

The Influence of Information and Communication Technology (Ict) on Corporate Performance: A Case of National Social Security Fund (Nssf)

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ABSTRACT

Nowadays, information and communication technology is becoming important for organisations to run their business competitively. ICT is considered capable of producing the best performance of the organisations. With the development of the organisations's performance, it will create renewal of resources that can compete in uncertain market conditions. This study investigated the impact of ICT on corporate performance. It also examined the mediating role of human capital in the relationship between ICT and corporate performance of the National Social Security Fund (NSSF). The research model was developed through the literature review. Data were collected through a questionnaire from 194 NSSF staff selected using probability sampling with the purpose sampling method as well as non-probabilistic sampling by appropriate methods. Various statistical analyses, including cross-tabulation and regression analysis, were used to determine the impact of ICT on business performance. The results show that ICT has a positive impact on corporate performance through human capital capability as a mediating variable. The use of ICT (Internet, mobile devices, computer hardware and software, and data management systems) has a positive impact on the achievement of the NSSF's objectives; financial performance, accountability, service delivery and operational efficiency. This project results encourages the managers and employees of organizations to use the organizational resources available to implement ICT investments in organizations and improve human capital skills, which are the most valuable assets of any organization to remain competitive in the markets.

Keywords: ICT, Corporate and Performance

Introduction and Objectives of to Case

The current economic environment in which corporates operates is extremely turbulent due to rapid technological change which has increased global competition, forcing them to adapt to their ever-changing environment and new demands. Due to this cut-throat competitions, corporates survival depends on their ability to successfully adapt its strategies in response to the changing environment (Barba-Sánchez et al., 2018) with a view to meet their objective of shareholders wealth maximization. It is therefore imperative that corporations react quickly and innovatively, which in turn increases their overall efficiency and effectiveness as ICTs adoption and usage makes business processes more

repeatable and precise (Barba-Sánchez et al., 2018) by reducing dependence on human beings for both monotonous as well as complex and sophisticated roles like data analysis and decision-making (Yadav et al., 2020). ICTs are a central part of businesses as 85% of non-technology sector businesses make use of ICTs and social technologies (Hazlehurst & Brothurs, 2018). Societies have been transformed to the information society and economies to the knowledge-based economy which has contributed to globalization and encouraged intangible economic activities (Evoh et al., 2014).

Corporate performance is a composite assessment of how well an organization is performing in its most important parameters, typically financial, market and shareholder performance. Financial metrics often come from books of accounts including income statements, balance sheets, and cash flow statements or from budgeting and forecasting data such as income, expenses, and inventory reports. Customers are essential to any business; They are the company's source of income. Customer satisfaction and loyalty can be key indicators of business health and performance. Compliance - The company must demonstrate legal compliance with labor regulations, financial reporting and environmental regulations. Therefore, the general objective of this case Project is to investigate the influence of Information and Communication Technology (ICT) on Corporate Performance. Specifically, the case project : Assessed the level of Information and Communication Technology (ICT) usage at the National Social Security Fund (NSSF), examined the relationship between Information and Communication Technology (ICT) use and business performance of the National Social Security Fund (NSSF) and determined the extent human capital capabilities moderate the relationship between ICT and corporate performance of NSSF.

Background to the Case

The National Social Security Fund was established under the National Social Security Fund Act [Cap. 50 R.E 2018] to provide social security services to members from private and informal sectors. According to Section 6 of the NSSF Act, the categories of employers and employees registrable by the Fund include: The Private Sector which includes companies, Non-governmental organizations and religious organizations, employees employed in International organizations operating in Mainland Tanzania, foreigners employed in Mainland Tanzania, self-employed; and any other category of persons specified by the Minister.

Its core functions includes registration of members, collection of contributions, investing of the collected contributions, and payment of benefits to members. The contribution payable by the employer is twenty per centum (20%) of the employee's monthly wages (Employee contribute 10% and Employer contribute 10%), however an Employer may opt to contribute at greater rate.

The Fund investment activities are conducted in accordance of Fund's Investment Policy guided by BOT guidelines/Principles and The Ministry responsible for Social Security Sector. The Fund also provides seven benefits which are categorized as long-term benefits and short-term benefits as follows: Long Term Benefits (Retirement Pension, Invalidity Pension, and Survivor's Pension), short Term Benefits (Funeral Grant, Maternity Benefit, Unemployment Benefit, and Health Insurance Benefit. Pension is a term which expresses all long-term benefits offered by the Fund. It defines periodical payments given to a retired member, invalid persons and survivors of the deceased member to replace the loss of income resulting from old age, disability or death.

Underpinning Issues Faced by the Institution

NSS is faced with the following challenges

Decrease in membership contributions: In recent years, due to the slowdown in economic growth resulting from the impact of the pandemic, the fund has received low contributions from struggling companies, which has had a negative impact on its contributions. As a consequence, contributions collections were adversely impacted; something that impacted new money available for investments. To spur a recovery, aggressive fiscal and monetary policy responses have since been undertaken. The results remain mixed.

Decrease income earned: Economic activity came to a standstill as the spread of Covid-19 virus increased blocking businesses due to lockdowns in other partner countries. As a consequence, contributions collections were adversely impacted; something that impacted new money available for investments. To spur a recovery, aggressive fiscal and monetary policy responses have since been undertaken. The results remain mixed.

Customers satisfaction Decline: the level of the funds members satisfaction with NSSF services has declined as customer or users of NSSF services have generally raised concerns with the performance of the NSSF. As a result for example, some of pensioners are not satisfied with the services provided by Funds which lead them to form their own groups of social assistance amongst.

Cost inefficiency: The effectiveness of a pension system depends in part on its administrative costs. Other things remain constant, high costs mean less income in retirement or higher contributions during working years. This applies to any pension scheme, whether voluntary or compulsory, public or privately administered, funded or pay-as-you-go. But when governments force people to save for their retirement, the cost of maintaining those accounts becomes a public policy concern. The debate on pension reforms currently taking place in many countries has drawn attention to this issue.

Poor data quality: NSSF faces data quality challenges that make the claims process cumbersome for its clients. The fund suffers from pension arrears and a lack of key data, particularly for employees employed before 1999. Poor Fund data that leads to poor governance.

Service delivery issues: Benefit processing time is another challenge NSSF faces due to various factors including poor retiree subscription data and lack of supporting evidence.

The Literature Review

Theories Which Relate to the Case

The range of approaches and theoretical emphases used in the Information and Communication Technology (ICT) literature is diverse: the Diffusion of Innovations (DOI) approach (Rogers, 1995; Parker and Castleman, 2009), the Technology Adoption Model (TAM) (Davis et al., 1989; Venkatesh, 2000; Devos et al., 2012), Resource Based Theory (RBT) (Caldeira and Ward, 2002; Barney, 2012) and Technology Organization Environment (TOE) Framework (Tornatzky and Fleischer, 1990; Baker, 2012) are some of the most widespread theories in research on ICTs.

Although these theoretical approaches provide a lens for studying ICTs and their contributions to corporate performance, most of these researches are set in the context of developed economies. Furthermore, the literature also shows a tendency to selectively test factors influencing ICT adoption (Ramdani et al., 2013). This study will use the Resource Based Theory (RBT) and Technology Organization Environment (TOE) Framework to assess the influence of ICT on NSSF performance they provide a more contextual model to analyze enterprise-level aspects of ICTs and performance.

The Resource Based Theory (RBT)

As one of the most influential management theories, resource-based theory (RBT) has been developed to explain the sources of sustainable competitive advantage at the firm level (Barney, 1991; Kraaijenbrink, Spender & Groen, 2010). According to RBT, corporations that have valuable, rare, inimitable and non-substitutable (VRIN) resources can achieve sustainable competitive advantage and consequently superior performance. Since Barney, Wernerfelt, Rumelt, and other scholars conducted their seminal studies (Barney, 1991; Rumelt, 1987; Wernerfelt, 1984), a great deal of subsequent research has expanded RBT with core competencies (Hamel and Prahalad, 1994), the natural resource-based view (NRBV) (Hart, 1995; Hart and Dowell, 2011), the knowledge-based view (Grant, 1996) and dynamic skills (Teece et al., 1997).

Resources are generally defined as “all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. controlled by a firm” (Barney, 1991: 101). Shifting the research focus from external analysis in traditional industrial–organization economics

Bain (1959), RBT focuses on an internal analysis of the variance in resource endowments to explain the heterogeneity in firm performance (Barney, 1991; Miller and Shamsie, 1996). Building on pioneering works that explore ways to gain abnormal rents or competitive advantage Miller and Shamsie (1996), Penrose (1959) Rumelt (1987) and Barney (1991) proposed the early theoretical framework of RBT named the resource-based view (RBV). The core tenet of the RBV is that VRIN resources attributes generate sustainable competitive advantage (Barney, 1991).

Resources include tangible and intangible assets such as leadership, market agility and a positive social reputation (Coff, 1997; Mahoney and Pandian, 1992). The resource-based perspective can complement the stakeholder perspective (Lourenço et al., 2012; Ruf et al., 2001) in that company resources that are valuable, rare, inimitable and have no substitutes can generate sustainable competitive advantage (Barney, 1991).

Technology Organization Environment (TOE) Framework

The Technology Organization Environment (TOE) framework was developed by Tornatzky and Fleisher (1990). It describes factors influencing technology adoption and its likelihood. TOE describes the process by which an organization adopts and implements technological innovations, which is influenced by the technological context, the organizational context, and the environmental context (Tornatzky and Fleisher 1990).

The technological context includes the internal and external technologies that are relevant to the firm. Technologies may include both equipment as well as processes. The organizational context refers to the characteristics and resources of the firm, including the firm’s size, degree of centralization, degree of formalization, managerial structure, human resources, amount of slack resources, and linkages among employees. The environmental context includes the size and structure of the industry, the firm’s competitors, the macroeconomic context, and the regulatory environment (Tornatzky and Fleisher 1990).

In contrast to the industrial economy, which is based on direct transactions and physical assets, transactions in the new economy are digital, allowing for virtual relationships and new business environments that were not previously possible. When compared to the industrial economy, the rise of the new economy is aided by a number of factors. During the industry, traditional physical factors such as labor, capital reserves, and natural resources were critical. They are important in the new economy,

but new factors such as information, innovation, information and communication technologies, and intangible assets play an important role.

Due to the expansion of computer networks, Internet development, and the high technology industry, the ICT sector has experienced extraordinary growth in recent years. ICT development has an influence on the infrastructure of the new economy, market competitive behavior, and organizational processes, recognizing ICT's critical role in determining the competitiveness of organizations and nations. Because ICT helps to reduce costs, increase competitiveness, and productivity, investments in this sector will spur economic growth and create new jobs across the board. The ICT sector contributes significantly to economic development.

In 2010, global exports of ICT goods accounted for 12% of all goods traded. In terms of ICT services, the telecommunications industry generated 1.5 trillion dollars in revenue in 2010, accounting for 2.4% of global GDP. There is no universally accepted definition of information and communication technologies in the specialized literature. The most important is: a collection of technological fields that develop concurrently and interdependently. Computer science, communications, and electronics are among the most important fields.

Application of Information and Communication Technology in Institutions

The rapid progress of information and communication technology is considered one of the key factors for the change in human society (Fonseca, 2018). Today, the rapid advancement of information and communication technology is linked to various aspects of life, including its impact on the operations of organizations. Progress and development in information and communication technology are considered positive elements of change in organizations.

Today, ICT has become a tool for doing business. Studies have shown that despite the rapid advances in information and communication technology, these technologies are not used effectively in business operations. Sometimes organizations do not know how to use ICT effectively. ICT makes institutions more efficient, more effective and reacts quickly to customer needs. ICT can support business activities such as design, manufacturing, R&D, distribution and sales, and feedback. It also encourages industrial agglomeration. In addition, online job search and recruitment offers potential labor market and business efficiencies by reducing transaction costs and enabling a better match between workers and vacancies through the wide dissemination of information about vacancies.

Importance of Information and Communication Technology in Corporate Performance

ICT are considered strategic resources because they are valuable, rare, unique, and non-substitutable at the firm level (Seethamraju, 2015; Teece, 2018). They are also not replicable because the associated human resource expertise is required to replicate their success (Ram, Corkindale, and Wu, 2015), and human capabilities will always differ in each organization because each individual is unique (Nada and Kumar, 2016). Furthermore, the combination of ICT and associated capabilities is non-substitutable for firms because the value they generate together cannot be replaced by other resources (Ruivo, Oliveira and Mestre, 2017). However, because ICT has become so widely used, the condition may not apply to all of them (Bresnahan and Trajtenberg, 1995; Guerrieri and Padoan, 2007).

ICT can improve firms' profitability (Santhanam and Harton, 2003) and can enhance the flexibility of corporate operations by catalyzing organization-specific resources in the case of international diversification (Chari, Devaraj and David, 2007; Martínez Sánchez and Pérez, 2005). However, not all

studies reported a clear payoff from ICT the reason being previous studies considered ICT investment, whereas according to Devaraj and Kohli (2003), the driver of ICT payoff is not investment in ICT, but rather the usage of the individual technologies. “ICT use” can indicate diverse facets of use, such as the extent of ICT use in firm transactions, ICT use in specific firm activities, and the proportion of the firm’s employees using ICT (Wang, Li and Li, 2013).

The Relationship Between ICTs and Corporate Performance

Although there is a stream of literature that considers the use of Information and Communication Technology (ICT) to be an advantage resulting in superior business performance, the findings regarding the impact of ICT use on business performance are heterogeneous in the existing literature (Karim et al., 2022). Not all ICTs are strategic resources, only enabling technologies (ETs) act as strategic resources and have a significant influence on business performance (Centobelli et al., 2017). General Purpose Technologies (GPTs) and ETs together act as strategic resources and have a significant influence on business performance (Schinko et al., 2021).

The literature on ICTs and corporate performance indicates mixed results making the link between ICTs and organisational inconclusive performance (Chen et al., 2016). Oney et al., (2018) found that ICT is disrupting the way business is done, changing the way companies, individuals and groups work, communicate and create value. However, there is a consensus among academics that companies making the most use of ICTs have easy access to new markets, can easily meet the changing needs of their customers and improve their product development processes more effectively.

In addition, Chen et al., (2016) urges that ICT improves direct access to customers via interactive web portals, which are the dominant e-business strategy in corporations. Mubarak on the other hand advances that ICT increases sustainable business performance, drives performance and has significant impacts on manufacturing and services; has a demonstrably positive effect on production and services and increases performance and has a significant impact on business performance, structure and processes. Yunis et al., (2018) study on the effects of ICT on corporate performance did not demonstrate a clear payoffs from ICT investments . Toader et al., (2018) study results found a positive impacts of ICT investments on productivity, but not on profits.

Another study by (Fernández-Portillo et al., 2020) did not find positive effects of ICT capital on productivity, while ICT labor positively contributed to output and profitability. In addition, Chod et al., (2020) found that gross profits from ICT adoption are related to corporate and industry characteristics and the number of other users of the technology. Along similar lines, another study by Weill, (1992) suggests that early adopters of ICT are likely to benefit, but once the technology becomes common the competitive advantage is lost.

Other empirical studies support the argument that innovation is positively associated with firm-level growth. Devaraj and Kohli, (2003) found a positive effects of ICT investments and ICT usage on revenue growth in the health care sector. Similar results were found by the study by Harris and Katz, (1991) in the insurance industry where top performing firms with high premium income growth had higher ICT expense ratios and lower non-ICT costs. In addition, positive effects of ICT investment on sales growth found among valve manufacturing firms by Weill (1992). Koellinger (2005) found a positive relationship between ICT- and not-ICT-related innovation and turnover growth.

Case Methodology

The deductive approach has been selected as the study will start with the Resource Based Theory which I find compelling and then test its implications with data. That is, the study shall move from a more general level to a more specific one. In addition, the researcher shall study what others have done, reads existing theories of the phenomenon under the study, and then tests hypotheses that emerge from those theories.

This study employed a case study design as it focuses on an instance of a phenomenon under study and provides a rich, detailed description and insight into that instance. The design has been chosen as it matches with the aim of this study which is to provide insights on the influence of ICT on corporate performance of the National Social Security Fund (NSSF).

The population targeted for the study comprised of the entire NSSF Tanzania staff; at the time of the study and purposeful and random sampling methods were employed and sample size was

This study collected data from multiple sources of information, such as NSSF documents, and questionnaires (Yin, 2014). Close ended questions with a Likert scales or multiple-choice question types were used. Data was analyzed based on research objectives.

Proposed Business Solution

The Level of ICT Usage at NSSF

The level of Information and Communication Technology (ICT) usage at the National Social Security Fund (NSSF) has increased since its establishment in 1997. It is this project assumption that the adoption of ICTs has largely transformed operations and services offered by the National Social Security Fund (NSSF).

The ICT usage was measured by several indicators such as the list of ICT systems and tools used; internet usage; mobile devices usage; Computer hardware and Software; and data base management systems. Respondents indicated that NSSF uses a number of systems including CFMS Plus, ERP, Employer Portal and Zimbra which improves pension’s payment processing, services delivery, prompt feedback, cost reduction and fraud detection as indicated in the table below.

Table 1:The Level of (ICT) Usage at NSSF

Usege of ICT Indicators'	Strongly disagree	Disagree	Cumulative Disagree	Neutral	Agree	Strongly Agree	Cumulative Agree
Item	Per(Frq)	Per(Frq)	Per(Frq)	Per(Frq)	Per(Frq)	Per(Frq)	Per(Frq)
Internet	0 (0)	0 (0)	0 (0)	7.1 (15)	40.2 (78)	51 (99)	99 (192)
Mobile Devices	0 (0)	1 (2)	1 (2)	3 (6)	45.3 (88)	48.9 (95)	99.4 (193)
Computer hardware and Software	0 (0)	1 (2)	1 (2)	2.57 (5)	44.8 (87)	50 (97)	99.4 (193)

Data Management System	0 (0)	0 (0)	0 (0)	10.8 (21)	39 (76)	50 (97)	100 (194)
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Source: Project Survey, 2023

Data in Table 1 indicates that 99% of respondents declared that they use internet for social interactions (instant messaging, post photos in the intranet, visit social networks or video sharing), information seeking and entertainments (video/music download). Furthermore, 99.4% of respondents affirmed that they own a mobile devices (phone, I-Pad/Tablet, Laptop) for my daily official communication and that they are experienced in using mobile devices for convenience.

In addition, they have confirmed that NSSF uses mult media overhead projectors, storage devices (hard discs, CD ROM, pen drives), MS Excel spreadsheets and MS PowerPoint to perform its processes. All respondents indicated that NSSF uses Data Management System enhances data independence, access, integrity, security and administration. Therefore, these findings above imply that NSSF has to greater extent adopted and is using ICT to provide services to customers which makes its cost efficient. The findings are in line with Macintosh et al., (2003) who found that ICT systems improves services, increase accountability, and results in more accurate and efficient delivery of service, reduce administrative costs and time spend on repetitive tasks.

The Relationship between ICT use and Business Performance of NSSF

This study aimed to examine the relationship between Information and Communication Technology (ICT) use and business performance of the National Social Security Fund (NSSF). Results are presented in Table 2 Below:

Table 5.2: The influence of ICT on NSSF Performance

Business Performance Indicators'	Strongly disagree	Disagree	Cumulative Disagree	Neutral	Agree	Strongly Agree	Cumulative Agree
Item	Per(Frq)	Per(Frq)	Per(Frq)	Per(Frq)	Per(Frq)	Per(Frq)	Per(Frq)
Achievement of objectives	2.6 (5)	4.6 (9)	7.2 (14)	12.3 (24)	38.6 (75)	39.6 (77)	91 (176)
Financial Perfomance	4.6 (9)	4.6 (9)	9.2 (18)	15 (29)	39 (76)	36 (70)	90.2 (175)
Accountability	3 (6)	2.5 (5)	5.6 (11)	15.5 (30)	40.7 (79)	38 (74)	94.3 (183)
Service Delivery	3.6 (7)	4.1(8)	7.7 (15)	13.9 (27)	41.2 (80)	36 (70)	91.2 (177)

Source: Project Survey, 2023

Table 2 indicates that 91% of respondents confirmed that ICTs has assisted NSSF to effectively manage and stand out from the competition, reduce its operating costs, and increase its revenue collections. ICTs has therefore assisted NSSF to improved its overall results and achievement of its objectives. Also, 90.2% of respondents indicated that ICTs usage improved NSSF return on investment (ROI), improved its financial leverage, short term liquidity, cash position, capital turnover, and receivable turnover. These findings are also supported by Adekunle, Oluwole, Binuyo and Tersia Brevis-

Landsberg (2014) who found that ICT investments positively influences financial performance of the firm.

94.3% of the respondents confirmed that the use of ICT systems helped NSSF management in evaluating the budget versus actual on income and expenditures, has aided NSSF management to better serve the customers and others, develop formal communication and procedures to be followed by employees, established a permanent file of systems and procedures to remind the employees of their responsibilities and accountabilities. As for service delivery as a measure of performance, 91% of respondents indicated that NSSF use of ICT systems has improved its services towards stakeholders as it has facilitated fast collection of data and information, enhanced timely and accurate decisions from top management down and aided the management of its records and organizing large volume of files.

The Role of Human Capital Capabilities in Corporate Performance at NSSF

This study assessed the role of human capital capabilities in corporate performance at NSSF. Findings are as presented hereafter:

Table 3: The Role of Human Capital Capabilities on NSSF Performance

Human Capital Capabilities Indicators'	Strongly disagree	Disagree	Cumulative Disagree	Neutral	Agree	Strongly Agree	Cumulative Agree
Item	Per(Frq)	Per(Frq)	Per(Frq)	Per(Frq)	Per(Frq)	Per(Frq)	Per(Frq)
Individual level knowledge competency	5 (10)	6 (12)	11 (22)	8.7 (17)	28.3 (55)	23 (45)	60 (117)
Leadership abilities	7.7 (15)	8.7 (17)	16.5 (32)	9.8 (19)	27.5 (53)	25.8 (50)	62.9 (112)
Risk Taking & Problem solving capabilities	5.2 (10)	6.2 (12)	11.3 (22)	8.8 (17)	28.3 (55)	23.2 (45)	60.3 (117)

Source: Project Survey, 2023

From the Table 3 above, individual level of knowledge positively influences corporate performance. About 60% of the respondents confirmed that ICT have increased employees job knowledge and competency, reduced budget directed at learning activities, assisted NSSF to retain employees due to development opportunities, attracted high quality employees to join NSSF (opportunity for growth and development), and have assisted to reduce anxiety to staff during changes.

As for leadership abilities, 62.9% of respondents indicated that ICT has assisted NSSF leaders to develop strategic thinking (ability to develop vision of where an organisation want to be); plan how to achieve the vision and deal with challenges; find right people and motivating them to work towards an organisation vision; recognize, respond and manage changes; and work on the best way to communicate organisational vision and listen to new ideas. In addition, ICT has assisted NSSF leaders to encourage employees to help others achieve organisational vision by differentiating its advantages.

Conclusion , Recommendations and Policy Implications

Conclusion

The role of ICT in corporate performance is seen in tools such as ERP software and Artificial Intelligence (AI) that support decision making that help managers influence performance data in real time and make more informed decisions. Such software presents an online dashboard with information about the corporate finances, customers, and inventory levels. Managers can use the data to support customers.

This study analyzed the impact of ICT on Corporate Performance (using ICT Usage and Human Capital Capabilities as the measurement) and its policy implication in Tanzania. The results from data analysis show that in both three independent variables positively impacts NSSF performance. This supports the specific objectives of this study, and it covers some of the left out gaps by different scholars who didn't consider Tanzania as their focus of the study.

Policy Implication and Recommendations

The positive relationship which exists between ICT usage and business performance of NSSF, it is recommended for NSSF to keep up with ICTs developments such as the artificial intelligence, internet of things, block chain and others.

Based on the findings of this study, it is recommended for NSSF to take note of the following recommendations: The management of NSSF should come up with the ICT investment plan for the long, medium and short terms. Deliberate efforts should be made to put more ICT facilities and equipment in place with a view to providing solutions to specific problems. The NSSF Management recognize the impact and applicability of ICT to enhance qualitative and quantitative decision-making for successful performance. the NSSF Management encourage skill acquisition, reskilling and upskilling of the staff with a view to enhance their ICT competencies and the Management should show more interest in the use of ICT tools to guarantee effectively utilization by NSSF staff.

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