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Abstract

In Kenya, Youth-Owned Enterprises (YOEs) create employment for youths and contributes to poverty reduction. Despite this, more than a third of start-up YOEs often fails before the third year of operation, resulting far-reaching consequences at all levels. Youth Enterprise Development Fund (the Fund) adopted a number of incubatory practices to increase YOEs' longevity and financial performance. Even though a number of studies have evaluated the survival and financial performance of YOEs, none has been done in Kenya. The study anchored on the pragmatism school of thought, the cross-sectional design and mixed methods approach. Primary data were sourced in mid-2019, from 176 start-up YOEs financed by the Fund; and Officers of the Fund, among others. Key findings show that all the business incubation practices adopted by the Fund positively and significantly correlated with YOEs' financial performance; with the correlation being strongest for entrepreneurship training (50.7%), followed by partnership linkages (42.0%), market access (40.7%), and infrastructure support (23.1%). Besides, all the incubation practices caused positive and significant effects on YOEs' financial performance; while the regression model accounted for 44.1% of improvement in YOEs' financial performance. The study concludes that business incubation practices adopted by the Fund significantly improved YOEs' financial performance. This implies that: the Fund plays a crucial role in enterprise development; the incubation practices adopted by the Fund are insufficient; and that the Fund's potential in enterprise development is yet to be exhausted. Efforts to strengthen the Fund should revamp the business incubation program with more strategies, among other measures.

Keywords: Business, incubation, youth, enterprise development, financial performance

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Introduction

Small business enterprises are essential engines for economic growth, particularly in developing countries, where they create new employment opportunities for young people, improve incomes and contribute to poverty reduction initiatives (United Nations Development Program, 2013; Lewis Harper-Anderson & Molnar, 2011). Even though such enterprises contribute to the alleviation of youth unemployment, studies conducted in various geo-political contexts reveal that most of them fail within the first few years of operation due to harsh market realities, including limited access to productive resources, financing and support services; which in turn, constrain their growth and in some settings, threaten their very survival (Nair & Blomquist, 2019; Khumalo & Mutobola, 2014; Pompa, 2013; Lewis *et al.,* 2011). In Kenya, recent estimations suggest that about one-third of small business enterprises often fail within the first two years of operation (Kirunja, 2013). This implies that without necessary facilitative support, most small business enterprises are likely to dissipate; thereby, leading to heavy losses of resources. Consequently, many governments recognize the need to support such enterprises to achieve growth and increase their survival (Khumalo & Mutobola, 2014).

Establishment of start-up enterprises is a process that is characterized by multiple challenges, which in some cases, prompt the failure of such enterprises, with far-reaching psychological, social and financial consequences at the individual, household, community, regional and national levels (Nair & Blomquist, 2019; Byrne & Shepherd, 2015). High failure rate may also have negative consequences on financing institutions and business incubators, through loss of financial resource that could be used to address other pressing development issues. Nevertheless, some scholars perceive failure of start-up enterprises positively as an opportunity for learning. However, this only makes sense in contexts where incubation processes are managed, documented and the information integrated in on-going and future incubation processes (Yamakawa, Peng & Deeds, 2015). Despite this, business incubation is understood as a process entailing strategies and practices designed to minimize failure of start-up enterprises; and mitigating the resulting negative effects on entrepreneurs, their families and other stakeholders.

According to Lewis *et al.* (2011), business incubation is an entrepreneurial program designed to address multifaceted issues impeding the growth and performance of start-up enterprises through various support resources and services, including physical space, capitation financing, coaching, training, as well as creation of partnership linkages and networks. Along the same line of thought, Ayatse, Kwahar and Iyortsuun (2017) perceive business incubation as a unique institutional arrangement, whose primary concern is to develop an entrepreneurial culture in a community; thereby, improving the survival and growth of start-up enterprises.

Business incubation programs are often sponsored by established private sector enterprises, non-profit organizations or public institutions, including government ministries, departments or agencies. The goal of such programs is to produce enterprises that are not only innovative, competitive, profitable and freestanding but also sustainable (Salvador & Rolfo, 2011). This may be achieved by providing necessary support to start-up enterprises, including management guidance, technological and business infrastructure,

technical and financial services, business support services and networking, among others (Ayatse *et al.*, 2017; Bergek & Norman, 2008). Typically, the average incubation period is two years. Business incubators make decisions about eligible enterprises to be involved in the program at any given time.

Overview of Youth Enterprise Development Fund

Youth Enterprise Development Fund, hereafter referred to as 'the Fund', is one of the key projects of Kenya's Vision 2030 under the social pillar, established in 2006, and a year later, transformed into a state corporation under the Ministry of Public Service, Gender and Youth Affairs to crystalize its functions. The Fund's strategic focus was to develop business enterprises and expand economic opportunities for Kenyan youth aged 18 to 34 years, by providing affordable credit financing facility of up to KES 500,000 for start-up YOEs, depending on the viability of their business ideas (Mburu, 2015; Kirunja, 2013).

As part of the financing package for Youth-Owned Enterprises (YOEs), the Fund adopted various business incubation practices, including supporting YOEs to access the right markets, creating partnership linkages between YOEs and established market players to facilitate mentorship and trade; supporting YOEs to access appropriate business infrastructure, including premises and worksites; in addition to providing entrepreneurship training, and specific business development skills. The purpose of these practices was to enable YOEs commence business, grow and improve financial performance (Irungu & Kamau, 2015; Mburu, 2015; Kirunja, 2013).

Financial performance

Measuring financial performance of a business enterprise is an important process that generates vital information for guiding decisions around investments, expenditure and revenue generation (Herdinata, 2017). Extant literature reveals a number of indicators used to measure the financial performance of a business enterprise, including Return on Assets (ROA), Return on Equity (ROE), shareholders' value and net income, among others (Herdinata, 2017; Rawat & Govind, 2017). ROA shows how much an enterprise's total assets generate a return for each unit of funds invested in production. The indicator is computed as a ratio of net income and total assets, and expressed as a percentage. ROE is a measure of how effectively the management uses a firm's assets to generate profits. The indicator is computed as a ratio of net income and shareholders' equity; and also expressed as a percentage. Net income is the residual amount of earnings or loss after all expenses have been deducted from sales, including depreciation, amortization, interest and taxes; while shareholders' value is the benefit derived by stockholders based on a firm's ability to sustain and grow profits over time (Herdinata, 2017; Rawat & Govind, 2017). In this study, financial performance was measured in terms of net income over the preceding financial year, that is, 2017/2018. The information was obtained from annual income statements for the reference period.

Statement of the problem

In Kenya, YOEs play a critical role in the economy by creating employment opportunities for the youth; thereby, contributing to wealth creation and poverty

reduction (Nair & Blomquist, 2019; Irungu & Kamau, 2015; Mburu, 2015). Despite this, start-up YOEs remain highly sensitive and vulnerable to business environment dynamics around financing, entrepreneurs' capacity, access to markets, partnership linkages and networks, as well business infrastructure, among others. As a result, more than a third of YOEs often 'die' before their third year of operation (Irungu & Kamau, 2015; Mburu, 2015). Mburu (2015) further attributes the failure rate of SOEs to a number of factors operating with the enterprises themselves, as well as within the business environment; while Khumalo and Mutobola (2014) identify lack of planning, improper financing and poor management as key factors contributing to the failure of small enterprises, including YOEs.

Notably though, failure of YOEs bring forth numerous challenges with far-reaching psychological, social and financial consequences on the affected youths themselves, as most of them have nothing to fall back to (Nair & Blomquist, 2019; Byrne & Shepherd, 2015). In connection to this, Madzivhandila and Dlamini (2015) affirmed that failure of YOEs brought forth far-reaching economic impact at the individual, household, community and national levels. Failure of YOEs also weighs heavily on financing institutions and business incubators due to loss of financial resources that could be channelled to meet other development needs. In response to the challenge, the Fund adopted a number of incubatory practices to enable YOEs overcome or cope with challenges in the business environment; with the intention of increasing their longevity, growth and financial performance. In this regard, Khumalo and Mutobola (2014) acknowledged that providing necessary incubatory services to small business enterprises is likely to enhance their survival by up to 40% and increase their financial performance by up to 30%. Consequently, Madzivhandila and Dlamini (2015) suggested that YOEs should be mentored to increase their survival and performance.

Even though a number of studies have evaluated the survival and financial performance of YOEs, most of such studies have dwelt on factors inherent within the enterprises, as well as those operating in the business environment (Irungu & Kamau, 2015; Mburu, 2015; Kirunja, 2013). None of the previous studies has investigated the relationship between business incubation practices and YOEs' financial performance (Lewis *et al.*, 2011). In response to the gap, this study set to determine effect of business incubation practices adopted by the Fund on YOEs' financial performance in Kenya. The resultant information would guide discussions on revamping the Fund's business incubation practices; in addition to informing financing and incubation policies; and spurring further research on the subject in developing countries.

Literature Review

Business incubation is a process that accelerates the development of start-up enterprises by providing entrepreneurs with an array of targeted resources and services, including enabling start-up enterprises to access physical facilities, training, advisory and financial services (National Business Incubation Association [NBIA], 2011; Allen & McCluskey, 1990). The ultimate goal of business incubation is to improve financial performance, create employment opportunities and increase wealth creation at the individual, community and national levels. This definition implies that business incubation is an essential aspect of economic development, particularly in developing countries. As noted by Lewis *et*

al. (2011), helping entrepreneurs to start and grow businesses through incubation is a practice that is gaining popularity due to its contribution to economic development, and to the realization of various social and economic policy needs, including job creation, fostering an entrepreneurial climate, technology commercialization, diversifying local economies, as well as accelerating growth of local industry clusters, among others.

The history of business incubation dates back to the 1950s, when the first incubator was established in the United States. Since then, the number of incubators has spiralled to over 7,000 across the world (Seruga, 2012; NBIA, 2011). Extant literature brings out four types of business incubation models, viz. 'with walls', 'without walls' or virtual, as well as international incubators and accelerators (Lewis *et al.*, 2011). Whereas 'with walls' incubators operate on-site, offering entrepreneurs space to operate their businesses, 'without walls' incubators operate off-site, with no space for clients. However, they have central offices from where they coordinate services. Notably though, research is yet to provide a clear distinctions between accelerators and international business incubators; in addition to providing empirical evaluation of the two models (Lewis *et al.*, 2011).

The literature further reveals that business incubation process embraces a number of interventions, each designed to facilitate the survival and performance of start-up enterprises. Ayatse, Kwahar and Iyortsuun (2017) noted that the type of interventions adopted by incubators vary from one context to another, depending on common issues threatening the survival and performance of such enterprises. For example, lack of relevant entrepreneurial skills has been identified as a key factor contributing to low survival rates and limited financial outcomes among start-up small enterprises in many developing countries (Ayatse *et al.*, 2017). In Kenya, Maisiba and Gongera (2013) noted that more than half of youth seeking financing services through the Fund lacked necessary entrepreneurship skills and experience; which suggested the need for training. In addition, about 80% of the participants identified lack of entrepreneurial skills as a key factor constraining entrepreneurs' productivity; thereby, contributing to the failure of YOEs. In response to this, business incubators across the globe have embraced entrepreneurial training as a strategy for enhancing the capacity of entrepreneurs to overcome or cope with challenges inherent in the market.

Bandura (1986) argued that entrepreneurial training prepares business managers in relation to new ventures by transferring necessary knowledge and relevant skills to increase their self-efficacy and managerial effectiveness. In relation to this, King and McGrath (2002) affirmed that entrepreneurial training is an essential practice in the process of business incubation, which impacts positively on the survival and growth of start-up enterprises. In this regard, the study reported that trained entrepreneurs were better poised to adapt their start-up enterprises to changing business environments; thereby, enhancing survival and improving performance.

A number of studies have demonstrated that accessing entrepreneurial training has a positive impact on the survival rate and financial performance of start-up enterprises, in terms of sales and net income. For example, Mano, Al Hassan, Yutaka and Sonobe (2012) reported a 9% increase in YOEs' survival during the first

one year of operation; while Berge, Bjorvatn, Juniwaty and Tungodden (2011) found that entrepreneurial training increased profits by 24% and sales by 29% for males within 5 to 7 months after the incubation period. Similarly, Valdivia (2011) reported a 20% increase in profitability among business enterprises that went through entrepreneurial training; while those that didn't go through the training experienced insignificant change in profitability. More still, a study conducted by the World Bank (2011) reported that training beneficiaries recorded higher rates of growth in business performance after the training than non-beneficiaries. More specifically, the net effect of entrepreneurial training was equivalent to about 160% growth in gross profits over one year in both clusters. The study argued that training programmes had a visible, immediate impact on enterprises; with participants changing business routine in financial management, production management and marketing; immediately after training; thereby, leading to improved business performance.

In their study, Field, Jayachandran and Pande (2010) found that entrepreneurship training had a positive impact on the income of Hindu women in the upper caste by up to 19% points. However, among women in the lower caste, the training had no impact on their incomes. The results were attributed to variation in the intensity of social restrictions in the two castes. Furthermore, Botha (2006) established a correlation between entrepreneurial training and performance indicators such as productivity, number of employees, net value and profitability.

The literature further identifies limited access to appropriate markets as a key factor constraining the survival and financial performance of start-up YOEs (Goedhuys & Sleuwaegen, 2010). In response to this, business incubators support start-up YOEs to access suitable markets to optimize their sales of their goods and services (Seruga, 2012). As noted by Ayatse *et al.* (2017), where this is done appropriately, start-up enterprises are poised to experience significant improvement in sales and financial performance. Studies conducted in various contexts have established a significant relationship between support to start-up enterprises to access markets and improvement in financial performance. For example, Goedhuys and Sleuwaegen (2010) in their study which involved 947 small and medium enterprises in eleven Sub-Sahara African countries, reported that firms supported to expand their market horizon experienced an increase of between 25% and 35% in the sales volume; which in turn, increased net income. A little earlier, World Bank (2008) reported a positive association between improved accessed to markets and financial performance of start-up enterprises graduating from incubation programs. The relationship between market access and performance of start-up enterprises was also reported by Vivarelli (2012).

Developing a new business enterprise into a successful market player is demanding in terms of time and resources. Thus, having a network of business partners is not only logical but also necessary for continuous support and motivation. The atmosphere of experienced firms, with similar passion and determination is a vital asset for upcoming entrepreneurs focused on developing successful enterprises. Through such networks, entrepreneurs expand their knowledge, learn from others' experiences, market their products and services, as well as access new clients (Siegel, Leyden &

Link, 2013; Lewis *et al.*, 2011). Extant literature suggests that supporting start-up enterprises to initiate partnership linkages and networks with established monopolies and alliances is vital for reducing failure rate, in tandem with improving financial performance (Maisiba & Gongera, 2013). In their study, for example, Maisiba and Gongera (2013) reported that more than 70% of the respondents strongly believed that business networking had expanded trade opportunities for start-up enterprises; thereby, increasing sales volume. The authors argued that such opportunities assisted up-coming entrepreneurs to develop various competencies in their areas of interest; thereby, positioning themselves to extract benefits offered by the networks.

Siegel *et al.* (2013) recognised the role of entrepreneurial networking to the survival and performance of small business enterprises. The authors argued from the point of view holding that entrepreneurs operate within the context of volatile markets, which necessitates collaboration with established players in order to withstand sudden market shocks. In view of this, the ability of entrepreneurs to exploit the potential of business networks was found to correlate with the performance of start-up enterprises. The networks facilitated sharing of resources such as information and technology, in addition to being a source of motivation and inspiration. Such business networks also enabled upcoming enterprises to access suppliers and customers at the early stage of business formation (Siegel *et al.*, 2013). Similarly, Ayatse *et al.* (2017) argued that entrepreneurial networks contributed to the performance start-up enterprises by creating connection with customers and allowing deeper understanding customers' needs; thereby, enhancing the competitive advantage of start-up enterprises.

Still on the same matter, Siegel *et al.* (2013) reported that entrepreneurs referring their clients to other firms within business networks stood better chances of receiving referrals from other network members. In view of this, supporting start-up enterprises to establish business networks with more developed enterprises enhanced the chances of new entrants achieving better financial performance. Earlier, Hite and Hesterly (2001) reported a significant correlation between business networking and performance of start-up enterprises, in terms of profitability and growth. The connection between entrepreneurs' networking behaviour and financial performance was also reported in China by Lee and Tsang (2001); who noted that through entrepreneurial networks, start-up enterprises forged connections with new customers; thereby, expanding existing market opportunities.

Limited access to business infrastructure also emerges in the literature as a key challenge contributing to the failure of start-up enterprises. In this regard, business infrastructure incorporates all physical facilities, equipment and Information and Communication Technology (ICT) facilities that support trade activities (Lewis *et al.*, 2011). Some business incubators respond to the challenge by supporting start-up enterprises to access infrastructural facilities such as office space, ICT equipment, furniture, work space, and transport, among others (Lewis *et al.*, 2011). In relation to this, a few studies have examined the connection between support in terms of business infrastructure and the financial performance of start-up enterprises. For example, Markley and McNamara (1995) found that providing start-up enterprises with necessary infrastructure contributed to the survival and growth of such enterprises, particularly

by offsetting pertinent overhead costs; thereby, enabling such enterprises to minimize administrative expenditure.

The literature review revealed that the relationship between business incubation practices adopted by incubators and the financial performance of small business enterprises is a subject that has captured the attention of policy researchers across the globe. However, in Kenya, few studies have tackled the subject; while none has focused on the incubation practices adopted by the Fund to support YOEs *vis-à-vis* financial outcomes of the latter. Drawing from the literature review, this study concentrated on four business incubation practices, including market access, partnership linkages and networks, training and business infrastructure. The conceptual framework presented in Figure 1 shows the hypothesised relationship between business incubation practices adopted by the Fund and financial performance of YOEs.

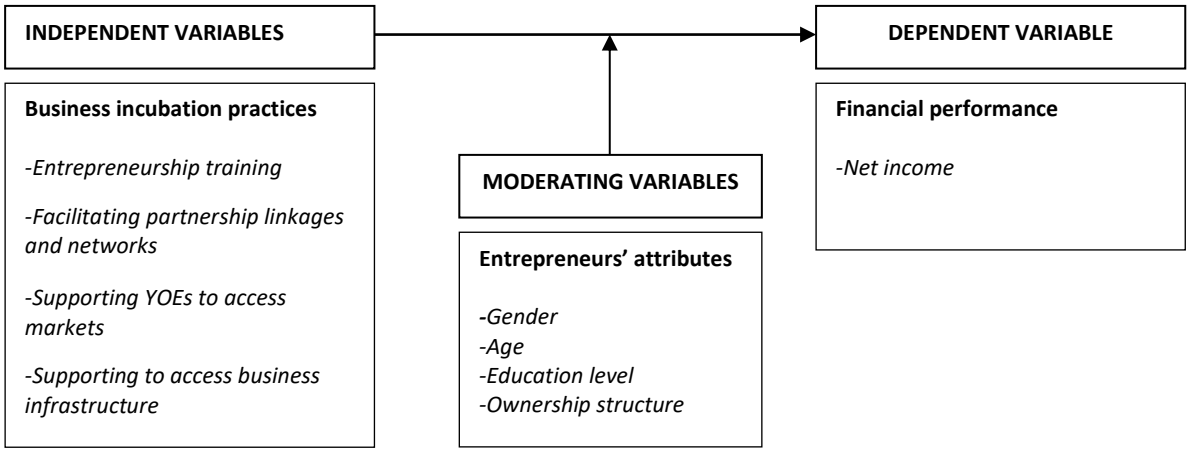

Figure 1: Hypothesised linkage between business incubation practices & financial performance

The conceptual framework shows that business incubation practices adopted by the Fund were likely to affect YOEs' financial performance. However, the effect would be moderated by entrepreneurs' selected attributes. In this regard, business incubation practices were operationalized in terms of entrepreneurs' judgment on a five-point Likert scale, calibrated as '1', '2', '3', '4' and '5 ; where 1 signified the minimum possible score and 5 represented the maximum possible score. Besides, YOEs' financial performance was measured in terms of net income.

Methodology

The study was founded on the pragmatism school of thought. Pragmatism focuses on determining what works in a particular context, rather than relying on the principle of absolute truth. Ontologically, pragmatic scholars believe that reality is a complex web of actions and outcomes; that is constantly renegotiated and interpreted; and thus, cannot be understood fully using a single method. Pragmatism follows both positivist and constructivist principles to address research problems. Epistemologically, pragmatist scholars seek knowledge according to the circumstances

in which the phenomenon occurs, by testing hypotheses and deducing inferences; as well as examining patterns of interaction between the realities being investigated and inducing generalizations. In this study, the analysis involved testing null hypotheses about the influence of business incubation practices adopted by the Fund on the financial performance of YOEs. Methodologically, pragmatism embraces a mixed methods approach, which involves application of quantitative and qualitative methods to collect, process and integrate two sets of results to draw inferences. Details about the pragmatic philosophy are provided by various publications, including Kaushik and Walsh (2019), Brierley (2017), Morgan (2014) as well as Creswell and Plano (2011), among others.

In line with the principles of pragmatism, the cross-sectional design and mixed methods approach were applied to guide the research process, including data collection, processing, analysis and interpretation. In this regard, primary data were sourced at a single point in time using a survey method and key informant interviews. The quantitative method elicited information for descriptive and inferential purposes, while the qualitative method obtained detailed information based on the professional experiences and perceptions of selected key informants, including Officers of the Fund, partnering public institutions and private sector enterprises. Detailed information about the design and methods applied in this study are contained in the following publications Brierley (2017), Creswell and Plano (2011), Mann (2003) and Owens (2002), among others.

The study targeted newly established YOEs financed by the Fund over the preceding one year, viz. 2017/2018 financial year. Notably, the first year of operation is a critical period for business incubation and laying down a foundation for growth and performance. Within the enterprises, the study targeted entrepreneurs. Also targeted were Officers of the Fund at the county level and relevant staff of public institutions as well as private sector enterprises directly or indirectly involved in supporting the enterprises to achieve profitability. A two-stage sampling process was applied to obtain units of analysis; with the first stage targeting the counties because the study had a national scope. In this regard, the country was divided into 47 administrative counties, which was designated the population, from where a representative sample was obtained using one of Fisher's formula for sample size determination, as follows:

$$n_i = \frac{p(1-p)}{\left[\left(\frac{a}{Z}\right)^2 + p(1-p)/N_i\right]} = \frac{0.5(1-0.5)}{\left[\left(\frac{0.05}{1.96}\right)^2 + 0.5(1-0.5)/47\right]} = 41.877 \ldots(1)$$

Where: n_i is the sample size, N_i is the population, p is the estimated population variance, which by default is set at 0.5. In addition, α is the error margin, which by default is set at 0.05, while Z is the confidence level, set at 95%. Notably, 95% confidence level is equivalent to 1.96 on the normal distribution curve (Fink, 1995). The sample size indicated in formula 1 was corrected for design effects using the correction factor in formula 2:

$$nf = \frac{ni}{1+\frac{ni}{Ni}} = \frac{41.877}{1+\frac{41.877}{47}} = 22.145 \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(2)$$

Where nf is sample size correction factor, n_i is the computed sample size: 41.877, N_i is the population: 47. The correction process

obtained a sample size of 22.145≈ 22 counties.

The second stage of the sampling process targeted the start-up enterprises financed by the Fund during the 2017/18 financial year. Available management data indicated that in the stated financial year, the Fund financed 650 start-up enterprises across the country (Youth Enterprise Development Fund, 2018). Based on this information, Fisher's formula for sample size determination from finite populations was applied again to obtain a sample of 176 enterprises. This was divided by the 22 counties to obtain the number of enterprises to be involved in the study in each county; and this translated to 8 YOEs per county to ensure equal representation.

Data were sourced in May and June 2019, using a self-administered survey questionnaire and an in-depth interview guide, which was used to capture perspectives of the project's management. Quantitative and qualitative procedures were applied to process, analyze and interpret the information. Quantitative analysis techniques included cross-tabulations with Chi-square (χ^2) tests, Analysis of Variance, Pearson's Correlation Coefficient and multiple regression analysis.

Multiple regression analysis was applied to determine effect of business incubation practices adopted by the Fund on YOEs' financial performance. In this regard, business incubation practices, including supporting YOEs to access markets, facilitating partnership linkages between YOEs and established market players; supporting YOEs to access appropriate business premises; as well as providing entrepreneurship training. The practices were operationalized in terms of entrepreneurs' judgement about the extent to which each had contributed to the financial performance of their enterprises over the preceding one year period. In this regard, the practices were operationalized in terms of perception statements upon which participants were requested to indicate their judgment on a five-point Likert scale, calibrated as '1', '2', '3', '4' and '5; where 1 signified the minimum possible score and 5 represented the maximum possible score. Besides, financial performance was measured in terms of net income, read from the income statement for the 2017/18 financial year.

The multiple regression analysis model states that Y is a function of a set of k independent variables, and is represented by the equation.

$$Y_j = \beta_0 + \beta_1 X_{1j} + \beta_2 X_{2j} + \cdots \beta_k X_{kj} + \varepsilon_j \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(3)$$

In this regard, β_0 is the Y intercept; $\beta_1 \ldots \beta_k$ are the regression coefficients associated with the independent variable; ε_j is the error term; Y_j is the dependent variable; $X_1 \ldots X_k$ are independent variables. In this study, the dependent variable *(Y_j)* was the financial performance of YOEs, measured in terms of net income for the 2017/18 financial year. The independent variables included support for YOEs to access markets, which were coded as *market access*, facilitation of partnership linkages between YOEs and established market players *(linkages)*; supporting YOEs to access appropriate business premises *(infrastructure)*; as well as providing entrepreneurship training *(training)*.

The effect of business incubation practices on the financial performance of youth-owned enterprises was moderated by entrepreneurs' attributes. The outcome was interpreted from three parameters,

including standardized regression coefficients (*Beta)*, adjusted coefficient of determination (R^2) and the F statistic. More particularly, effect of the independent variables was indicated by *Beta* weights. Whereas a negative (-) *Beta* weight shows a negative effect, a positive *Beta* weight shows a positive effect. Besides, the magnitude of effect was determined by the R^2, while the significance of the effect was determined from the F statistic. The regression analysis was used to test null hypotheses. Quantitative analyses were performed using the Statistical Package for Social Sciences (SPSS) and Microsoft Excel.

Furthermore, the analysis of qualitative data followed three steps, involving coding and organizing data; identifying themes, patterns and relations; as well as interpreting the results. The latter involved linking the results with study's objectives and hypotheses. The following publications provide details about the procedures used to process and analyze the information (Dudovskiy, 2018; Durlak, 2009; Sawilowsky, 2009; Fisher & Foreit, 2002). Besides, the study complied with the Belmont Report's ethical principles, including respect for participants' right to self-determination, beneficence and justice (Dench, Iphofen & Huws, 2004). Furthermore, a research permit was obtained from the National Commission for Science, Technology and Innovation, while introduction letters were obtained from the University of Nairobi and Ministry of Public Service, Gender and Youth Affairs.

Results

This section presents outputs of the data analysis process. It was structured into four sub-sections, including entrepreneurs' attributes, bivariate analysis of YOEs' financial performance and entrepreneurs' attributes, bivariate analysis of YOEs' financial performance and business incubation practices adopted by the Fund, as well as multivariate analysis of YOEs' financial performance and business incubation practices. Details are provided under the following sub-sections.

Univariate analysis of entrepreneurs' attributes

The study capture four attributes of entrepreneurs, namely, gender, age, education level and ownership structure. Table 1 shows the frequency distribution results for each attribute. More specifically, the results show that of the 176 entrepreneurs involved in the study, 92 (52.3%) were males, while 84 (47.7%) were females. The results in Table 1 further show that 91 (51.7%) entrepreneurs were in the 25 to 29 years age bracket, 53 (30.1%) were aged below 25 years, while 32 (18.2%) indicated 30 years and above.

Table 1: Entrepreneurs' attributes

Entrepreneurs' attributes	Frequency	Percent
Gender		
Male	92	52.3
Female	84	47.7
Total	**176**	**100.0**
Age		
<25 years	53	30.1
25-29 years	91	51.7
30 years+	32	18.2
Total	**176**	**100.0**
Education level		
Primary	6	3.4
Secondary	77	43.8
College	69	39.2
University	24	13.6
Total	**176**	**100.0**
Ownership structure		
Individual	83	47.2
Group	93	52.8
Total	**176**	**100.0**

Regarding education level, the results in Table 1 show that 77 (43.8%) entrepreneurs had attained secondary education, 69 (39.2%) stated college education, 24 (13.6%) were university graduates, while 6 (3.4%) had attained primary education. Besides, 93 (52.8%) entrepreneurs owned the enterprises jointly with other people, while 83 (47.2%) were individual owners of the enterprises. Primary data were also sourced from 29 key informants, including 22 officers of the Fund and 7 officers of public and private institutions supporting YOEs involved in the study in various ways.

Bivariate analysis of entrepreneurs' attributes and YOEs' financial performance

Financial performance of YOEs was measured in terms of net income earned during the 2017/18 financial year. The information extracted from income statements for the reference period showed that YOEs realized net incomes ranging from KES -24,000 to KES 274,000, with a mean of KES 103,036.4, 95% CI (93,839.2-112,233.5). in this sub-section, the analysis involved examining the relationship between each of the entrepreneurs' attributes and the net income reported by YOEs. In this regard, Table 2 presents the results.

Table 2: Bivariate analysis of entrepreneurs' attributes and YOEs' financial performance

Entrepreneurs' attributes	N	Mean	Std. Deviation	Std. Error	95% CI for Mean		Min	Max
					Lower Bound	*Upper Bound*		
Gender								
Male	92	102,790.2	6,2007.8	6,464.8	89,948.8	115,631.7	-24,000	266,000
Female	84	103,306.0	6,1990.5	6,763.7	89,853.2	116,758.7	-23,000	274,000
Total	**176**	**103,036.4**	**6,1822.7**	**4,660.1**	**93,839.2**	**112,233.5**	**-24,000**	**274,000**
Age								
<25 years	53	98,758.5	56,813.4	7,803.9	83,098.8	114,418.2	-10,200	255,000
25-29 years	91	104,861.5	67,662.9	7,093.0	90,770.1	118,953.0	-24,000	274,000
30 years+	32	104,931.3	53,152.9	9,396.2	85,767.6	124,094.9	-9,200	262,000
Total	**176**	**103,036.4**	**61,822.7**	**4,660.1**	**93,839.2**	**112,233.5**	**-24,000**	**274,000**
Education level								
Primary	6	103,697.1	61,841.4	7,444.8	88,841.2	118,553.0	-23,000	266,000
Secondary	77	91,144.2	56,955.0	6,490.6	78,217.0	104,071.2	-24,000	261,000
College	69	119,500.0	53,099.0	21,677.6	63,776.1	175,224.0	26,000	181,000
University	24	135,175.0	69,418.1	14,169.9	105,862.3	164,487.7	59,000	274,000
Total	**176**	**103,036.4**	**61,822.7**	**4,660.1**	**93,839.2**	**112,233.5**	**-24,000**	**274,000**
Ownership structure								
Individual	83	117,210.8	65,419.9	7,180.8	102,926.0	131,495.7	-10,200	274,000
Group	93	90,386.0	55,790.6	5,785.2	78,896.1	101,876.0	-24,000	255,000
Total	**176**	**103,036.4**	**61,822.7**	**4,660.1**	**93,839.2**	**112,233.5**	**-24,000**	**274,000**

The results show that male entrepreneurs realized a mean income of KES 102,790.2, 95% CI (89,948.8-115,631.7); while their female colleagues reported a mean income of KES 103,306.0, 95% CI (89,853.2-116,758.7). Despite numerical variations in the mean income attained by male and female entrepreneurs, the analysis revealed lack of a significant difference ($F_{(1,174)}$ = 0.003 & ρ-value = 0.956). This implies that the net income earned by male and female entrepreneurs was at par.

The analysis further indicated that entrepreneurs aged 30 years+ achieved the highest mean income at KES 104,931.3, 95% CI (85,767.6-124,094.9); followed by those aged 25-29 years recorded KES 104,861, 95% CI (90,770.1-118,953.0); while participants aged below 25 years realized KES 98,758.5 (83,098.8-114,418.2). Despite this, the analysis showed lack of a significant difference in the mean income attained by entrepreneurs in the three age categories ($F_{(1,174)}$ = 0.180 & ρ-value = 0.836). The results suggest no

age bracket performed better than the others.

Regarding education level, the results showed that entrepreneurs with university education recorded the highest mean income of KES 135,175.0, 95% CI (105,862.3-164,487.7); followed by those with college education at KES 119,500.0. 95% CI (63,776.1-175,224.0); while participants with secondary education realized the lowest mean income of KES 91,144.2, 95% CI (78,217.0-104,071.2). The analysis indicated up to 95% chance that mean income differed significantly across the four categories of education ($F_{(3,172)}$ = 3.390 & ρ-value = 0.019). The results suggest that the entrepreneurs achieved various levels of net income depending on the education level.

More still, entrepreneurs who owned the business enterprises solely attained a higher mean income of KES 117,210.8 (102,926.0-131,495.7) than their colleagues who owned the enterprises jointly with other people, at KES 90,386.0, 95% CI (78,896.1-101,876.0). Based on this, the analysis revealed that mean income recorded by the two categories of participants differed significantly ($F_{(1,174)}$ = 8.616 & ρ-value = 0.004). The results suggest that entrepreneurs owning enterprises solely recorded better performance than their colleagues who co-owned the enterprises with other people. While explaining the ownership structure of enterprises financed by the Fund, participants noted that sole owners were likely to realize better financial performance because they enjoyed the advantage of quick decisions without disagreements or debates; in addition to having full control and responsibility for decisions.

Bivariate analysis of business incubation practices and YOEs' financial performance

The analysis focused on determining the correlation between business incubation practices adopted by the Fund and YOEs' financial performance. The incubation practices covered by the study included supporting YOEs to access markets (*market access support*), facilitating partnership linkages between YOEs and established market players *(partnership linkages)*; supporting YOEs to access appropriate business premises *(infrastructure support)*; as well as providing entrepreneurship training *(entrepreneurship training)*. Table 3 presents the results.

Table 3: Correlation between business incubation practices and YOEs' financial performance

Market access support	Pearson Correlation	0.407***
	Sig. (2-tailed)	0.000
	N	176
Partnership linkages	Pearson Correlation	0.420***
	Sig. (2-tailed)	0.000
	N	176
Infrastructure support	Pearson Correlation	0.231***
	Sig. (2-tailed)	0.002
	N	176
Entrepreneurship training	Pearson Correlation	0.507***
	Sig. (2-tailed)	0.000
	N	176

**** show significance at ρ<0.01 error margin*

As indicated in Table 3, the analysis revealed a positive correlation between market access support and YOEs' financial performance, which was statistically significant at 99% confidence level. The results suggest that as the Fund provides more support to enable YOEs access markets, financial performance improves proportionately. The analysis also obtained a moderate and a positive correlation between facilitation to create partnership linkages and YOEs' financial performance, which was also statistically significant at 99% confidence level. This suggests that as the Fund provided more facilitation to enable YOEs initiate partnership linkages with established market players, financial performance improved in the same proportion. This is because partnership linkages expanded opportunities for sales, which logically increase net income.

The results presented in Table 3 further show that the analysis obtained a weak positive correlation between infrastructure support and the YOEs' financial performance, which was also significant at 99% confidence level. The results suggest that as the Fund provided more support to enable YOEs access business infrastructure, including premises, financial performance of such firms also improved proportionately. The analysis further obtained a moderate and a positive correlation between support provided in the form of entrepreneurship training and YOEs' financial performance, which was also significant at 99% confidence level. The results suggest that providing training to entrepreneurs stimulated a proportionate improvement in YOEs' financial performance. The results suggested that correlation was strongest for entrepreneurship training (50.7%),

followed by partnership linkages (42.0%), and market access (40.7%), but weakest for infrastructure support (23.1%).

Multivariate analysis of business incubation practices and YOEs' financial performance

The analysis further concentrated on determining effect of business incubation practices adopted by the Fund on YOEs financial performance. In this regard, market access support, partnership linkages, infrastructure support and entrepreneurship training (independent variables) were regressed against YOEs' financial performance (dependent variable), which was measured in terms of net income. The relationship between the independent variables and the dependent variable was moderated by entrepreneurs' attributes.

The regression model generated standardized coefficients (*Beta* weights) to show the effect of each business incubation practice on YOEs' financial performance, which was either positive or negative. *Beta* weights also indicated the relative importance of each independent variable. Table 4 presents regression analysis results, including *Beta* weights, as well as related t-statistic and ρ-values (*Sig.*) for each independent variable.

Table 4: Regression coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	*Std. Error*	*Beta*		
1	(Constant)	-65,737.106	24,789.775		-2.652	0.009***
	Market access support	8,568.765	2,264.106	0.243	3.785	0.000***
	Partnership linkages	11,646.125	2,343.943	0.292	4.969	0.000***
	Infrastructure support	6,489.962	2,877.605	0.131	2.255	0.025**
	Entrepreneurship training	11,691.385	2,062.408	0.343	5.669	0.000***
	Gender	457.001	7,179.886	0.004	0.064	0.949
	Age	-301.851	1,059.547	-0.016	-0.285	0.776
	Education level	10,561.470	4,659.088	0.130	2.267	0.025**
	Ownership structure	-6,151.546	7,651.709	-0.050	-0.804	0.423

***, *** show significance at ρ<0.05 and ρ<0.01 error margins, respectively*

The analysis obtained a *Beta* weight of 0.343 (t-statistic = 5.669 & ρ-value = 0.000) for entrepreneurship training. The results suggest that entrepreneurship training caused a positive effect on YOEs' financial performance, and that the effect was statistically significant at 99% confidence level. Based on this, the null hypothesis postulating that *entrepreneurship training had no significant effect on YOEs' financial performance* was rejected for being untrue. In relation to this, key informants revealed that the Fund focuses on providing mandatory pre-financing entrepreneurship training to youths intending to access financing to either start a business

enterprise or expand operations of extant enterprises. Participants noted that through the intervention, the Fund ensured that youths accessing financing were equipped with essential skills to venture into- or expand business productivity. The intervention improved YOEs' financial performance by enhancing entrepreneurs' ability to identify and tap business opportunities; in addition to adopting contemporary business management practices, which controlled expenditure, while optimizing income. In this regard, entrepreneurship training enhanced the sustainability of YOEs. Participants elaborated that at the time of the study, more than 350,000 entrepreneurs had benefitted from entrepreneurship training, while about 5,000 had been sensitized on how to position themselves for public sector procurement opportunities. Despite this, some participants noted that entrepreneurship training was inadequate, because most upcoming entrepreneurs lacked various essential skills, including the ability to cope with rapid technological changes in the business environment.

The analysis obtained a *Beta* weight of 0.292 (t-statistic = 4.969 & ρ-value = 0.000) for the facilitation of partnership linkages. This means that facilitating YOEs to initiate partnership linkages with established market players caused a positive effect on YOEs' financial performance. Besides, the effect was statistically significant at 99% confidence level; thereby, prompting rejection of the null hypothesis holding that *facilitation of partnership linkages had no significant effect on YOEs' financial performance* because it was inconsistent with empirical data. Key informants amplified the importance of partnership linkages between YOEs and stronger market players in relation to YOEs' financial performance. Arguably, linkages with such market players, including private sector enterprises and government institutions, which expanded opportunity for trade, learning and mentorship. Despite this, some participants noted that the Fund was not doing enough to facilitate the creation of such linkages due to issues such as understaffing and resource constraints.

The results presented in Table 4 further show that the analysis yielded a *Beta* weight of 0.243 (t-statistic = 3.785 & ρ-value = 0.000) for market access support. The results suggest that supporting YOEs to access appropriate markets caused a positive effect on YOEs' financial performance. Besides, the effect was statistically significant at 99% confidence level, as indicated by the ρ-value. This led to rejection of the null hypothesis stating that '*market access support has no significant effect on YOEs' financial performance',* particularly because it was untrue. In relation to this, key informants affirmed that supporting YOEs to access the right domestic, regional and international markets was a key factor contributing to the survival and financial performance of such firms. Participants argued that such support enabled YOEs to showcase their products or services and expand sales volume, which logically increased net income and survival through the first year of 'life'. Participants indicated that this was achieved by organizing and encouraging YOEs to participate in county, national and international marketing events, including trade fairs, exhibitions, conferences and road shows.

Lastly, Table 4 shows that the analysis obtained a *Beta* weight of 0.131 (t-statistic = 2.255 & ρ-value = 0.025) for infrastructure support. The results suggest that supporting YOEs to access decent business infrastructure also contributed

positively to their financial performance. The ρ-value further shows that the effect was statistically significant at 95% confidence level; which in turn, prodded rejection of the null hypothesis claiming that '*business infrastructure support had no significant effect on YOEs' financial performance'* for being inconsistent with the results. Still on the same aspect, key informants noted that accessing appropriate and strategically located business premises or worksites was a key challenge to many YOEs, with far-reaching consequences on their financial performance. In response to the challenge, the Fund chose to support financed YOEs to access affordable and decent business premises, which in turn, improved their financial performance. Key informants identified two strategies that the Fund adopted to accomplish this; including partnering with county governments and private sector enterprises to develop and install appropriate business premises in strategic sites within towns and trading centres. The Fund also lobbied established enterprises such as shopping malls to create suitable business premises or spaces at subsidized rates for YOEs. Despite nobleness of the idea, participants noted that the initiative was constrained by inadequacy of resources, which made it impossible to meet the needs of all deserving YOEs; alongside to intensive competition for appropriate business sites in high potential areas.

The analysis focused on determining the regression model's strength to explain YOEs' financial performance, also known as goodness-of-fit, based on the business incubation practices adopted by the Fund. This was read from the adjusted coefficient of determination (R^2). The model's strength showed how well business incubation practices adopted by the Fund explained variation in in YOEs' financial performance. Another area of focus was about statistical significance of the models' goodness-of-fit, which was indicated by F statistic. The latter enabled the investigator to determine whether the effect of business incubation practices adopted by the Fund on YOEs' financial performance was statistically robust or not. Table 5 presents results about the models' strength and significance.

Table 5: Regression model's strength and significance

Model Summary	R	R Square	Adjusted R Square	Std. Error of the Estimate
	0.678	0.460	0.441	46,226.621

ANOVA		Sum of Squares	df	Mean Square	F	Sig.
	Regression	307721242999.5	6	51286873833.3	24.001	0.000***
	Residual	361136184273.2	169	2136900498.7		
	Total	668857427272.7	175			

**** shows significance at ρ<0.01 error margin*

The analysis generated an adjusted R^2 of 0.441, which suggests that business incubation practices adopted by the Fund accounted for up to 44.1% of improvement in YOEs' financial performance over the reference period. This further suggests that the business incubation practices adopted by the Fund, collectively, had a weak effect on YOEs' financial performance. This has two possible explanations: either the Fund was not doing enough to support access to markets, facilitate the creation of partnership linkages, provide infrastructure and provide entrepreneurship training; or that the incubation practices adopted by the Fund was not exhaustive. The results further suggest that the model had a moderate strength in estimating the effect of business incubation practices adopted by the Fund on YOEs' financial performance. Besides, the analysis generated an $F_{(6,169)}$ statistic 24.001 with a ρ-value of 0.000, which suggest up to 99% chance that the model's strength in explaining YOEs' financial performance was statistically significant.

Conclusions

The study aimed at determining effect of business incubation practices adopted by the Fund on YOEs' financial performance. Its purpose was to generate information that would stimulate discussions on how to strengthen business incubation program initiated by the Fund; with a view to improving YOEs' financial performance and contribution to economic development. The information was also expected to influence the Fund's financing and incubation policies; in addition to motivating further research on the subject, elsewhere in Kenya as well as in other developing countries.

The business incubation practices adopted by the Fund significantly improved YOEs' financial performance. Nonetheless, the findings bring out three important messages: that the Fund makes a crucial positive contribution to the development of YOEs in Kenya; that the business incubation practices adopted by the Fund are insufficient, meaning that more practices should be brought on board; and that the Fund's potential in enterprise development is yet to be exhausted. This potential remains constrained by issues such as understaffing, mismanagement and funding constraints, which should be prioritized for action. Consequently, efforts to strengthen the Fund should consider revamping the business incubation program with more strategies, technical support, better internal control measures, as well as stronger monitoring and evaluation systems. This is likely to enhance the Fund's effectiveness in enterprise development, and responsiveness in addressing the dynamic needs of youthful entrepreneurs; with benefits cascading at the individual, family, community and national levels.

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