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THE ROLE OF NETWORKING AND TECHNOLOGY ADOPTION ON THE RELATIONSHIP BETWEEN ENTREPRENEURIAL TRAINING AND PERFORMANCE OF SMALL AND MEDIUM MANUFACTURING ENTERPRISES IN NAIROBI COUNTY, KENYA

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Abstract

Entrepreneurs hold a critical role in the economic growth of any nation because they maximize the use of the factors of production for the benefit of society, create jobs, foster innovation, raise living standards, and develop underdeveloped areas. The general objective of this study was to determine how entrepreneurial training, networking and technology adoption jointly affect performance of SMEs in the manufacturing sector. The study adopted the positivist philosophy and a descriptive research design. The population of the study comprised 504 SMEs in manufacturing sector in Nairobi County and surveyed through a semi-structured questionnaire with the help of key informants in these firms. The researcher used both descriptive statistics and inferential statistics to analyze the collected data, specifically regression analysis for hypotheses testing. The joint effect of entrepreneurial training, technology adoption and networking was found to significantly influence firm performance. The study recommends that, as SMEs in manufacturing increasingly advances its profile in national economic planning, there is an apparent need to make sure that maximum attention is given to its long-term production and market expansion potential. Such an approach necessitates a comprehensive strategic plan for the future of the industry – partly for the explanations given earlier in the study. Such a study would increase the empirical knowledge in the subject matter while also extending the generalizability of the study findings.

***Key Words**: Entrepreneurial Training, Technology adoption, Networking, Firm Performance, Manufacturing SMEs.*

Introduction

Entrepreneurship is an instrument for economic growth, social mobility and job creation in all the economies of the world (Das & Goswami, 2019). It is a critical component of society well-being, a powerful economic growth engine that encourages the critical innovation needed not only to seize new opportunities, boost productivity, and create jobs, but also to address some of society's most pressing issues, as they are outlined in the Kenya Vision 2030 (Muteshi & Kariuki, 2020) and the United Nations Sustainable Development Goals (SDGs) (Mehta, Saxena, & Purohit, 2020). The importance of entrepreneurial training as one of the key ingredients for SMEs growth has been recognized worldwide (Aladejebi, 2020). Several studies have pointed that training contributes positively in the growth and performance of enterprises. Entrepreneurial training further explores creativity in the domain of skills and knowledge of entrepreneurs as well as, providing insights into building opportunities that translates to business growth (Aluko & Adeyeye, 2020).

Firms embracing new technology have to obtain new skills through training and/or to upgrade the skill level of their existing workforces because the attributes of new technology could be significantly different from old technologies (Boothby, Dufour & Tang, 2018). Kirby and Turner (2012) argue that a firm is forced to acquire a certain technology as the outside forces deepen to remain competitive through improved processes. It is also contended that a firm adopts that technology that will solve their current problems and associated technical hurdles experienced by the firm in a certain market of operation (Kabanda & Brown, 2017). SMEs adopt technology for various reasons, including dynamism in customer expectations and market trends (Ghimire & Abo, 2013). The need for value creation, attaining entrepreneurial goals, improved firm processes and competitive positioning has made entrepreneurs to invest on competent technologies. This practice will also require entrepreneurs to be equipped with technological knowledge and skills to enable them understand the role of technology adoption related to decisions concerning growth of the firms (Yayla & Hu, 2014).

According to Aarakit and Kimbugwe (2015), networking is an association where the entrepreneurs connect with other groups that they deem resourceful for their businesses to tap the necessary resources that they in turn use to grow their businesses. Networking if well utilized will improve the financial performance and increase in market share of a firm through identification of new business opportunities, ensure skills transfer and gain good ratings in the sector. According to Stam, Arzlanian and Elfring (2014) the resources bundled up in an entrepreneur's network play an important role in the performance of that firm. Networking if well utilized will improve the financial performance and increase the market share of SMEs through identification of key partners by allowing SMEs to access resources that would have been difficult to access on their own (Armanios, Eesley & Eisenhardt, 2012). Furthermore, through entrepreneurial training, firms are able to understand the importance of networks and best possible networking platforms to engage in order to improve on their performance (Das & Goswami, 2019).

The context of the study is the small and medium manufacturing enterprises in Nairobi County, Kenya which is motivated on various grounds. First, majority of entrepreneurs in Kenya suffer from obsolete technology that are inefficient in operation leading to high costs, low knowledge on market trends and low levels of networking

arising from low information capabilities (Karami & Tang, 2019). This informs the low prevalence of new business ventures, stunted graduation rates and eventually the high rate of failures of enterprises under small and medium category (Kingori & Theuri, 2016). Secondly small and medium enterprises (SMEs) performance is the primary concern in practice and entrepreneurship research since such businesses are the backbone of many economies and if their performance is compromised, then the whole economy is at risk (Muteshi & Kariuki, 2020). More so SMEs in manufacturing are key determinants of economic development, creating employment opportunities, enabling market linkages across various industries, supporting innovation, alleviating poverty eradication and making contributions to the economy in both developed and developing countries (Nair, Chellasamy & Singh, 2019).

Further even though some manufacturers are classified as essential goods the demand for their products in terms of volume has dramatically reduced (Rehman, Razaq, Farooq, Zohaib & Nazri, 2020). Clearly, the manufacturing SMEs sector was hit hard during the first phase of COVID 19 period, primarily for two reasons: First, many manufacturing jobs were on-site and cannot be carried out remotely. This led to reduced workforce either through layoffs, unpaid leave or paid leave due to the social distancing measures that have been put in place; reduced the number of shifts due to the fall in demand; or increased the shift periods to adhere to the curfew hours and second, slowed economic activity reduced demand for industrial products in Kenya and globally (Muteshi & Kariuki, 2020). Although working remotely was being encouraged, this was not possible for most of SMEs in manufacturing industry which increased the risk of spreading the virus as remote working was only possible for the back office, management level and executive staff of the business, this privilege cannot could not be extended to the production, warehousing and logistics teams as their presence onsite was crucial in managing the manufacturing, storage and movement of goods (Mara, 2018).

Small and medium enterprises (SMEs) performance is the primary concern in practice and entrepreneurship research. This is because such businesses are the backbone of many economies and if their performance is compromised, then the whole economy is at risk (Dahmen *et al*., 2014; Sidik, 2012. One of the ways through which performance can be achieved is through factors deemed to influence firm performance such as entrepreneurial training, technology adoption and networking.

Problem of Research

Matching entrepreneurship to performance strategy has long been a cornerstone of entrepreneurship research (Khalid, Ahmed, Tundikbayeva & Ahmed, 2019). The basic premise underlying this body of research is that different factors pose different entrepreneurship challenges that, in turn, require systematically different skills and experiences to succeed. Entrepreneurship training and firm performance has been a cornerstone of entrepreneurship research (Ndikubwimana, 2016). Schwarz, Meyer, Wiechert, Augst and Liebscher (2020) argue that entrepreneurial training leads to firm performance through enhanced knowledge and skills of handling important aspects of entrepreneurship in a firm. Other studies (Mustafa & Yaakub, 2018; Sangi, Shuguang & Sangi, 2018) have provided varying conclusions on how other factors such as networking and technology adoption influence SMEs performance. For instance, debate that the networks in which firms operates determine the choice of

entrepreneurial training methods and subsequently influence firm performance is unresolved (Yu, Shang, Wang & Ma, 2019) and also the influence technology adoption on performance is inconclusive. Successfully adoption of new technologies requires new skills through training and/or to upgrade the skill level of their existing workforces (Boothby, Dufour & Tang, 2018). Further Firms need to intensify their networks if they are to improve performance and hence the need to understand the effect of such networks to firm's if any (Das & Goswami, 2019).

The contextual focus of this study was chosen as manufacturing firms in SMEs sector in Nairobi County, Kenya. SMEs in Kenya do significantly contribute to the country's economic growth through employment creation, poverty reduction, and they act as intermediaries in trade (GOK, 2020). However, nearly three out of five SMEs in Kenya fail within the first few months of operation (Ombaka, Kariuki & Kyalo, 2020). This high failure rate is mainly attributed to lack of skilled work force and stiff competition in the market (Nganu, 2018). To address these challenges, the Kenyan Government and Non-Governmental Organizations (NGOs) have established entrepreneurship trainings to provide SME with technical and business skills. These entrepreneurship trainings are intended to enable the SMEs acquire unique human resource capabilities for competitive advantage (Maina, Marwa & Waiguchu, 2016). Distinctly less focus has been placed by studies on SMEs in manufacturing enterprises resulting in most of them operating without the benefit of homegrown solutions for improved competitiveness and performance with their share of GDP remaining stagnant with only limited increases in the last three decades, contributing an average of 10% from 1964-73 and rising marginally to 13.6% from 1990-2007 and averaging below 10% in recent years (Rehman, Razaq, Farooq, Zohaib & Nazri, 2020). Firms cannot keep the competitive edge and customers by sheer luck, but by continuous improvement through trainings, networking, acquiring new technologies on the market and also keeping financial muscles for smooth operations.

Studies have been carried out in different sectors on how entrepreneurial training and firm performance relate and also the role played by networks and technology adoption. A study done by Akemu and Colapinto (2019) on business practices and entrepreneurial orientation with special interest of how management training improves SMEs' performance found that both formal training and informal training contributed significantly to business performance through contributing to development of managerial competence, the ability of entrepreneurs' to manage customers, resources, operations of the business and people within small businesses in transition and developing economies. Furthermore, training is technology driven, thus, by not focusing on technology adoption the study posited conceptual gap. A study by Ladzani and Vuuren (2016) focusing on entrepreneurship training for emerging SMEs in South Africa using existing literature review and grounded theory approach found significant influence of entrepreneurship skill like; creativity, innovation, ability to take risks, idea generation and opportunity identification on performance. However, the study did not collect data from business entrepreneurs but from periodic employees and trainers. The data collection was through interviews and lacked quantitative data. Since the study was based on grounded theory, a quantitative study can serve to confirm the grounded theory and add to the knowledge.

A study carried out by Karami and Tang (2019) on entrepreneurial orientation and SME international performance with networking capability and training playing the role in the relationship as mediating variables in a sample of 164 internationalizing SMEs in New Zealand found a significant relationship between EO and international performance and that networking capabilities and training significantly mediates the relationship. The study however considered entrepreneurial orientation as independent variable and the context of the study being international SMEs which deviates from the current study with is carried out in Kenyan context and entrepreneurial training as independent variable and networking as mediating variable. Another study by Ombaka, Kariuki and Kyalo (2020) on how social media moderates the relationship between entrepreneurial networking and performance of youth owned agro-processing SMEs in Kenya *anchored on a pragmatic research paradigm revealed that entrepreneurship networking has a significant effect on the performance of the agro-processing SMEs owned by the youths. The study used entrepreneurial networking as independent variables and mediated by social media, however, it did not factor in entrepreneurial training.*

Roustapisheh and Yazdizadeh (2019) studied the effects of top management support, technological skills, and training on entrepreneurship and organizational performance where data were analyzed by SEM using the software LISREL. The results showed that top management support had a significant positive effect on entrepreneurial training and technological skill, while top management support had no significant effect on technological distinctive competency and that organizational entrepreneurship had a direct, significant and positive effect on organizational performance. The study however emphasized the role of top management support at the established firms level which deviates from the current study which seeks to exclusively focus on SMEs and mainly the role of entrepreneurial training. Maina et al, (2016) in an empirical review investigated the influence of network relationships on the performance of Kenyan Small and Medium Enterprises and evidenced that network platforms positively and significantly influence firm performance.

Despite a number of empirical studies (Ombaka, Kariuki & Kyalo, 2020; Roustapisheh & Yazdizadeh, 2019; Ladzani & Vuuren, 2016) that link each individual study variables to firm performance, there is mixed and inconclusive results due to different theoretical perspectives applied and measurements of variables thus requiring a holistic approach that focuses on the interaction among the variables. Most of these studies (Ladzani & Vuuren, 2016; Rehman, Razaq, Farooq, Zohaib & Nazri, 2020; Das & Goswami, 2019) were carried out in different contextual setups ranging from SMEs to large firms which prompt this study to focus on SMEs in manufacturing firms in Kenyan context. The use of different measures of research designs by previous studies presents a methodological gap for further interrogation. A study on descriptive research design using primary data as well as regression analysis to test for both direct and indirect moderating and intervening effects at the significance levels along the stated hypotheses is required for further comparisons. Therefore, the study seeks to answer the question; how does entrepreneurial training, networking and technology adoption jointly and SMEs performance in manufacturing sector in Nairobi County, Kenya?

Literature Review and Research Focus

The variables considered in this paper are entrepreneurial training conceptualized as an independent variable and anchored on human capital theory, technological adoption as the moderating variable which is anchored on the Technology Acceptance Model, networking as the intervening variable which is anchored on social networking theory and SMEs performance as the dependent variable.

Human Capital theory was proposed by Schultz (1961) and developed extensively by Becker (1964). Human capital theory is concerned with knowledge and experiences of business owners. The general assumption is that the human capital of the founder improves business chances of survival. Schultz contends that both skills as well as knowledge are a type of capital, and that this capital is a result of developing and extensively training entrepreneurs. The theory informs about the developing of skills and knowledge to expand human efficiency, which thus enhances development of entrepreneurs to achieve their goals in an optimal manner.

As indicated by the theory, developing human capital portrays person's skills, knowledge or rather required information to solve the evolving challenges in entrepreneurship field. The theory contends that developing entrepreneurs upgrades their efficiency, which brings about higher benefits and, subsequently, reduces likelihood of early exit of the business entity established by an entrepreneur. Subsequently entrepreneurs may use their insight and the social contacts acquired through the training framework to gain resources required to achieve in their business activities (Kingori & Theuri, 2016).

However, the theory has been critiqued by other scholars (Mara, Brunet Icart & Cabre Olive, 2020). Human capital theory studies usually assume that experiences are translated into knowledge and skills which is not always the case. Therefore, required human capital can be accomplished through practical trainings and past experience in the field of entrepreneurship. Specifically, trained entrepreneurs are in a perfect position to take advantage of disregarded business opportunities and key choices that are essential for the achievement of the established firms.

This study was also be guided by Technology Acceptance Model by Davis, (1989). The theory is used to provide a theoretical framework to enhance understanding of what informs individual behavior and firm need in adopting and utilizing innovation. The objective of TAM is to examine how users' attitudes and beliefs within the firms influence their acceptance and adoption of innovation. TAM fosters understanding of innovation, including examination of social systems and individual function within the system (Scherer, Siddiq, & Tondeur, 2019). The prospects of innovation can be related to the adoption of technology systems by SMEs.

However, although it may be true in theory or for personal use of technology, the conceptualization may not be plausible or accurate in a work environment. Accordingly, Scherer, Siddiq, and Tondeur, (2019) proposed that behavioral expectations should be used to predict the intentions of employees about the use of technology, rather than behavioral intention. One of the limitations of the TAM concerns the variable which pertains to the behavior of users, which is inevitably evaluated through subjective means such as behavioral intention (BI) such as interpersonal influence. Nevertheless, interpersonal influence as the subjective norm is explained to mean when a person is influenced by words of mouth from a colleague, or a friend (Scherer, Siddiq & Tondeur, 2019). The study is geared towards

informing the discussion of adoption technology by SMEs.

This theory was propounded by Borgatti and Halgin (2011) who observed that the term 'social network' has developed to mean anything from a private club to a website and can therefore lead to some benefits to the firm. Social network theory focuses on the role of social relationships in transmitting information, channeling personal or media influence, and enabling attitudinal or behavioral change. Since the 1960s, social network theory has significantly expanded the horizon of media effects research, with increasing application of network analytic methods in various empirical contexts.

However the critique of the Social networking theory is that it depends on the argument that communication in different networks offers some benefits to firms and entrepreneurs in a system by permitting them to take advantage of the key resources within the network to their advantage (Abbas, Raza, Nurunnabi, Minai & Bano, 2019). The theory focuses on the importance of strong ties and social connections in accessing assets, data, and information to cultivate innovative undertakings (Das & Goswami, 2019).

This theory explains the benefits that accrue to a business as a result of entrepreneurs being part and parcel of a social network. It explains how the manner in which the entrepreneurs socialization affects performance (Karami & Tang, 2019). Socialization enables an entrepreneur to inter-phase with others from different firms and professional background (Nyangarika, 2016). This could be used to offer a base for competitiveness. This theory is relevant for this study because it elucidates how SMEs may benefit from social networks to grow their market and overall business performance.

The impact of entrepreneurial training on performance, as well as the effect of networking and technological adoption, has been studied. In a study by Boothby, Dufour and Tang (2018) on technology adoption, training, networking and productivity performance using panel data regression equation found that a training module containing technological adoption elements influences firm performance significantly. The study further argued that technologies which are advanced enhances entrepreneurs' skills to perform better with a conclusion that through networking firms are able to acquire and combine technologies depending on the training that are commonly adopted and undertaken by firms to significantly improve their performance. The paper further concludes that when firms keenly invest in technological adoption and training through networks, performance in terms of productivity is inevitable.

Another study by Das and Goswami (2019) on how networks of entrepreneurs enables the firms acquire technologies and necessary knowledge especiall91y on small firms leads performance using empirical studies in the context of Kamrup, a district of Assam found that support given by other firms in a network including skills and knowledge coupled with technological advancement enables firms gain new ways of doing business thus superior performance. Another study by Khalid, Ahmed, Tundikbayeva and Ahmed (2019) in empirical evidence focusing on entrepreneurship as a concept that requires networks and know-how and how this could lead to firm performance found that those firms that are well networked are able to learn new ways of doing things especially through acquisition of knowledge which significantly impact on their revenues and overall success. Further Rosli and Mahmood (2013) on how human resource management through networks moderate firm's entrepreneur

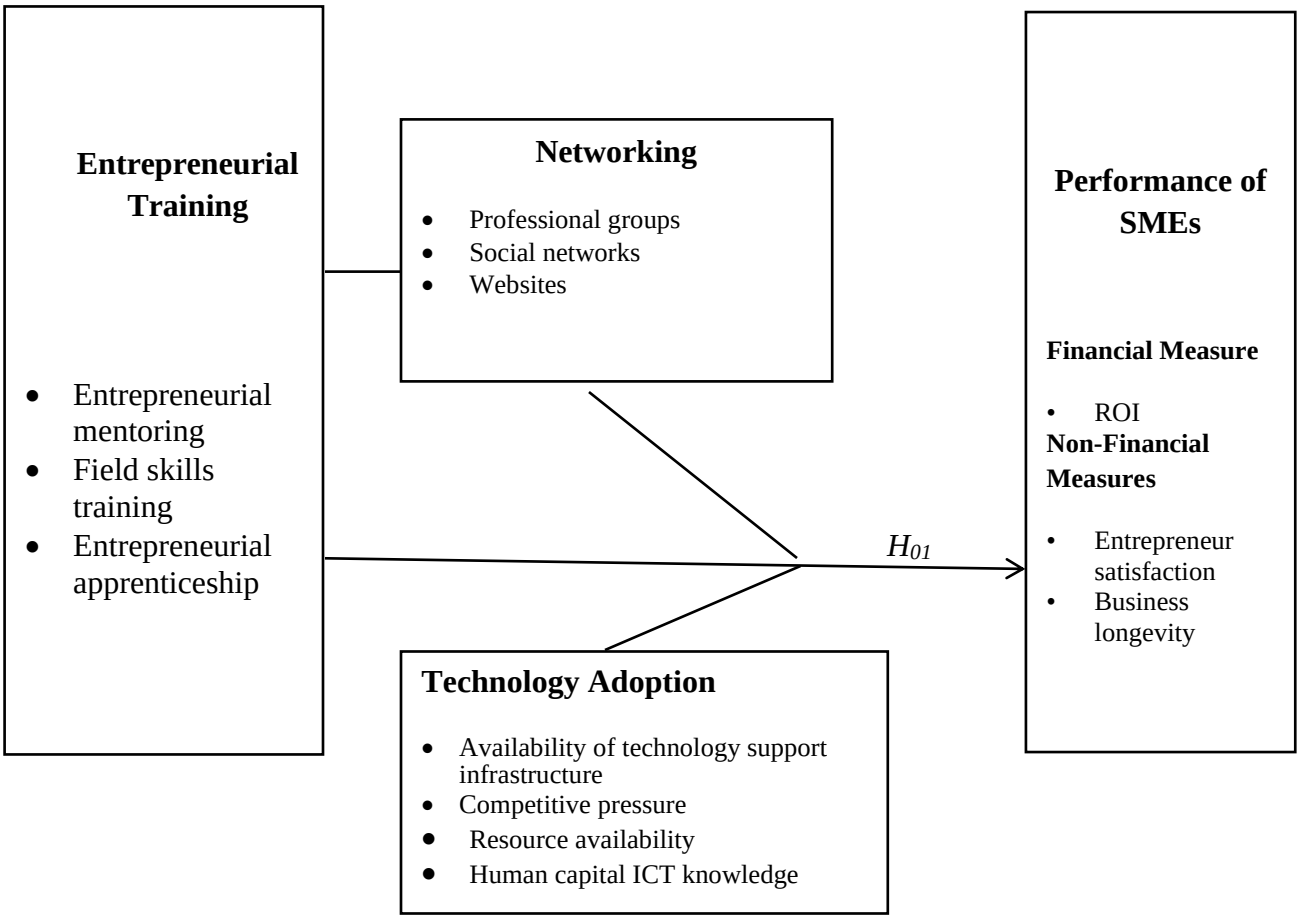
training and innovation to influence firm performance especially in small businesses found that when management networks, they are able to bring skills through training which is coupled with innovations through technological adoption to bring about better performance.

Essel, Adams and Amankwah (2019) studying how entrepreneurship coupled with characteristics at institutional level in Ghana firms at small scale level using a technique of multiple regression of multivariate level found that factors of demographics like education as well as those of institution like trainings and also characteristics in the firm like advancement in technology conjointly in a significant state influence performance of SMEs. The study further gives an indication that those entrepreneurs with requisite training acquire skills which are key to networking and eventually acquisition of necessary technologies that foster performance. Chege, Wang and Suntu (2020) studying innovation in technology information and the impact it creates to a firm using a modeling of structural equation in a 240 enterprises in SMEs indicated that adoption of technology creates a network to the firm which creates a synergy for firms to acquire entrepreneurship knowledge which significantly and positive add to the value of a firm. The study enabled the understanding of how a firm can use technology adoption like centers of ICT that are aimed at supporting businesses and their involved processes. The study therefore gives a green light to firms especially those in SMEs to acquire innovativeness through entrepreneurial training for them to compete effectively.

Kocak, Carsrud and Oflazoglu (2017) in examining how orientations in entrepreneurship and technology adoption affect performance and also innovativeness of firms especially in SMEs found that entrepreneurial training enhances entrepreneurship orientation in terms of aggressiveness, innovativeness and this gives firms' ability to network for more technologies that fit their processes. The study also found that market reactiveness leads to radical innovations leading to significant improvement in performance. Gronum (2015) studying how technology adoption, competencies in entrepreneurship and breadth in innovation creates an innovative firm found that technology adoption is significantly related to firms' innovativeness thus leading to high performance. The study further found a significant interconnectedness between networking and firm performance due to dynamics in technology adoption which creates ability for the firm to network through marketing channels and also business communication channels. The study therefore gives recommendations for firms to combine factors like networking, adoption of technology and trainings on entrepreneurial related activities to gain competitive edge and perform exemplary.

The conceptual framework for this study has been developed based on the literature and empirical reviews. The scholar, avers, conceptual framework as a hypothesized model that identifies concepts or variables considered in a study bringing out the relationships. The relationships among variables are outlined in Figure 1

Figure 1: Conceptual Model



General Background of Research Methodology

The research methodology discusses the procedures involved to come up with research findings. It starts by establishing the research philosophy, research design employed and the population of the study. Furthermore, the instruments employed and the technique involved including reliability tests, validity tests and regression analysis was established. Finally, the technique of data analysis both descriptive and inferential analysis for testing hypothesis is discussed in this section.

Sample of Research

To determine the sample size, the formula recommended Israel's (2009) for known population was used. This is because the sample size was determined based on two factors: the level of precision (confidence interval) and the acceptable margin of error (confidence level).

$n = N/ [1 +N (e^2)]$

Where;

n = desired sample size

N= population size

e = margin of error (0.05)

$n = 3400/ [1 +3400 (0.05^2)]$

n = 357. 89= 360

Thus, the study used a sample size of 360 respondents. To pick the 360 to participate in the study, the study adopted purposive sampling by identify those firms that had gone training by Kenya Industrial Estate (KIE) for the last 5 years.

However, to cater for non response Israel (1992) suggests that 10% should be added to the sample size to cater for those targeted respondents the reseracher may be unable to contact, and a further 30% increase to cater for those who did not respond even though they are contacted. As such the adjusted sample size to cater for these situation was:

40% * 360 = 144

360 + 144 = 504 Manufacturing SMEs in Nairobi County

From this five hundred and four (504) SMEs firms sampled in the study according to their stratified sectors/strata, the study used Probability sampling design, that is, Proportionate Stratified random sampling to distribute sample for accuracy of data collection distribution. Trochim (2000) postulates that stratified sampling is used to divide population that is deemed heterogeneous to several categories of distinct characteristics from which the final sample can be represented. The sample size is presented in Table 1.

Table 1: Distribution of Sample

SMEs Sector	Sample Size	% Proportionate Sampling
Building, Mining and Construction	32	6.3
Chemical & Allied Sector	78	15.5
Energy, Electricals & Electronics	36	7.1
Fresh Produce	18	3.6
Food & Beverage	80	15.9
Leather & Footwear	14	2.8
Metal & Allied Sector	59	11.7
Motor Vehicles & Accessories	35	6.9
Paper & Board	30	6.0
Pharmaceuticals & Medical Equipment	42	8.3
Plastic & Rubber	40	7.9
Textile & Apparels	19	3.8
Timber, Wood & Furniture	21	4.2
Total	**504**	**100**

Source: Research Data (2022)

Instrument and Procedures

This research used primary data that was gathered using a questionnaire. Before issuing the questionnaire, participants were assured of confidentiality and anonymity concerning their contributions. The management questionnaires were self-administered by use of drop and pick up later approach so as to allow the participants enough time to respond to the questions, thereby enhance accuracy in responses and improve response rate. The researcher equipped himself on various aspects including making rapport with the participants, and observation of ethical issues in data collection. In order to increase response rate, appointments with the participants were made, upon which the researcher met the participants for data collection. Furthermore, an introduction letter from university of Nairobi faculty of business indicating the aim of the study was obtained and given to the respondents. Additionally, participants were assured of voluntary participation and utmost confidentiality and anonymity.

Data Analysis

Prior to data collection, pilot test was carried out where reliability was computed using Cronbach's Alpha and reliability using factor analysis. Data diagnostics were conducted to ensure that the data meets the threshold for further tests. The study used multiple linear regression analysis to test the hypothesis.

The general model for predicting performance was represented by the following model: $P=a+\beta_1 ET+\beta_2 TA+\beta_3 NT+\varepsilon$

Where;

P= Performance of SMEs

ET=Entrepreneurial Training

TA=Technology Adoption

NT=Networking

a = equation intercepts

β, β_1 &β_3 =Coefficients

ε_1 = Residual of the equation

Results of Research

The hypothesis was to assess how much change in firm performance would be jointly explained by the changes in entrepreneurial training, technology adoption and the networking. To assess the joint effect, the following hypothesis was tested. *H_4: The joint effect of* entrepreneurial training, *technology adoption and the networking on firm performance is not statistically significant.*

Table 1: Joint Effect of Entrepreneurial Training, Technology Adoption, Networking on Firm Performance

Model Summary[d]										
					Change Statistics					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.752[a]	.565	.562	.18983	.565	154.816	1	437	.000	
2	.810[b]	.656	.650	.16966	.090	30.966	1	437	.000	
3	.880[c]	.775	.769	.13776	.119	61.990	1	437	.000	2.004

a. Predictors: (Constant), ET

b. Predictors: (Constant), ET TA

c. Predictors: (Constant), ET, TA, NT

d. Dependent Variable: FP

ANOVA[a]

Model		3	df	Mean Square	F	Sig.
1	Regression	5.579	1	5.579	154.816	.000[b]
	Residual	4.288	437	.036		
	Total	9.867	438			
2	Regression	6.470	2	3.235	112.384	.000[c]
	Residual	3.397	436	.029		
	Total	9.867	438			
3	Regression	7.646	3	2.549	134.311	.000[d]
	Residual	2.220	435	.019		
	Total	9.867	438			

a. Dependent Variable: FP

b. Predictors: (Constant), ET

c. Predictors: (Constant), ET, TA

d. Predictors: (Constant), ET, TA, NT

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.804	.187		9.652	.000		
	ET	.573	.046	.752	12.443	.000	1.000	1.000
2	(Constant)	1.066	.213		4.999	.000		
	ET	.461	.046	.606	10.086	.000	.809	1.236
	TA	.322	.058	.334	5.565	.000	.809	1.236
3	(Constant)	.620	.182		3.402	.001		
	ET	.205	.049	.269	4.155	.000	.458	2.186
	TA	.187	.050	.194	3.739	.000	.714	1.401

	NT	.476	.060	.542	7.873	.000	.407	2.460
a. Dependent Variable: FP								

Scale; ET=Entrepreneurial Training, TA=Technology Adoption, NT=Networking, FP=Firm Performance

The results displayed in Table 1 reveal that the joint effect of entrepreneurial training, technology adoption and networking on firm performance was statistically significant. The results show that jointly the variables explain 77.5% of the variations in firm performance (R^2 = .775). Therefore, the hypothesis was supported by the results of the study. The results show that entrepreneurial training independently explains 56.5% of the variation in firm performance. entrepreneurial training and technology adoption jointly explain 65.6% of the variations in performance (R^2 = .656). Entrepreneurial training, technology adoption and networking jointly explain 77.5% of the variations in firm performance. The joint effect was thus higher and significant compared to the individual effect of individual variables therefore rejecting the hypothesis that; the joint effect of entrepreneurial training, technology adoption and the networking on firm performance is not statistically significant.

This was guided by the following model; $Y= \alpha+ \beta_1X_1+ \beta_2X_2 + \beta_3X_3 + \varepsilon$

Where: Y is Firm Performance

X_1 is Entrepreneurial Training

X_2 is Technology adoption

X_3 is Networking

ε= Error term

β = the beta coefficients of independent variables. After the regression analysis results, the model became $Y= .620 + .205 X_1 + .187X_2 + .476X_3$

The results show that the joint effect of entrepreneurial training, technology adoption and the networking on firm performance of SMEs in manufacturing sector in Kenya is statistically significant and thus the hypothesis is rejected. Therefore Hypothesis, H_4 is Rejected.

Discussion

The last objective of the study involved evaluating the joint effect of entrepreneurial training, technology adoption and networking on firm performance. The findings revealed a positive and significant relationship between entrepreneurial training and firm performance with technology adoption and networking as the moderating and intervening factors respectively. The Resource-Based View theory posits that performance is determined by the resources and capabilities that the organization possesses. The key factors of consideration in the current study were: entrepreneurial training, technology adoption and networking.

The findings are consistent with a study by Das and Goswami (2019) on how networks of entrepreneurs enable the firms acquire technologies and necessary knowledge especially on small firms leads performance using empirical studies in the context of Kamrup, a district of Assam found that support given by other firms in a network including skills and knowledge coupled with technological advancement enables firms gain new ways of doing business.

Another study by Khalid, Ahmed, Tundikbayeva and Ahmed (2019) in empirical evidence focusing on entrepreneurship as a concept that requires

networks and know-how and how this could lead to firm performance found that those firms that are well networked are able to learn new ways of doing things especially through acquisition of knowledge which significantly impact on their revenues and overall success.

In a study by Boothby, Dufour and Tang (2018) on technology adoption, training, networking and productivity performance using panel data regression equation found that a training module containing technological adoption elements influences firm performance significantly. The study further argued that technologies which are advanced enhances entrepreneurs' skills to perform better with a conclusion that through networking firms are able to acquire and combine technologies depending on the training that are commonly adopted and undertaken by firms to significantly improve their performance.

Essel, Adams and Amankwah (2019) studying how entrepreneurship coupled with characteristics at institutional level in Ghana firms at small scale level using a technique of multiple regression of multivariate level found that factors of demographics like education as well as those of institution like trainings and also characteristics in the firm like advancement in technology conjointly in a significant state influence performance of SMEs. The study further gives an indication that those entrepreneurs with requisite training acquire skills which are key to networking and eventually acquisition of necessary technologies that foster performance.

Conclusions and Recommendations

The objective was to assess how much change in firm performance would be jointly explained by the changes in entrepreneurial training, technology adoption and the networking. The results displayed reveal that the joint effect of entrepreneurial training, technology adoption and networking on firm performance was statistically significant. The results show that jointly the variables explain 77.5% of the variations in firm performance. Therefore, the results show that entrepreneurial training, technology adoption and networking jointly explain 77.5% of the variations in firm performance. The joint effect was thus higher and significant compared to the individual effect of the separate variables therefore leading to rejection of the hypothesis that; the joint effect of entrepreneurial training, technology adoption and the networking on firm performance is not statistically significant.

The study sheds more light on the existing and current theoretical debates on entrepreneurial training and firm performance. The findings of the study showed that entrepreneurial training are integral elements that contribute to firm performance. These findings reinforce the Human Capital Theory which informs about the developing of skills and knowledge to expand human efficiency, which thus enhances development of entrepreneurs to achieve their goals in an optimal manner. Further, there is a significant role of this study to policy makers as the insights learnt will help them to develop manufacturing frameworks and policies that will encourage greater comparability of SMEs firms and knowledge sharing amongst different stakeholders to develop capacity and capabilities. Further application of gained insights will also help policy makers to grow the overall sustainability, competitiveness, attractiveness and performance of the manufacturing industry in the country and beyond. It is also critical for practitioners to understand that for SMEs manufacturing firm to be successful, it ought to appreciate how changes in the technology setting develop and must formulate effective strategies to not only cope with changes in the environment

but also outclass their competitors through leveraging and applying technology that reduces the cost and enhances firms' processes.

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