.56	Agree	0.769

Results in Table 1.4 highlights that the mean responses ranged from 1.84, SD = 0.530 (item BEN2) to 4.65, SD = 0.925 (item BEN1). The descriptive statistics on every question are depicted in Table 1.4 showing the mean responses. From the responses, respondents agreed to the fact implementing ICT during the Covid 19 period resulted in some positive image for the organization. More so, respondents further concurred to the fact that implementation of ICT initiatives during the period of the Covid 19

encouraged innovation amongst employees in knowledge sharing in the organization which was beneficial to the organization. Another key highlight from the responses was that respondents agreed that ICT helped in safeguarding employees from getting exposed to the disease and also respondents surveyed agreed to the fact that ICT improves communication in the organization. Research participants in the study disagreed to the fact that ICT implementation during the Covid 19 pandemic also enhanced the

organization’s competitive edge. Similarly, respondents also disagreed with the statement that ICT implementation during Covid 19 period led to the organization attracting more customers.

Descriptive Statistics for the influence of ICT on the performance of Telecommunication organizations during the covid 19.

Table 1.5: Descriptive Statistics for the influence of ICT on the performance of Telecommunication organizations during the covid 19

Item Code	Item Description	Mean score	Mean response	SD
ICT1	There has been an increase in customer satisfaction due to ICT.	4.85	Agree	0.925
ICT2	The organization has managed to improve its service delivery by means of ICT.	4.84	Disagree	0.930
ICT3	The organization has experienced efficacy cost-effectiveness due to ICT.	3.01	Neither Agree nor Disagree	0.654
ICT4	There are shorter waiting periods (time taken before a client if attended to) for customers due to ICT	3.98	Agree	0.898
ICT5	There has been an increase in the market share of the organization as a result of ICT.	3.06	Neither Agree nor Disagree	0.698
ICT6	There has been an increase in revenue due to ICT.	4.75	Agree	0.713
	Overall	3.56	Agree	0.769

Source: Survey (2021)

Results in Table 1.5 highlights that the mean responses ranged from 3.01, SD = 0.530 (item ICTPERF 3) to 4.85, SD = 0.925 (item ICTPERF 1). The descriptive statistics on every question are depicted in Table 1.5 showing the mean responses. The surveyed respondents agreed utilization of ICT initiatives during the Covid 19 period resulted in an increase in customer satisfaction for the organization. Moreover, respondents further concurred with the fact that the organization improved on its service delivery through the use of ICT services during the period of the Covid 19. As a result of using ICT services, respondents agreed that there were shorter customer waiting periods which was beneficial to the organization. Another key highlight from the responses was that respondents agreed that due to ICT there was an increase in revenue for the organization. However, respondents could neither agree nor disagree with the statements that by making use of ICT services during the Covid 19 there was an increase in market share for the organization. The respondents could not agree or disagree as well to the fact that the organization had experienced efficacy cost-effectiveness due to ICT.

Reliability Analysis

Reliability speaks of how a measure remains consistent when a test is carried out several times without adjusting the procedure (Agarwal et al., 2015; Wepener and Boshoff, 2015; Pallant, 2016). In research that is purely quantitative reliability is regarded to be a

major issue in relation to the measurement of scales. Measurement scale reliability refers to the percentage of variance attributed to the exact score of the underlying construct (Field, 2009; Sharma, 2018). Internal consistency of this study’s constructs was determined using Cronbach’s Alpha (α) coefficient (Alniacik et al, 2011; Abd-el-salam and Shawky, 2013; Casimiro and Coelho, 2017) and is presented in Table 1.7.

Table 1.6: Reliability Analysis Cronbach's Alpha

Construct	No of Items	Cronbach Alpha (α)
Challenges of implementing ICT	6	0.727
Benefits of ICT	5	0.768
ICT	5	0.964
Performance	5	0.669

Source: Survey (2021)

The findings presented in Table 1.6 indicate that from the constructs measured in this study they all exhibited good and acceptable reliability (Marquina and Arellano, 2014; Ali, 2018;

Tsun Hoe et al, 2018;). Acceptable reliability is indicated by a Cronbach's alpha of 0.70 (Luoma-aho, 2014; Deat, 2016; Ali, 2018). The statistical tools used in the current study validated the actual findings of the current study by deleting the irrelevant factors thereby leaving only the relevant ones. Accordingly, the actual findings for each of the objectives of the current study are presented in subsequent subheadings.

Regression Analysis

Upon testing the research hypotheses of the study regression analysis was used since it is effective in establishing the

relationship between variables. As such regression analysis was performed to test the relationship between two sets of constructs; namely, ICT systems and performance. ICT systems were used as an independent variable and performance measures were used as the dependent variable.

Test of Hypothesis

Research hypotheses are as follows;

H₁: ICT positively influence the performance of telecommunication organizations during the covid 19 pandemic era.

Table 1.7: Regression Analysis Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	.796 ^a	.594	.667	1.23459

The findings in Table 1.7, indicate that the coefficient of regression for the relationship between ICT and performance was 0.796 whilst the matching R-square statistic was 0.594. Such a value of 0.594 for R-square statistic indicates that the model is fit for the performing of regression analysis. As such, the results imply that ICT explains 59% of the variation in performance among Telecommunication organizations. The residual 41% is explained by other factors which are not part of the study.

ANOVA

Table 1.8: Regression Model Validity

Model	Sum of Squares	Df	Mean Square	F	Sig
1 Regression	74.675	4	24.662	26.256	0.000 ^b
Residual	276.475	245	.785		
Total	358.678	264			

a. Dependent Variable: Performance

b. Predictors: (Constant), ICT.

Findings in Table 1.8 indicate that data fit the model very well, i.e., the model is statistically significant (F ratio = 26.256, significant at p <0.001). It is given then that the independent variables were statistically significant in predicting the dependent variable, F=24.662, p < .05 p=0.000). Therefore, the regression model was a good fit for analyzing the effect of ICT systems on the performance of Telecommunication organizations.

Table 1.9: Regression analysis results

Model	Unstandardized coefficients		Standardized coefficients	t	Sig	Collinearity Statistics	
	B	St. Error				tolerance	VIF
(Constant)	3.241	.418		6.132	.000		
ICT	.142	0.71	.106	2.015	0.02	0.912	1.234

a. Predictors: (Constant), ICT.

b. Dependent Variable: Performance

As highlighted in Table 1.9, performance is the dependent variable and ICT was the only predictor (independent variable). More so, the tolerance and valence inflation factor (VIF) statistics (tolerance was 0.912, whereas VIF was 1.234), signify that the model is free from collinearity problems. This follows the recommendations of Saunders et al. (2009) that a very small tolerance value (0.10 or below) or a large VIF value (10 or above) indicates high collinearity.

Table 1.9 shows that ICT significantly predicts performance, this means that the Performance of an organization is dependent on ICT ($\beta = 0.106$, $t = 2.015$, significant at $p = 0.02$). A positive standardized beta coefficient ($\beta = 0.106$) illustrates that a significant relationship exists between ICT and performance among Telecommunication organizations. Hence H_1 supported.

Conclusions and Recommendations

The study sought to investigate the influence of Information Communication Technology on the performance of organizations in the Telecommunications sector in times of the Covid 19 global pandemic in Zimbabwe. The data was collected from employees, supervisors, and managers of Telecel Zimbabwe from various departments at the head office in Harare. The study established that some of the benefits accrued to ICT utilization in the telecommunication sector included, improvement of the organization's image, improves communication in the organization as well as attracting more customers through improved service provision encourages innovation amongst employees in knowledge sharing, and that ICT enables the organization to have a competitive edge. The study established that ICT increases an organization's revenue and market share at the same time increasing customer satisfaction and reduction of customer waiting periods due to ICT as well as the organization managing to improve on its service delivery by means of ICT. Based on the findings of the current study, organizations in the telecommunications sector must continuously invest in their ICT infrastructure so as to stay abreast of competition, especially in the new world order of decongesting the workplaces and working from home. Organizations are further advised to come up with certain training programs or mentoring by professionals for the employees so as to enhance their skills as well as update them on the current technology so as to yield better results on performance. The special ICT training programs could be designed based on employee needs and organizational needs to achieve the very best from such particular programs. These training programs on the employees and managers can thus further improve employees' supervisors' and managers' ICT skills. In order to enhance the performance of organizations in the telecommunication sector through ICT, the organizations should take extra caution when it comes down to challenges that impede implementation of ICT which include incorporation of employees so that they will not fight the initiative. Future research can also be done looking at other various forms of ICT components and how individually affect the overall performance of an organization. Further research can also be done in other sectors other than the telecommunications sector.

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