

Technological Business Development Services and Sustainable Competitive Advantage among Agribusiness SMEs in Kenya

Mary MUTHONI NJOROGÉ¹, Maina MUCHARA² and Veronicah KALUYU³

^{1, 2, 3}United States International University - Africa

¹mmjoroge@yahoo.com

²mainamuchara@gmail.com

³vkaluyu@usiu.ac.ke

Submitted 19th April, 2021, Accepted 15th June, 2021 and Published 14th July, 2021

ABSTRACT

Small and medium enterprises are essential to most countries because they are the central generator of economic growth and a main source of job creation. However, they operate in a dynamic environment that is characterized by disruptions, which threaten their survival. This paper seeks to assess the influence of technological business development services on the attainment of sustainable competitive advantage among agribusiness SMEs in selected regions in Kenya. The study used a descriptive correlation research design and positivism philosophy. Descriptive and inferential statistics were applied for data analysis. A census survey was used to select 117 agribusiness SMEs from the database of Africa Agribusiness Academy. The results of regression analysis reveal that technological business development services statistically influence sustainable competitive advantage among agribusiness SMEs in Kenya ($\beta = .533$ $t = 6.782$, $p < .05$). The beta of 0.533 shows that a unit increase in technological business development services increases sustainable competitive advantage among agribusiness SMEs in Kenya by 0.533. Technological business development services enhance business efficiency and productivity. Therefore, agribusiness small and medium enterprises should increase their adoption for enhanced sustainable competitive advantage.

Keywords: Technological business development services; sustainable competitive advantage, small and medium enterprises

I. INTRODUCTION

Small and medium enterprises (SMEs) are central drivers of economic growth and a major source of employment in many countries (Shibia & Barako, 2017). They operate in a turbulent market environment which is a major threat to their sustainable competitive advantage (SCA). Their endurance therefore depends on how they engage in practices that can enhance their SCA. This requires a paradigm shift in their business styles to strategic postures that generate superior customer value (Liu et al., 2017). Business development services (BDS) is an example of such an approach that empowers growth-oriented SMEs to seize emerging opportunities in the market for SCA. SMEs face different challenges such as poor innovation, underdeveloped technology, poor market access and absence of channels for accessing information which hamper their growth. This prevents establishment of new SMEs and is a contributory factor to the collapse of new ones, within first five years after set up (Katua, 2014). According to Kimando and Sakwa (2012), BDS is an important resource to SMEs for improving their SCA and limited access to BDS leads to the high failure rate of SMEs. TBDS are resources availed to SMEs for the purpose of advancing their technology development to improve their productivity and quality of their goods through innovations such as phone applications, internet, social media and improved equipment (International Labour Organization, 2000; Kim et al., 2018). This paper has assessed the influence of TBDS on the SCA among agribusiness SMEs in Kenya.

The Kenya National Bureau of Statistics (2016) defines micro, small and medium enterprises on the basis of three factors: annual turnover, number of employees, and value of assets invested. This paper has adopted the number of employees' definition where, micro enterprises employ less than 10 people; small enterprises employ between 10 and 50 employees and medium enterprises employ between 50 to 99. This study has looked at agribusinesses that employs 1 to 99 full time employees and has adopted the term agribusiness SMEs. According to Scafarto et al. (2016), agribusinesses are firms operating in the production, processing and marketing of agricultural products. In Kenya, agribusinesses are involved in economic activities in the agricultural sector aimed at generating profit (Kenya National Bureau of Statistics, 2016). Sustainable competitive advantage is the advantage that helps a business to perform more successfully than its competitors over a long period, making it the key driver of long-term business value. There are three main types of SCA: cost advantage, value advantage, and focus advantage ((Barney, 1991; Mnjala, 2014; O'Shannassy, 2008; Porter, 1985).

Globally, SMEs are critical to many countries because they play a core role in economic development and job creation (Shibia & Barako, 2017). In Kenya, SMEs face the challenge of limited competitiveness. This competitiveness challenge is caused by poor market access, inadequate skills, low use of ICT and innovation, and low level of education (Kenya National Bureau of Statistics, 2016). Kimando and Sakwa (2012) assert that despite the vital role of SMEs in Kenya, competition in the market makes it difficult for them to survive. This has hindered their competitive advantage (Shibia & Barako, 2017). Limited access to BDS hamper their survival leading to a high failure rate Kisaka and Mwewa (2014), with 9 out of 10 enterprises closing before their third birthday (Shibia & Barako, 2017). The fact that the SME sector continues to face pertinent challenges that hinder their competitive advantage (CA) is a call for more research in the sector (Akacho et al., 2017). Agribusiness SMEs in Kenya are affected by low technology access.

The Kenya Private Sector Alliance (2019), posits that in Kenya agribusinesses use basic production technologies and are behind in innovation and productivity. This study responded to some of these challenges facing SMEs by looking at TBDS and SCA among agribusiness SMEs in selected regions in Kenya. The objective of this research is therefore, to assess the influence of TBDS on the attainment of SCA among agribusiness SMEs in selected regions in Kenya. The hypothesis of the study is: H01: TBDS have no influence on SCA among agribusiness SMEs in selected regions in Kenya.

This research is anchored on the dynamic capability theory (DCT), which explains how BDS, the independent variable, improves the dynamic capabilities (DCs) of a firm enabling it to achieve a SCA. The DCT was developed by Teece et al. (1997). It explains the way a firm consciously adapts its resources by reconfiguring its proficiencies to respond to the volatile environment. The DCs view emphasizes competitive survival of a firm as it responds to a volatile ecosystem to gain CA. The theory recognizes how capability choices assumed by organizations influence their performance (Pisano, 2017). In the context of this study, DCT explains how TBDS enhance the DCs of a firm to increase productivity and efficiency (Mori, 2015). According to Fonger (2016) DCs enables a firm to recognize and seize opportunities promptly through TBDS, enabling SCA. Dynamic capabilities theory alludes to this since it explains how long-term performance of a firm is achieved by DCs which enables responsiveness to the changing business environment through application of modern technology such as phone applications, social media and the Internet.

Some studies have been conducted in the area of BDS and SCA among SMEs, some of which are discussed below. Fararah et al. (2014) assert that 21st-century advancement technology requires an enterprise that handles technological changes. However, this is challenging for many SMEs because of inadequate resources. To overcome this challenge, BDS provide technology advice and innovation to SMEs. Kim et al. (2018) assert that businesses including SMEs embrace ICT to survive in the ever-changing business ecosystem. Okundaye et al. (2019) allude to the same in their observation that use of ICT among small and large companies in developed countries has been increasing while among SMEs in developing countries it has remained low. This therefore creates an opportunity to enhance access to technology by SMEs in developing countries. SMEs investment in advanced technology results to high level of achievement. Such investment is however adversely affected by insufficient resources and the prohibitive cost of advanced technology. BDS assists in addressing this challenge (Fararah et al., 2014). According to Karanja (2013), putting great emphasis on increasing productivity by adopting modern technology enhances SMEs' competitive advantage. Implementation of high-level technology in advance of other businesses is a vital mechanism for them to achieve SCA (Han & Park, 2017). Akacho et al. (2017) conducted a study to analyze the factors influencing the performance of agribusiness SMEs in Kenya. The study established that ICT adoption is happening at a speedy pace and is vital to achieving CA.

Caniëls et al. (2015) undertook a study in Netherlands to establish the relationship between market orientation and usage of Internet. The study findings revealed that market orientation was positively associated with the usage of internet by SMEs. Shibia and Barako (2017) posit that innovation in a firm can enhance adoption of technology such as internet use. Panayiotou and Katimertzoglou (2015) conducted a study among SMEs in Greece to assess the extent of internet use in their daily activities. The study established that all companies utilized web-technologies to promote and sell their products, communicate, and for after sales services.

According to Galati et al. (2019), social media provides firms with powerful tools for communication across and within the organization and is a new approach to promote firms' SCA. The application of social media may facilitate the tracking, monitoring, collection and analysis of customers' information. According to Hassan et al. (2019), social media platforms allow users to create and share information and ideas electronically. Social media platforms such as YouTube, Facebook, LinkedIn, Twitter and Integra have become key business tools due to their widespread access (Chau & Xu, 2012). There is a significant rise in the number of SMEs using social media as a platform for business, especially customer relations management (Chen & Vargo, 2014). Hassan et al. (2019) undertook a study among SMEs in Malaysia to examine the advantages of social customer relationship to performance. The study findings revealed that there was a positive relationship between social media and firm performance.

Mobile phone technology offers SMEs opportunities to reach larger markets globally at a lower cost and higher speed (Khaskheli et al., 2017). Irungu et al. (2015) conducted a study on how youth are attracted to agriculture by ICT innovations in Kenya. The study findings revealed that mobile phone application enhanced youth participation in agriculture, thus creating jobs in agribusiness sector. While mobile phone technology has immense benefits for the SMEs, there are challenges associated with the technology, such as security management framework (Harris & Patten, 2014).

SMEs require different types of moveable assets for their business. Due to resource constraint, most SME's acquire assets in phases, which slow down operations and adversely affect their CA. To mitigate these limitations, SMEs opt for leasing of assets which enables them to access different moveable assets including manufacturing and assembly machinery (Mugambi, 2018). Globally consumer tastes are changing to a superior perceived price-quality ratio. To cope with these trends, SMEs need to apply new technology and use new equipment (Sahoo & Yadav, 2018). Ahn et al. (2018) argue that firms that adopt innovation activities produce new products which ultimately lead to business growth. Caldas et al. (2019) assert that the ability of a firm to innovate can play a key role in maintaining its CA in a highly volatile market. Advanced manufacturing technologies (AMTs) are computer-assisted technologies adopted by companies to manufacture products in more flexible and efficient ways (Caputo, Giacomo & Pellegrini, 2016). The adoption rate of AMTs is low among SMEs due to the high cost (Shibia, & Barako, 2017). Martinsuo and Luomaranta (2018) reiterate that additive manufacturing is a transformative approach to industrial production that enables the creation of lighter, stronger parts, and production systems. They undertook a study among SMEs in Finland on adoption of additive manufacturing technology. The research concluded that SMEs were generally scared of investing in automated machines because they are costly, payback is not guaranteed, and because of inadequate knowledge of the technology.

II. METHODOLOGY

2.1 Research Design

A descriptive correlation research design was used in this study to examine the influence of TBDS on SCA among agribusinesses SMEs in Kenya. The descriptive correlation design was appropriate because it reveals an association between independent variables and dependent variable in the same population (Leedy & Ormond, 2019). It ascertains the existence or lack of an association between two or more aspects of a population.

2.2 Target Population

Cooper and Schindler (2014) posit that the target population in research is the population whose information is sought and from which the results will be generalized. The target population for this research was the agribusinesses SMEs in selected regions in Kenya. The population was specifically drawn from the database of the Africa Agribusiness Academy (AAA). The AAA is a network for agribusiness SMEs, dedicated to enabling its members access BDS. It has a membership of 117 SMEs, who comprised the target population. The members of AAA are distributed in five regions, namely Nairobi, Lower Eastern, Upper Eastern, Great Rift and Western regions.

2.3 Sampling Design

The sampling design comprises the sampling frame, sampling techniques, and sample size (Cooper & Schindler, 2014). This study used a census survey technique to select all the 117 AAA SMEs located in the different regions across Kenya. Food and Agricultural Organization (2019), posits that census survey is appropriate when the study population is not very large. Adopting a census survey, provided an opportunity to collect information from all the agribusiness SMEs in the target population. The unit of observation were owner managers (heads of the organization), CEOs or delegated senior staff in the organization.

2.4 Data Collection

This study used primary quantitative data collected through a questionnaire. The questionnaire used in this enquiry had a 5-Likert scale ranging from 1 to 5, with 1 connoting strongly disagree, 2 representing disagree, 3 indicating undecided, 4 showing agreement and 5 strongly in agreement. The data collection instrument was administered online, face-to-face or through telephone based on the preference of the respondents. From the 117 questionnaires distributed, 84 were filled, giving a response rate of 72%. According to Hammer (2017), ethical considerations should be applied in research. This research was conducted in adherence to all the ethical requirements such as avoidance of any form of harm, voluntary participation of respondents and all responses were protected and kept anonymous.

2.5 Reliability and Validity

The reliability of the questionnaires was tested using Cronbach's alpha and construct reliability (CR) score. A score of 0.7 and above was considered acceptable (Saunders et al., 2016). All the constructs of the study attained a Cronbach's alpha coefficient and CR score of greater than 0.7, hence the questionnaire was found to be reliable. Content validity was assessed using the Average Variance Extracted (AVE). A score of 0.5 and above was considered as satisfactory (Sekaran & Bougie, 2016). All the constructs of the study satisfied this content validity score.

2.6 Data Analysis

Statistical Package for Social Scientists was used for data analysis. Descriptive statistics and inferential statistics were applied for data analysis. The descriptive statistics employed were mean, standard deviation and percentages. Percentages were applied to define the attributes of the respondents such as gender, age, position in the organization and level of education.

The information of the SMEs, such as age of the firm, business turnover and duration of membership of AAA was also analysed by descriptive statistics. The mean and standard deviation were used to define the responses of the informants in accordance to the Likert scale for the study variables and the extent of consensus in their response. The independent variable of the study was TBDS which was operationalized by two sub variables, internet use and social media and phone application and access to equipment/machinery. The dependent variable was SCA and was operationalized through the VRIO model (valuable resources, rare resources, inimitable resources and organizational support system). Inferential data analysis methods of simple linear regression and Pearson's correlation were used in the testing of the hypotheses. The study adopted a margin error of 5%. Correlation was used to measure both the strength and direction of the relationship between the variables of study (TBDS constructs and TBDS and SCA). Simple linear regression model was applied to assess the relationship between the dependent variable (TBDS) and the independent variable (SCA). It is expressed using the equation: $Y = a + bX + \epsilon$, where Y is the dependent variable, X is the independent variable, a is the intercept, b is the slope and ϵ is the residual (error) (Sekaran & Bougie, 2016). For this study, the following linear regression model was used to test the study hypothesis:

$$Y = \beta_0 + \beta_1 X_i + \epsilon$$

where, β_0 = Constant; β_1 = TBDS and ϵ = Error term.

2.7 Normality Test for Technological Business Development Services

Normality test was performed using the skewness and kurtosis test. For a normal distribution, the skewness value is +2 to -2 while the kurtosis value is +7 to -7 (Saunders *et al.*, 2016). For this study, the skewness values ranged from -0.685 to -2.094 and Kurtosis value ranged from -0.325 to 5.265. Both values were thus, within the required range hence the data on TBDS was normally distributed.

3. Results of the Study

3.1 Descriptive Statistics

This section presents the general information of the study which included the respondents' demographic information and the company information. The respondents' demographic information was: gender, age and education level, while the company information was: duration of operation, business turnover and payment of business development services. The total respondents were 84 of which male respondents were 67% and the female respondents were 33%. The study therefore had a representation of opinions of both gender, though at varying percentages. Regarding the age of the respondents, majority of them were of the age 40-49 years at 32.1% followed by those aged 50-59 years at 27.4% and 30-39 years at 26.2%. The least were aged 60 years and above at 8.3% and those aged 21-29 years at 6.0%. This shows that more than half of the agribusiness SMEs was aged above 40 years at 67.8% and the study had a representation of opinions of all age groups although in varied proportions. In reference to the education level, most of the respondents were Bachelor's degree holders at 34.5% followed by Diploma holders at 26.2%, Master's degree holders at 25.0%, certificate holders at 7.1%, secondary school at 4.8%, and the least were Doctorate/PhD holders and primary school leavers at 1.2% respectively. This shows higher level of literacy among the informants, which implies good understanding and response of the questionnaire questions.

The respondents were dominantly in management positions. Over three quarters (79.5%) were owners of their agribusiness followed by CEOs at 13.3%. Others were less than 10% of the respondents as follows: general managers at 3.6%, managers at 1.2%, technical directors at 1.2% and technical managers at 1.2%. This validates the study data as the informants were owners or senior management who understood the business hence provided credible information.

The SMEs that participated in the study have been in existence for a number of years. 42% of the enterprises had been operation for 6-10 years and 31.0% for over 10 years. Cumulatively, 73% of the enterprise had been operational for more than 6 years and only 27% had been operation for less than 6 years. This shows the enterprises involved in the study had good experience to provide the information required. For business turnover, the highest number of agribusiness SMEs had a turnover of Kenya shillings 5 million to 50 million at 33.3% followed by 1 million to 5 million at 29.8%, and 500,000 to 1 million at 17.9%. The least were companies with turnover above 50 million at 11.9% and below 500,000 at 7.10%. This shows that the companies were operational hence provided updated information. On whether the SMEs paid for BDS, more than half (57.80%) paid for part of the cost and 24.1% did not pay any money. The remaining group of 18.1% catered for their own full cost. This means that most of the AAA members were willing to contribute towards the cost of BDS because they valued its importance to their businesses.

3.2 Inferential Statistics

3.2.1 Correlation Test for Technological Business Development Services and Sustainable Competitive Advantage

This section presents the correlation test for technological business development services and sustainable competitive advantage.

a) Table 1: Correlation Test for Technological Business Development Services Constructs and Sustainable Competitive Advantage

		Internet use and social media	Phone application and access to equipment/machinery	SCA
Internet use and social media	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	84		
Phone application and access to equipment/machinery	Pearson Correlation	.729**	1	
	Sig. (2-tailed)	.000		
	N	84	84	
SCA	Pearson Correlation	.463**	.676**	1
	Sig. (2-tailed)	.000	.000	
	N	84	84	84

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

Correlation test was conducted to test if there was significant relationship between the variables of study. Table 1, shows two categories of correlation: first, the correlation between the TBDS constructs as independent variables and, second, the correlation between the TBDS constructs and the SCA as the dependent variable. On the correlation between the TBDS constructs, internet use and social media had a positive and significant relationship with phone application and access to equipment/machinery $r(84) = .729, p < .05$.

On the relationship between the TBDS constructs as the independent variable and the SCA as the dependent variable, SCA had positive and significant relation with; internet use and social media $r(84) = .463, p < .05$, and phone application and access to equipment/machinery $r(84) = .676, p < .05$.

3.2.2 Hypothesis Testing for the Influence of Technological Business Development Services on Attainment of Sustainable Competitive Advantage

This section presents the hypothesis testing for the influence of TBDS on attainment of sustainable competitive advantage.

b) Table 2: Model Summary for TBDS

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.599 ^a	.359	.352	.62613	.359	45.989	1	82	.000

a. Predictors: (Constant), TBDS

A linear regression model was used to test the study hypothesis: $Y = \beta_0 + \beta_1 X_i + \varepsilon$ where, $\beta_0 =$ Constant; $\beta_1 =$ TBDS and $\varepsilon =$ Error term. Table 2 shows that TBDS has positive and significant influence on SCA among agribusiness SMEs in Kenya, $R^2 = .359$ $F(1, 82) = 45.989, p < .05$. This shows 35.9% of SCA among the agribusiness SMEs in Kenya is attributed to TBDS. The variance of 64.1% can be attributed to the error term and other factors not included in the study.

c) Table 3: ANOVA Test for Technological Business Development Services

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	18.030	1	18.030	45.989	.000 ^b
	Residual	32.147	82	.392		
	Total	50.177	83			

a. Dependent Variable: SCA
b. Predictors: (Constant), TBDS

Table 3 is the ANOVA table. The result was significant $F(1, 82) = 45.989, p < .05$. This shows the linear regression model used to test the hypothesis was suitable for predicting the outcome variable of influence of TBDS on SCA among agribusiness SMEs in Kenya.

d) Table 4: Coefficients for Technological Business Development Services

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.792	.312		5.746	.000
	TBDS	.533	.079	.599	6.782	.000

a. Dependent Variable: SCA

Table 4 shows regression coefficient of TBDS on SCA. The TBDS statistically influence SCA among agribusiness SMEs in Kenya ($\beta = .533$ $t = 6.782, p < .05$). The beta of 0.533 shows that a unit increases in TBDS increases SCA among agribusiness SMEs in Kenya by 0.533. From Table 4, the equation of the model can be presented as:
 $Y = 1.792 + 0.533 X_i$

Based on the findings the study concluded that TBDS has a positive and significant influence on SCA. The study therefore, rejects the null hypothesis, H01: TBDS have no influence on SCA among agribusiness SMEs in Kenya and accepts the alternative that TBDS have an influence on SCA among agribusiness SMEs in Kenya.

The results of the study shows that by agribusiness SMEs accessing TBDS, it positively enhances their SCA. The findings of the study further reveal that technology such as ICT, phone applications and internet use enhance business efficiency and productivity. This is also affirmed by other empirical studies. Kim et al. (2018) assert that SMEs must embrace ICT to survive in the ever-changing business ecosystem. Karanja (2013) observed that putting great emphasis on increasing productivity by adopting modern technology enhanced SMEs' competitiveness. Han and Park (2017) posit that implementation of high-level technology is a vital mechanism for businesses to achieve competitive advantage. Fararah et al. (2014) established that technology advances SMEs' competitiveness. Akacho et al. (2017) established that agribusiness SMEs, should embrace new technology to enhance efficiency, which ultimately leads to higher profitability.

III. CONCLUSION

The result of the study established that TBDS significantly influence SCA among agribusiness SMEs in Kenya. Based on these results, it can be concluded that adoption of technology by agribusiness SMEs, significantly contributes to their SCA. This may be due to increased productivity and cost reduction due to improved efficiency and ability to reach more customers. Hence, agribusiness SMEs should continually seek for TBDS that may enhance the adoption of these modern technologies. This supports the dynamic capability theory upon which this study was grounded. Dynamic capabilities theory alludes that long-term performance of a firm is achieved by dynamic capabilities which enables responsiveness to the changing business environment through application of modern technology such as phone applications, social media and the Internet. Thus, dynamic capabilities enable a firm to recognize and seize opportunities promptly through technological BDS, enabling SCA.

Based on the findings of this study, it is recommended that agribusiness SMEs should increasingly adopt new technologies to improve product quality, reduce transactions costs and to reach more customers, thus improving their overall efficiency and customer value, and ultimately their SCA. Agribusiness SMEs should thus pursue opportunities for accessing TBDS. BDS providers such as AAA should develop mobile phone and ICT-based products for use by agribusiness SMEs to build their business resilience and SCA. They should also explore opportunities and approaches for SMEs to access modern machinery, which is key in improving their SCA. Policy makers should formulate policies aimed at enhancing access to technology by agribusinesses such as internet and ICT accessibility and importation of modern equipment.

Such policies may consider taxation and subsidy issues and financing options that would enable agribusiness SMEs to access technology-enhancing products. This study focused on agribusiness SMEs. A research to look at the influence of TBDS on SCA among SMEs in other sectors would contribute to this field of knowledge. The study was conducted in Kenya; hence further research may be conducted in other countries. This study was concluded during the COVID-19 pandemic. A study to establish the effects of the pandemic on the SCA among agribusiness SMEs in Kenya would establish if they sustained a CA during these disruptions.

IV. REFERENCES

- Ahn, S., Yoon, J. & Kim, Y. (2018). The innovation activities of small and medium-sized enterprises and their growth: quantile regression analysis and structural equation modeling. *The Journal of Technology Transfer*, 43(2), pp. 316–342. <https://doi.org/10.1007/s10961-017-9570-3>
- Akacho, A. R., Namusonge, G., Nambuswa, E. & Okwaro, F. (2017). Factors Influencing the Performance of Agribusiness Enterprises in Trans-Nzoia County. *International Journal of Recent Research in Commerce Economics and Management*, 4(4), pp. 205–219. <https://www.paperpublications.org/upload/book/FactorsInfluencingthePerformance-1056.pdf>
- Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, 17(1), pp. 99–120. <https://doi.org/10.1177/014920639101700108>
- Caldas, L. F. P., Paula, F. O. & Macedo-Soares, D. A. (2019). Industry innovation spending and openness to collaboration as levers for firm performance. *European Journal of Innovation Management*, 22(4), pp. 617–638. <https://doi.org/10.1108/EJIM-04-2018-0075>
- Caniëls, M. C. J., Lenaerts, H. K. L. & Gelderman, C. J. (2015). Explaining the internet usage of SMEs: The impact of market orientation, behavioural norms, motivation and technology acceptance. *Internet Research*, 25(3), pp. 358–377. <https://doi.org/DOI10.1108/IntR-12-2013-0266>
- Caputo, A., Giacomo, M. & Pellegrini, M. M. (2016). The internet of things in manufacturing innovation processes: development and application of a conceptual framework. *Business Process Management*, 22(2), pp. 383–402. <https://doi.org/10.1108/BPMJ-05-2015-0072>
- Chau, M. & Xu, J. (2012). Business intelligence in blogs: understanding consumer interactions and communities. *MIS Quarterly*, 36(4), 1189–1216. <https://www.jstor.org/stable/41703504>
- Chen, H.M. & Vargo, S. L. (2014). Rethinking social CRM design: a service-dominant logic perspective. In F. J. Martínez-Lopez (Ed.), *Handbook of Strategic e-Business Management* (pp. 767–784). Springer. https://doi.org/10.1007/978-3-642-39747-9_32
- Cooper, D. R., & Schindler, P. S. (2014). *Business Research Methods* (12th Edition). McGraw Hill. <https://books.google.co.ke/books>
- Fararah, F. S., Al-Swidi, A. K. & Yusoff, W. S. W. (2014). Business Development Services Provided by Islamic Microfinance Institutions and Customer Satisfaction: The Mediation Role of Perceived Benefits. A Study on SMEs in Yemen. *Journal of Entrepreneurship and Business Innovation*, 1(1), 60–78. <https://doi.org/10.5296/jebi.v1i1.6111>
- Fonger, J. (2016). Dynamic capabilities and growth of German small and medium sized enterprises. *Journal of Business and Economics*, 7(10), 1704–1715. [https://doi.org/10.15341/jbe\(2155-7950\)/10.07.2016/013](https://doi.org/10.15341/jbe(2155-7950)/10.07.2016/013)
- Food and Agricultural Organization. (2019). Use of Sampling in the Census. *Regional Workshop on the Operational Guidelines of the WCA 2020*. <http://www.fao.org/world-census-agriculture/events/wca2020fiji/en/>
- Galati, A., Tinervia, S., Tulone, A. & Crescimanno, M. (2019). Drivers affecting the adoption and effectiveness of social media investments. *International Journal of Wine Business Research*, 31(2), 260–278. <https://doi.org/10.1108/IJWBR-04-2018-0016>
- Hammer, M. J. (2017). Ethical Considerations for Data Collection Using Surveys. *Oncology Nursing Forum*, 44(2), 157–159. <https://doi.org/10.1188/17.ONF.157-159>
- Han, J. & Park, C. (2017). Case study on adoption of new technology for innovation:

- Perspective of institutional and corporate entrepreneurship. *Asia Pacific Journal of Innovation and Entrepreneurship*, 11(2), 144–158. <https://doi.org/10.1108/APJIE-08-2017-031>
- Harris, M. A. & Patten, K. P. (2014). Mobile device security considerations for small- and medium-sized enterprise business mobility. *Information Management & Computer Security*, 22(1), 97–114. <https://doi.org/DOI 10.1108/IMCS-03-2013-0019>
- Hassan, S. H., Haniba, N. M. M., & Ahmad, N. H. (2019). Social customer relationship management (s-CRM) among small-and medium-sized enterprises (SMEs) in Malaysia. *International Journal of Ethics and Systems*, 35(2), 284–302. <https://doi.org/DOI 10.1108/IJOES-11-2017-0192>
- International Labour Organisation. (2000). *International Best Practice in Micro and Small Enterprise Development* (No. 2). https://www.ilo.org/asia/publications/WCMS_BK_PB_244_EN/lang--en/index.htm
- Irungu K. R. G., Mbugua, D. & Muia, J. (2015). Information and communication technologies (ICTs) attract youth into profitable agriculture in Kenya. *East African Agricultural and Forestry Journal*, 81(1), 24–33. doi: 10.1080/00128325.2015.1040645
- Karanja, G. N. (2013). Factors influencing the growth of agribusiness enterprises in Kenya: a case of rabbit farming in Kiambu County. *International Journal of Economics and Finance*, 1(3), 340–350. <http://www.ijssse.org/>
- Katua, T. N. (2014). The Role of SMEs in Employment Creation and Economic Growth in Selected Countries. *International Journal of Education and Research*, 2(12), 461–472. <https://www.ijern.com/journal/2014/December-2014/39.pdf>
- Kenya National Bureau of Statistics. (2016). *Micro, small and medium establishments: Basic report 2016*. <http://www.knbs.or.ke/2016-micro-small-and-medium-enterprises-msme-survey-basic-report/>
- Kenya Private Sector Alliance. (2019). *Kenya's MSME Policy Index*. https://www.researchgate.net/publication/338949955_KENYA'S_MSME_POLICY_INDEX_2019
- Khaskheli, A., Jun, Y., & Bhuiyan, M. A. (2017). M-Commerce and mobile Apps: Opportunities for SMEs in developing countries. *Journal of International Business Research and Marketing*, 2(2), pp. 20–23. <https://doi.org/10.18775/jibrm.1849-8558.2015.22.3003>
- Kim, M., Kim, J., Sawng, Y. & L. K. (2018). Impacts of innovation type SME's R&D capability on patent and new product development. *Asia Pacific Journal of Innovation and Entrepreneurship*, 12(1), pp. 45–61. <https://www.emerald.com/insight/content/doi/10.1108/APJIE-04-2018-043/full/html>
- Kimando, L. N. & Sakwa, M. (2012). Impact of Business Development Services on Enterprises in Rural Kenya: A Case Study of Micro and Small Enterprises in Muranga Town Kenya. *International Journal of Business and Commerce*), 1(9), pp. 149–165. www.ijbcnet.com
- Kisaka, E. S., & Mwewa, M. N. (2014). Effects of Medium-credit, Medium-savings and Training on the Growth of Small and Medium Businesses in Machakos County in Kenya. *Research Journal of Finance and Accounting.*, 5(7), pp. 43–49. <https://iiste.org/Journals/index.php/RJFA/article/view/12305>
- Leedy, P. D., & Ormond, J. E. (2019). *Practical Research: Planning and Design* (12th Editi). Pearson Education Ltd. <https://www.pearson.com/us/higher-education/program/Leedy-Practical-Research-Planning-and-Design-plus-My-Lab-Education-with-Pearson-e-Text-Access-Card-Package-12th-Edition/PGM1797597.html>
- Liu, G., Ko, W. W. J., Ngugi, I. & Takeda, S. (2017). Proactive entrepreneurial behaviour, market orientation, and innovation outcomes: A study of small- and medium-sized

- manufacturing firms in the UK. *European Journal of Marketing*, 51(11/12), pp. 1980–2001. <https://doi.org/DOI 10.1108/EJM-11-2016-0663>
- Martinsuo, M. & Luomaranta, T. (2018). Adopting additive manufacturing in SMEs: exploring the challenges and solutions. *Journal of Manufacturing Technology Management*, 29(6), pp. 937–957. <https://doi.org/DOI 10.1108/JMTM-02-2018-0030>
- Mnjala, D. M. (2014). The Challenges of Creating Sustainable Competitive Advantage in the Banking Industry in Kenya. *IOSR Journal of Business and Management*, 16(4), pp. 82–87. <http://iosrjournals.org/iosr-jbm/papers/Vol16-issue4/Version-1/K016418287.pdf>
- Mori, N. (2015). Access to Business Development Support Services and Performance of Youth Owned Enterprises in Tanzania. *Journal of Entrepreneurship Management and Innovation*, 11(2), pp. 57–82. <https://doi.org/10.7341/20151123>
- Mugambi, L. (2018, June 5). Why leasing can play key role in growth of SMEs. *Business Daily*. <https://www.businessdailyafrica.com/analysis/columnists/Why-leasing-can-play-key-role-in-growth-of-SMEs->
- O'Shannassy, T. (2008). Sustainable competitive advantage or temporary competitive advantage. *Journal of Strategy and Management*, 1(2), pp. 168–180. <https://doi.org/10.1108/17554250810926357>
- Okundaye, K., Fan, S. K. & Dwyer, R. J. (2019). Impact of information and communication technology in Nigerian small-to medium-sized enterprises. *Journal of Economics, Finance and Administrative Science*, 24(47), pp. 29–46. <https://doi.org/10.1108/JEFAS-08-2018-0086>
- Panayiotou, N. A. & Katimertzoglou, P. K. (2015). Micro firms internet adoption patterns: the case of the Greek jewellery industry. *Journal of Enterprise Information Management*, 28(4), pp. 508–530. <https://doi.org/DOI 10.1108/JEIM-01-2014-0010>
- Pisano, G. P. (2017). Toward a prescriptive theory of dynamic capabilities: connecting strategic choice, learning, and competition. *Industrial and Corporate Change*, 26(5), pp. 747–762. <https://doi.org/10.1093/icc/dtx026>
- Porter, M. E. (1985). *The Competitive Advantage: Creating and Sustaining Superior Performance*. The Free Press, New York, NY. <https://www.hbs.edu/faculty/Pages/item.aspx>
- Sahoo, S. & Yadav, S. (2018). Lean implementation in small- and medium-sized enterprises: An empirical study of Indian manufacturing firms. *Benchmarking: An International Journal*, 25(4), pp. 1121–1147. <https://doi.org/DOI 10.1108/BIJ-02-2017-0033>
- Saunders, M., Lewis, P., & Thornhill, A. (2016). *Research Methods for Business Students* (Seventh Ed). Harlow, Essex Pearson Education Limited. <https://www.worldcat.org/title/research-methods-for-business-students/oclc/1058419978>
- Scafarto, V., Ricci, F. & Scafarto, F. (2016). Intellectual capital and firm performance in the global agribusiness industry: The moderating role of human capital. *Journal of Intellectual Capital*, 17(3), pp. 530–552. <https://doi.org/DOI 10.1108/JIC-11-2015-0096>
- Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach*. John Wiley & Sons. <https://books.google.co.ke/books>
- Shibia, A. G. & Barako, D. G. (2017). Determinants of micro and small enterprises growth in Kenya. *Journal of Small Business and Enterprise Development*, 24(1), pp. 105–118. <https://doi.org/10.1108/JSBED-07-2016-0118>
- Teece, D. J., Pisano, G. & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), pp. 509–533. [https://doi.org/10.1002/\(SICI\)1097-0266\(199708\)18:7](https://doi.org/10.1002/(SICI)1097-0266(199708)18:7)
- Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2013). *Business research methods* (9th ed.). Mason, OH: South-Western. (9th Editio). <https://www.cengagebrain.co.uk/9781111826925>

