

INFORMATION AND COMMUNICATION TECHNOLOGY AGILITY AND PERFORMANCE OF ELECTRONIC-COMMERCE SMALL AND MEDIUM-SIZED ENTERPRISES IN KIAMBU COUNTY, KENYA

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ABSTRACT

Small and medium-sized enterprises (SME's) are commercial entities that operate in cooperation with formal and informal sections cutting on all economic segments. They have immensely contributed to the economic growth, social structure and prolific source of employment in Kenya. The Inclusion of E-commerce has consequently become a re-known term in business and industry, especially over the last decade. ICT creates a platform that provides for the efficient running of companies and disseminating global users at profound speeds and relatively cheap means. However, its application to SME's has been scanty and short of depth. The general objective was to determine the effect of ICT agility and the performance of E-commerce SME's in Kiambu County. A sample of 503 E-Commerce SME's was identified in Kiambu County. The study narrowed down to 50 E-Commerce SME's selected through stratified random sampling. The data collection method was the semi-structured questionnaires distributed to various E-Commerce SMEs serving in the region. The drop and pick up later form was employed in the questionnaire distribution. Descriptive and inferential statistics were employed to examine the data. Descriptive included the percentages, mean and standard deviation, while inferential involved linear regression. Analysis was done using qualitative data and procedure of context analysis, and inferences realized thereof. Findings revealed that an increase in Service Delivery, Infrastructure, Innovation, and government policy increased E-commerce SME performance. Therefore, this study has demonstrated that for ICT agility to be quick-paced, service delivery must be enhanced, better ICT infrastructure, more advanced ICT innovation and finally enhanced government support.

Keywords: *ICT agility, E-Commerce SME's, Performance of SME's, Government Policy, ICT infrastructure, ICT Innovation, ICT in service delivery*

1. INTRODUCTION

Different countries have different definitions of SMEs. This is according to their level of economic progression (Berisha & Pula, 2015). The recognized values for the description of SME's, as explained, are businesses whose sale amount to a maximum of Kshs 500,000 a year, has Ksh 5,000,000 invested in it and has between 1-9 employees. E-Commerce is additionally made up of four modes, Business to Business i.e. (B2B), followed by Business to Consumer i.e. (B2C), Consumer to Consumer (C2C), and finally Business to Government (B2G). These organizations are necessary for sustainable growth, In Africa, SME's account for over 60% of jobs, and as a result of this, majorities of countries have stepped up their budgetary allocations towards the same (Iddris, 2012).

E-commerce, therefore, offers a platform for evolving countries to play favorably in the world company. In Kenya, the government has integrated internet connectivity and ICT as a driving force for socio-economic progression and growth by forming the customer service centers and E-citizen portal and reorganizing the segment that houses customer services (Kevin, Sonny, Tigneh & Sriram, 2017). They have also created a platform for businesses to register their work online.

SMEs are identified as the driving force of any growing economy (Bradford, Johnson, *et al* 2012). They are referred to as enablers of other sectors. Dealing more directly with the customers allows them to meet their requirements more accurately and offer an extra precise, individualized service. SMEs are the main employment source in Kenya and act as the major contributors to value creation. They are key players and they take on a significant role in the wider ecosystems of firms. Aiding them to adapt and flourish in a more enabling environment and active participation in digital renovation is essential for boosting economic advancement and delivering more comprehensive globalization.

Changing technologies have facilitated SMEs to strengthen their comparative advantage while reducing its structural disadvantages, stemming from resource constraints and the ability to reap economies of scale (Fred & Kolfshoten, 2012). Focus on E-commerce SMEs, and the industry has completely changed the competitive market. Not only has it redefined relationships with the customers, but it has also provided avenues for new distribution channels, payment, and various delivery methods. These companies are always looking for better innovations to upsurge sales and create various opportunities in the marketplace.

The use of technology in business has taken a remarkable upsurge, especially in the history of man. A look at the old times, business processes were run in a very dawdling manner, and this is because of the lack of tools that are efficient for faster business transactions (Mckinsey & Company, 2013). The inventions that came to be in the preceding years are relatively simple, but their ripple effects have transformed the business world into what it is today. Multiple segments of the economy have evolved to enact ICT in their business processes. This shows that coping with change is imperative for one to reap the advantages that come with the use of technology in business.

The growth and development of SME's can be attributed to the escalation of information and technology (ICT). SME's can benefit from the adoption of technology in production, incorporation of different business models, access to new markets and specialization (Kiplangat, Asienga & Shisia 2015). As said earlier, business processes in the earlier days were run erratically due to the lack of tools. Multiple economy segments have evolved to enact ICT in the business process (Mckinsey & Company, 2013). This shows that coping with change is imperative for one to reap the benefits that come with the employment of technology. ICT has completely revolutionized the universal business environment. In 2015 for example, global firms and governments used up about 3.4 trillion dollars on hardware, software, information systems and telecommunications facilities. Besides, they used up an additional 544 billion on commercial together with management consulting and facilities, much of which was directed to reforming the

firm's business processes to incorporate the emerging technologies (Gartner, 2016; IDC, 2016; Shumsky, 2016).

Moreover, several of the business significance of the technology's investments comes from the organizational cultural and management variations within the firm (Saunders and Brynjolfson 2016). In simple terms, the technology is at a constant change. Globalization has also aided the advancement of innovative expertise, which means there is an unearthing each day (Joensuu-Salo, Sorama, Viljamaa & Varamaki, 2018). ICT is the innovative platform for the establishment of more employment opportunities, with networking locations aiding people to network via innovations (Roztocki & Weistroffer, 2011). ICT innovations bring opportunities while provide foundations for the new business undertakings (Koissai & Pigget, 2014).

According to the World Trade Report (2014), a better infrastructural layer can go a long way in ensuring advanced digital services and admission to local, regional and global resources in an economical manner. With building, electronic devices and machines, the infrastructure stated above makes it conceivable to accommodate extensive variety of electronic services. The use of Internet in Kenya is truncated and this therefore means that E-commerce is still in its primary stage. Different studies have highlighted that there is a snowballing benefit of awareness that stems from E-Commerce. Additional study in Kenya's Capital, Nairobi, discovered that whereas E-commerce was created to make available strategic significance to developers, it became eminent that various SME's had not fully incorporated the expertise. 43% of all the organizations in the survey had no operational websites and 31% of the firms were shown to have static websites.

On average 22% of the companies bore a robust and functional website that provided a cooperative platform (Mutua *et al*, 2013). It was discovered that most administrators were not content in the use of E-commerce applications in companies they managed. Various firms use E-commerce by employing emails alone. Some of the factors that hinder the complete rollout of E-commerce include data security, network reliability, citizen's income, and education among others. While the negative factor remains, a gradual process includes sectors such as the banking system and payment. Numerous E-commerce remunerations have been accomplished by establishments in advanced countries, though a lot of cynicism in the significance of E-commerce and its aids (Odedra-Straub, 2013).

Nielsen Consumer Confidence (2019), states that one in every four consumers in Kenya browse for products and services online. In general, online shopping accounts for 36% of sales in the retail sector. Many e-commerce SMEs have not yet realized how much of a growth spurt they can have by implementing all aspects of online businesses done over the internet. The choices available to these businesses are diligently related to the value of institutions, organizations, and markets available, which establish the business environment. The SMEs lack cues in learning new ways of operating businesses, comparing the competitive characteristics that come into play in this sector. Making the decisions to invest is also a major factor to consider, which includes introducing various innovations into the business strategy.

Many E-commerce SME's have also failed to progress to surpass the business life cycle levels (Amankwa-Amoah, 2018.) Previous studies show that ICT implementation among SME's is slower compared to big corporations (Ntwoku, Negash & Meso, 2017). According to Albar and Hoque (2017), key challenges in ICT implementation comprise of inadequate management backing, resistance to change, innovation deprivation, and deficiency of skilled labor, lack of efficient infrastructure together with an upsurge in the digital divide amongst the still developing and already developed countries (Apillu *et al.*, 2011). The studies that concentrate on the effect of IT innovations on SME behavior in the perspective of developing countries is intermittent.

The performance of E-commerce SMEs has been majorly affected by various factors, including inadequate ICT infrastructure, poor service delivery, and absence of ICT innovations, follow up of customer trends, and lack of proper marketing preferences. The SME managers have low ICT literacy due to low skill inexperience and lack of enhanced training. Therefore, it is in contrast to this background that this study pursues to determine ICT talent in the E-commerce business enactment. Therefore, this necessitated this study to analyze the effect of ICT agility and the performance of E-commerce SME's in Kiambu County.

2. METHODOLOGY

This outline allows the researcher to derive solutions to challenges and acts as a guide in the numerous stages of research. Mugenda (2008) describes research design as a strategy, structure or approach of investigation that is comprehended to answer research questions or problems. This study employed a cross-sectional survey research design that acted as a method of gathering data from the respondents believed to represent the stipulated population. This is essential since it made the study appropriate and helped answer enquiries of the current status while describing the form of existing conditions of the subject being studied. It also employed the use of an instrument composed of an open and closed structured questionnaire. The population of interest was the E-commerce SME's in Kiambu County, Kenya. The delimitation used was the consideration of Kiambu County trading licenses, and only the SME's that have these certifications was captured in this study. Kiambu County has about 55,300 registered SMEs. However, the study targeted 503 E-commerce SMEs.

Purposeful sampling allows individuals with specific attributes to be targeted, resulting in a sample representing the broadest diversity of viewpoints possible (Willis 2016). Only ten per cent of the instances was crucial to the investigation. Therefore the study sample size included 50 respondents. The use of stratified random sampling selected the trial. That way, the results were more accurate, and the sample size was more significant because it came from a more homogeneous group of people. To some extent, stratification helped reduce errors by limiting the amount of variance that could be controlled. The SMEs chosen represented the various socio-economic classes throughout the community.

Open-ended and closed-ended questions were used to create a structured questionnaire that was used to compile this data. Open sections of the survey allowed respondents to express themselves freely, while limited areas helped researchers collect quantitative data (Mugenda & Mugenda 2008). In using a structured questionnaire, respondents were better able to understand and

answer the questions since the questions were clear and well-defined. This relaxed approach made it easier to obtain accurate data.

A pilot test was conducted to determine the validity of the questionnaire. This ensures that the instrument in question is long-lasting, relevant, understandable, and accurate. The respondent aided in deciding if the questions asked were appropriate for gathering accurate data on the subject matter. A trustworthy study should yield essentially the same results when repeated, assuming that the information doesn't change between it and the previous one. Cronbach Coefficient alpha, a measure of internal consistency, was used to establish this in the survey. The majority of the time, this is employed with non-dialectical things like mixed texts. The Coefficient usually is between 0 and 1.

In general, a Cronbach alpha coefficient of 0.6 indicates that an item is more reliable on the scale. A test's internal consistency shows how well all things assess a single idea inside the construct as a whole. It's a well-known fact that (Tavakole & Dennick 2011) Running or supervising the instruments increased the study's dependability. Additionally, the sample questions were expanded to include topics closely related to each other to improve the overall coherence of the study's findings.

The research instrument's questions were also tailored to the situation being studied. The surveys were entirely under the control of the study's lead investigator. Respondents who couldn't complete the survey right away were given the option of using the "drop and pick up approach." It was also typical to set a deadline for the completion of the surveys. Increased response rates were confirmed by providing respondents with explanations of certain sections of the questionnaire to validate that the questions had been fully understood before responding.

The questionnaire-generated data must be edited, coded, and imported into a social science (SPSS) statistical package to help with data analysis. It was necessary to use descriptive and inferential statistics because the offered work created both qualitative and quantitative data. Frequency distribution tables, central tendency measurements (the mean), and validity measurements are part of the descriptive analysis (standard deviation). The linear regression model was used in the inferential analysis to model the relationship between variables. The following is a multiple linear regression equation:

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Whereby:

Y = Performance of E-commerce SME's) **β_0** = Constant term.

β_1 - β_5 = Coefficients of variables. **X_1** = ICT Service delivery, **X_2** =ICT Infrastructure, **X_3** = ICT Innovation, and **X_4** = ICT Literacy, **ε** = error item.

3. RESULTS

3.1 Demographic Characteristics

The study sought to investigate the demographic characteristics of the respondents who participated in the study. According to the statistics on gender, 72% of participants were men, while 28% were women. As a result, this shows that the study was not biased towards either gender. Regarding the age bracket, only 6.5 percent of respondents were under the age of 18, while 17.4 percent were between the ages of 26 and 30, 26.2 percent were between the ages of 31 and 35, 30.4 percent were between the ages of 36 and 40, and 13 percent were between the ages of 41 and 50.

Most of the people who answered the survey were educated, according to the results. None of the people who responded had a grade school education or less. Among those who had completed secondary school, only 4.3 percent were employed. Technical qualifications were held by 19.6% of those polled. 63.4 percent of students had a bachelor's degree, while 13% received a master's or doctoral degree. As a result, the vast majority of survey takers were well-versed in the company's operations. With reference to the duration the firms had been working, 15% of firms have been in operation for less than 5 years, 37% have been in operation for 5-10 years, 30% have been in operation for 10-15 years, and just 19% have been in operation for more than 15 years.

3.2 ICT Agility and Performance of E-Commerce Small and Medium-Sized Enterprises

The study sought to establish the effect of ICT agility on performance of SME's e-commerce. In order to identify any statistically significant relationship between ICT agility and performance of SME's e-commerce, regression tests were run considering the following hypothesis:

H1: ICT agility has a significant influence on performance of SME's e-commerce in Kenya.

Table 1
Regression Model Summary

Model	R	R-SQUARE	Adjusted R square	Std. error of the Estimate
1	.453 ^a	.612	.101	.84086

Source: Research Data, (2021)

The results of the regression analysis showed that 45.3% effect explained by variables under study. 61.2% symbolized the model fitness and therefore it was a good representation of the cause- effect sought in the study. These results were adjusted to 10.1% to higher error margin.

ANOVA

The ANOVA analysis for individual factors affecting ICT agility and Performance of E-commerce SMEs is presented in table 2.

Table 2

ANOVA for individual factors affecting ICT agility and Performance of E-commerce SMEs

<i>Model</i>	<i>Sum of squares</i>	<i>Df</i>	<i>Mean structure</i>	<i>F.</i>	<i>Sig.</i>
1 Regression	15.124	6	3.437	4.218	0.01b
Residual	102.144	263	0.653		
Total	117.268	269			

a. Dependent Variable: Performance of E-Commerce SME's.

b. Predictors: (Constant), ICT Service delivery, ICT infrastructure, ICT infrastructure, ICT innovation, and ICT literacy.

As per the regression model above, ICT agility has significant impact on Performance of E-commerce SMEs in which $p = < 0.01$. The effect of ICT agility reveals that a one unit change in ICT agility results to a 0.653 change in performance. As such, the regression model between ICT agility and Performance of E-commerce SMEs indicates that ICT agility where ($p = 0.01$ and $\beta = 0.653$) significantly influences Performance of E-commerce SMEs

Model	Unstandardized coefficients		Standardized Coefficients,	T	Sig.
	B	Std. Error	Beta		
Constant)	1.261	.465		2.163	0.11
Service delivery	.221	.101	.182	2.323	.021
ICT Infrastructure	.139	.141	.084	.942	.032
ICT Innovation	.256	.113	.213	.236	.024
Literacy	.046	.136	.038	.318	0.01

a. Dependent variable: Performance of E-Commerce SME's.

Source: Survey data (2021)

Therefore

$$\text{Performance of E-commerce SME's} = 1.261 + 0.182 \text{ Service Delivery} + 0.084 \text{ ICT Infrastructure} + 0.213 \text{ ICT Innovation} + 0.038 \text{ ICT Literacy}$$

The coefficients of the individual factors affecting ICT agility are presented in table 4.8 above. ICT in service delivery ($p=0.21$), ICT infrastructure ($p=0.032$), ICT innovation ($p=0.024$), ICT literacy ($p=0.01$), Government policy ($p=0.000$) exhibited that all the predictor variables were significant elements that had an effect on ICT agility and Performance of E-commerce SME's.

4. DISCUSSION

According to the findings, 0.221 rise in E-commerce SME ICT agility and performance emerges from increasing one unit of service delivery. The p-value of 0.21, which is less than 0.05, shows that service delivery is essential in ICT agility. As a result, this shows how ICT agility is impacted by service delivery. It's in line with research showing increased demands on the quality of service delivery, as well as shrinking timeframes as resources get more and more streamlined. For example, operations automation has to be improved to be more efficient.

The findings also show that an increase in ICT infrastructure by one unit results in a rise in E-commerce SME ICT agility and performance of 0.139 in Kiambu County. The p-value of 0.032 indicates that ICT infrastructure is critical to ICT agility. In Kiambu County, there is a strong correlation between ICT infrastructure and e-commerce SME agility and performance. This is also fits with Duncan (2015) who noted that many startups even in already developed nations have had problems with ICT agility because of the high costs of hardware and software resources.

According to the findings, every additional unit of ICT innovation leads to an additional 0.256 increase in ICT agility. In light of this conclusion, ICT innovation is an important factor in determining E-commerce SME ICT agility and performance in Kiambu County, as indicated by the p-value of 0.024. This demonstrates a strong link. That's in agreement with Greton (2014), who says that a company's use of ICT innovation, such as direct communication with customers and service delivery, provides product-enhancing innovations and leads to productivity increases. ICT literacy increases ICT agility by 0.046 for every additional unit of ICT literacy. ICT literacy is a strong predictor of ICT agility in response to these findings. According to a study by Ongori and Migiro (2011), an organization's agility increases when its personnel are adept in ICT operations. They also stated that one of the key obstacles to SME adoption is a lack of practical ICT skills.

Service delivery was found to be a significant influence on the ICT agility and performance of Kiambu County's E-Commerce SME's, with an increase in Service Delivery increasing ICT agility. ICT agility may be improved by implementing more efficient solutions like process automation. Some of the service delivery variables that would be most useful to E-commerce SMEs if used efficiently include Internet advertising and just-in-time inventory.

Another major determinant of E-commerce SME ICT agility is the organization's information and communications technology (ICT) infrastructure. According to the findings, there was a strong correlation between improved ICT infrastructure and higher levels of agility. Several research projects support this. While pricey, ICT investments are critical to the study's findings of company agility in the age of ICT. E-Commerce SMEs' ICT agility and performance were

found to be influenced by ICT innovation discoveries. According to the results of the research, as ICT innovation increases, so does agility. In addition, this was in line with several previous studies in this field. It is only through industry innovations that network economies can spill over and result in overall productivity increases.

ICT agility was found to be significantly influenced by one's level of ICT literacy. According to the findings, this element benefited E-Commerce SME's. As a result, it was evident that an increase in E-commerce SME ICT literacy led to ICT agility. As a result, individuals who focus on honing their skills in a particular subject have a greater chance of progressing in information and communications technology (ICT). Finally, the government's influence on E-commerce SME ICT agility was significant. The government's decision to increase policy units had a good effect.

To put it another way, this shows that policies that benefit business owners will positively impact the economy. Tax and policy regulation must be geared toward the interests of enterprises. Owners and managers will be able to work together more effectively, and it will also lead to more job opportunities in the industry.

5. CONCLUSION

The study established the significant effect of ICT agility. Both Empirical and statistical evidence proved this variable to be imperative. Therefore, this study has demonstrated that for ICT agility to be quick-paced, service delivery must be enhanced, better ICT infrastructure, More advanced ICT innovation and finally enhanced government support. According to the study's findings, the government should assist small and medium-sized enterprises (SMEs). ICT infrastructure was also a strong indicator of an organization's ability to adapt quickly to new technologies. The growth in linked infrastructure would lead to greater ICT agility, in conclusion. This demonstrates the link between ICT infrastructure and ICT agility. As a result, infrastructure must be a top priority for SMEs in the ICT industry to advance and achieve their goals.

Also, ICT agility was shown to be a strong predictor of ICT innovation. An increase in invention per unit would boost agility, as demonstrated. These included management support, finances, and government assistance, just a few of the many influences. A modern corporate climate relies heavily on innovation, and ICT literacy greatly influenced the agility of small and medium-sized enterprises (SMEs). Literacy increases agility by one unit. This demonstrates how critical it is to have the right set of talents when working in this industry. Managers and staff must be familiar with the hardware and software operations to do their jobs effectively. As a result, education promotion in the sector is needed to help E-Commerce SME's expand and progress.

Regulating sector fees and taxes is one way to accomplish this. The government must specify policies and legislation governing this industry before they can be implemented. The provision of network infrastructure and other forms of ICT infrastructure is also required. As a result, a plan for attracting E-Commerce SMEs will be developed. To put it another way, the county and the country's GDP will benefit from its presence. Skills' training is essential to ensure that

employees have the necessary know-how to run the company. Because technology changes so rapidly, it's imperative that refresher training be offered. Innovation and the development of new company concepts and strategies must also be facilitated.

As a result, organizations will be able to flourish and discover new methods of doing business. Businesses will have a competitive advantage as a result of this. E-Commerce SME's profitability and potential impact on the community should be examined. However, in this study, this was not done thoroughly, and it is critical to look into the viability of these companies. This study likewise only made use of primary data. Research from other fields can be used to confirm or refute the current findings. This study incorporated descriptive, correlational, and aggression analytic techniques. Other methods of analysis, such as cluster and discriminate analysis, can be integrated into future studies.

REFERENCES

- Alam, S. S., & Noor, M. K. M. (2009). ICT adoption in small and medium enterprises: An empirical evidence of service sectors in Malaysia. *International Journal of Business and management*, 4(2), 112-125.
- Ali Hassen, Y. (2012). Role of ICT for the growth of small enterprises in Ethiopia.
- Ba, S., & Pavlou, P. A. (2002). Evidence of the effect of trust building technology in electronic markets: Price premiums and buyer behavior. *MIS quarterly*, 243-268.
- Berisha-Shaqiri, A., & Berisha-Namani, M. (2015). Information technology and the digital economy. *Mediterranean journal of social sciences*, 6(6), 78.
- Brynjolfsson, E., & Smith, M. D. (2000). Frictionless commerce? A comparison of Internet and conventional retailers. *Management science*, 46(4), 563-585.
- Chen, W., & Kamal, F. (2016). The impact of information and communication technology adoption on multinational firm boundary decisions. *Journal of International Business Studies*, 47(5), 563-576.
- Crawford, B., Kasmidi, M., Korompis, F., & Pollnac, R. B. (2006). Factors influencing progress in establishing community-based marine protected areas in Indonesia. *Coastal Management*, 34(1), 39-64.
- Heeks, R., & Mundy, D. (2001). Information systems and public sector reform in the Third World. *The internationalization of public management*, 196-219.
- Joensuu-Salo, S., Sorama, K., Viljamaa, A., & Varamäki, E. (2018). Firm performance among internationalized SMEs: The interplay of market orientation, marketing capability and digitalization. *Administrative sciences*, 8(3), 31.

- Kiplangat, B. J., Shisia, A., & Asienga, I. C. (2015). Effects of human competencies in the adoption of e-commerce strategies among SMEs in Kenya. *International Journal of Economics, Commerce and Management*, *iii*, 10.
- Kolfschoten, G. L., Niederman, F., Briggs, R. O., & De Vreede, G. J. (2012). Facilitation roles and responsibilities for sustained collaboration support in organizations. *Journal of Management Information Systems*, *28*(4), 129-162.
- Leke, A., Lund, S., Manyika, J., & Ramaswamy, S. (2014). Lions go global: Deepening Africa's ties to the United States. *McKinsey&Company*. Available:[Cited 18.12. 2014, redirected14. 09.2017] http://www.mckinsey.com/~media/McKinsey/Global%20Themes/Globalization/Lions%20go%20global%20Deepening%20Africas%20ties%20to%20the%20United%20State%20s/MGI%20Lions_go_global%20Deepening_Africas_ties_to_the_United_States.ashx.
- Markus, H. B. (2017). *A chief is a chief by the people-Exploring the legitimacy of the Mzinyathi chieftaincy in eThekweni, KwaZulu-Natal* (Master's thesis).
- Mugenda, A. G. (2008). *Social science research: Theory and principles*. Nairobi. *Kijabe printers*.
- Mutua, J., Oteyo, I. N., & Njeru, A. W. (2013). The extent of e-commerce adoption among small and medium enterprises in Nairobi, Kenya. *International Journal of Business and Social Science*, *4*(9).
- Ndemo, B., & Weiss, T. (2017). *Digital Kenya: An entrepreneurial revolution in the making* (p. 509). Springer Nature.
- Nielsen Consumer Confidence Index (2019). Global Consumer Confidence-Nielsen <https://www.conference-board.org/data/consumerconfidence.cfm>
- Ntwoku, H., Negash, S., & Meso, P. (2017). ICT adoption in Cameroon SME: application of Bass diffusion model. *Information Technology for Development*, *23*(2), 296-317.
- Odedra-Straub, M. (2020). The role of international organizations in information technology transfer: the African experience. In *Technology and Developing Countries* (pp. 215-224). Routledge.
- Orlikowski, W. J. (1996). Improvising organizational transformation over time: A situated change perspective. *Information systems research*, *7*(1), 63-92.
- Pitelis, C. N. (2009). Edith Penrose's 'The theory of the growth of the firm' fifty years later. Available at SSRN 1477885.
- Ramsey, E., & McCole, P. (2005). E- business in professional SMEs: the case of New Zealand. *Journal of Small Business and Enterprise Development*.

- Roztocki, N., & Weistroffer, H. R. (2009). Research trends in information and communications technology in developing, emerging and transition economies. *Collegium of Economic Analysis*, 20, 113-127.
- Roztocki, N., & Weistroffer, H. R. (2011). Information technology success factors and models in developing and emerging economies. *Information Technology for Development*, 17(3), 163-167.
- Silveira, G. J. C. D., & Fogliatto, F. S. (2005). Effects of technology adoption on mass customization ability of broad and narrow market firms. *Gestão & Produção*, 12, 347-359.
- World Trade Organization (WTO) Secretariat (2004). *Annual Report 2004*.
- Zhu, K., & Kraemer, K. L. (2005). Post-adoption variations in usage and value of e-business by organizations: cross-country evidence from the retail industry. *Information systems research*, 16(1), 61-84.