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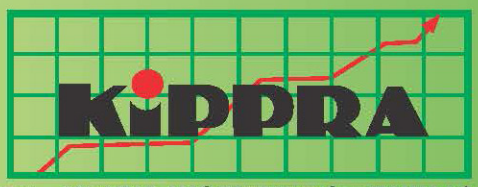

The KENYA INSTITUTE for PUBLIC POLICY RESEARCH and ANALYSIS

Enhancing Entrepreneurship in Kenya

Anne Gitonga
Rodgers Musamali

DP/254/2021

THE KENYA INSTITUTE FOR PUBLIC POLICY
RESEARCH AND ANALYSIS (KIPPRA)

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Kenya Institute for Public Policy
Research and Analysis

KIPPRA Discussion Paper No. 254
2021

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Published 2021
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ISBN 978 9966 817 65 5

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Abstract

Kenya has a growing Micro, Small and Medium Enterprise (MSME) sector, which contributes greatly to employment but unproportionately to output. While MSMEs in Kenya have the potential of spurring investment, promoting innovations and providing goods and services, they are faced with challenges that contribute to their low survival. Most MSMEs do not exist beyond their third year of operation and for those that do, they may never graduate or transition to small or medium size enterprises. The key constraints experienced by these enterprises include limited skills, informality, low productivity, and a weak entrepreneurship culture. Essentially, MSMEs in Kenya promote necessity entrepreneurship. There is need to reverse this trend in favour of opportunity entrepreneurship, which is more impactful and transformative. The objectives of the study are therefore two-fold: identifying the drivers of opportunity entrepreneurship in Kenya and establishing which industrial sectors have a higher probability of undertaking opportunity entrepreneurship in Kenya. The study uses the micro, small and medium size enterprises survey data of 2016 and undertakes a heterogenous probit analysis to establish the drivers of opportunity entrepreneurship. In addition, the study seeks to establish which industrial sectors have a higher probability of undertaking opportunity entrepreneurship The study identifies age, gender of the business owner, firm size, registration status of the establishment, education status of the business owner, and source of capital for the establishment as predictors of opportunity entrepreneurship. Further, establishments in ICT, real estate and creative economy are established to be consistent in spurring opportunity entrepreneurship. Informed by this, the study presents some policy recommendations aimed at enhancing opportunity entrepreneurship in the country. The focus should be on entrepreneurship training, spurring women entrepreneurs, supporting impactful sectors, and supporting business development services.

Abbreviations and Acronyms

DFCK	Development Finance Company of Kenya
DFIs	Development Financial Institutions
ERS	Economic Recovery Strategy
FSD	Financial Sector Deepening
GEM	Global Entrepreneurship Monitor
GDP	Gross Domestic Product
GoK	Government of Kenya
ICDC	Industrial and Commercial Development Corporation
ICT	Information Communication Technology
IDB	Industrial Development Bank
KIBT	Kenya Business Training Institute
KIE	Kenya Industrial Estate
KIRDI	Kenya Industrial Research and Development Institute
KITI	Kenya Industrial Training Institute
KNBS	Kenya National Bureau of Statistics
MFI	Micro Finance Institutions
MSE	Micro and Small Enterprises
MSME	Micro, Small and Medium Enterprises
MTP	Medium-Term Plan
NGO	Non-Governmental Organization
SACCO	Savings and Credit Cooperatives Societies
UN	United Nations
WEF	Women Enterprises Fund
YEDF	Youth Enterprises Development Fund

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1. Introduction

Although there is no universally accepted definition of entrepreneurship, there is vast literature on the same in academia, documentaries, and case studies of successful entrepreneurial ventures. Irrespective of the definition challenges, entrepreneurship is seen as a driver of sustainable economic growth largely through competition and innovation. According to Drucker (1985), several large well-known brands that exist today emerged in the late nineteenth century, contributing to the emergence of what is now commonly referred to as entrepreneurship. Different scholars have viewed entrepreneurship through different lenses, including economics, sociology and psychology.

Literature further establishes a link between entrepreneurship and innovation, citing that the former leads to change; new ideas and markets, which contribute to economic growth through competition (Carree and Thuirk, 2003; Iversen et al., 2008; Wong et al., 2005; Schumpeter, 1928). The link between entrepreneurship and innovation dates back to 1919, when Nicolas Baudeau suggested that the function of the entrepreneur is innovation (Grebel et al., 2001). Further, there is a positive relationship between entrepreneurship and national economic growth, established by early scholars such as Kirzner (1973 cited in Wong, et al., 2005: 337), who present that entrepreneurship causes competitive behaviour, which drives the market process, and further evidenced by recent scholars such as Reynolds et al., 2002; Reynolds et al., 2005.

Evidence indicates that micro and small enterprises (MSEs) are a source of entrepreneurial skills and creativity, which brings about innovation, productivity, creativity and introduces competition (UN, 2004). According to MSMEs Survey 2016, majority of innovation is carried out by small enterprises. MSMEs further contribute to the establishment of new businesses, employment, and investment. In addition, MSMEs are viewed as important industrial base for growth and development. The Kenya Vision 2030 refers to small enterprises as the seedbed of industrial development, yet according to the Vision's second medium-term plan, there is a low entrepreneurial culture. According to the Global Competitiveness Report (2018), Kenya's entrepreneurial culture (informing Pillar 11 on Business Dynamism) was rated as 4.7 out of 7.0 with a score of 62.1 out of 100.[1] The indicators review attitudes towards entrepreneurial risk, willingness to delegate authority, growth of innovative companies and companies embracing disruptive ideas.

The Kenyan economy could, however, benefit from a stronger entrepreneurial culture through employment creation, income generation and ultimately contributing to the growth of the economy. MSMEs, however, lack key entrepreneurial skills (Government of Kenya, 2013). This is also compounded by the fact that there is low survival of MSMEs in Kenya; 46.3 per cent of MSMEs established between 2011 and 2016 closed within the first year of operation (KNBS, 2016). On the flipside, the MSMEs sector employs 93 per cent of the working population and contributes to 33.8 per cent of the country's national output and

1 The survey question was as follows; "In your country, to what extent do people have an appetite for entrepreneurial risk?" [1 = not at all; 7 = to a great extent].

31.4 per cent of gross value added (KNBS, 2016). This implies that policy focus on them is valuable given their potential.

Structurally, MSMEs are categorized into: manufacturing, agriculture, services, and trade. However, majority (85%) are in wholesale and retail, manufacturing, accommodation and food services. Agriculture, forestry and fishing account for 62 per cent, 12 per cent, 9 per cent, and 3 per cent of all MSMEs in Kenya, respectively (KNBS, 2016). Although wholesale and retail sectors, which account for majority of MSMEs, contribute to only 7.6 per cent of Kenya's GDP, agriculture is the dominant sector in the Kenyan economy, contributing 34.1 per cent to GDP; manufacturing contributes to 7.5 per cent, and accommodation and food services accounts for 0.7 per cent of GDP as at 2019 (KNBS, 2020). This presents the policy challenge; over half of MSMEs in Kenya experience low survival rates, yet they are envisioned as a source of entrepreneurial creativity, innovation, productivity, and competitiveness. How then can MSMEs in Kenya embrace entrepreneurship that is impactful towards contribution to GDP?

Entrepreneurship is an interaction between internal factors such as entrepreneurial culture, and external factors which include market opportunity or the ability to identify a potentially profitable business (Kilbly 1971; Zali et al., 2013). Entrepreneurship theory has further evolved to include the process of discovery and exploitation of opportunities as opposed to focusing on who an entrepreneur is (Shane and Venkataraman, 2000). This has contributed to emergence of literature on necessity and opportunity entrepreneurial activities. Majority of the studies undertaken on the same have, however, focused on economically developed countries (Sriram and Hailu, 2018). These studies reveal that opportunity entrepreneurial activity occurs when an individual makes a deliberate personal choice to become self-employed to exploit the perceived market opportunity. This comes a long way from the literature on the original genies of entrepreneurs in Africa who, according to Elkan (1988), came from four key sources: (1) the informal sector; (2) former employees of large expatriate or Asian-run businesses in the same industry; (3) former traders or merchants who through ingenuity found and exploited an opportunity; and (4) educated politicians and senior civil servants who are part-time business men.

Analytical evidence from the MSME 2016 survey indicates that majority of the entrepreneurs are necessity oriented. Necessity oriented entrepreneurs get into business as a last result or due to lack of employment opportunities, often because of both internal and external factors, including low skills and education levels. This distinction is important from a policy point of view, as it can inform on the characteristics of the different classes of entrepreneurs, which then can inform targeted policy prescription and implementation. This study adopts this characteristic of entrepreneurship where an individual's choice to establish a new venture is informed by internal factors, including the individual's traits and external factors or external context, which is established through policy.

The "African" definition of an entrepreneur presents a key internal factor; the ability to perceive and exploit a potentially profitable business opportunity which, according to Kilby (1971), is one of the roles of an entrepreneur. Making the

external factor of opportunity a prerequisite. Every entrepreneur faces internal and external factors that determine the growth prospects of the enterprise. The benefit of growth is provided in numerous studies, which in essence reveal that growth-oriented businesses generate employment, improve competitive position and enhance capacity (Cardozo et al., 1996). Growth-oriented enterprises existing in Kenya have the following characteristics; they are registered, have business links through sub-contracting; operate in the services sector, especially where the owner has secondary education; and have a large capital base (Gitonga, 2008).

From the 1960s, the Government of Kenya recognized the role played by entrepreneurs in addressing poverty and promoting growth and economic development. This is established in Sessional Paper No. 10 of 1965 on African Socialism and its Application in Planning, and subsequent development plans and Sessional papers that introduced institutions aimed at harnessing entrepreneurs. This has been followed through to the most recent policy implementation plan, the Third Medium-Term Plan 2018-2022 on implementation of the Kenya Vision 2030, which calls for promotion of, generation and utilization of knowledge to promote entrepreneurship. Ideally, Kenya aims at transforming into a newly industrialized, middle-income country that is globally competitive, prosperous and knowledge-led by the year 2030 (Government of Kenya, 2007).

1.1 Statement of the Problem

Kenya has a growing micro, small and medium size enterprise sector, which employs over 90 per cent of the country's labour force but unproportionately contributes only 33.8 per cent of gross value added (KNBS, 2016). While the sector is key in spurring investment, promoting innovation and economic growth in general, the potential therein remains largely untapped. For instance, according to the MSME survey, only 43.3 per cent of licensed MSMEs re-invested in their businesses while a further 2 per cent invested in new businesses from their net income. In addition, a paltry Ksh 1 million, accounting for 0.4 per cent of MSME's average monthly expenditure, was spent on innovation by establishments. Despite its importance, the sector is also faced with low survival where half of enterprises close within first year of operation, while majority of MSMEs do not graduate/transition, meaning they largely start and stay micro. Additionally, the sector is faced with limited skills, informality, low productivity and poor entrepreneurship culture. This survivalist mentality among MSMEs needs to be transformed/discouraged in favour of opportunity entrepreneurs who are long-term oriented in building and growing enterprises. Given entrepreneurship has been established as a contributor of industrial development, innovation, and competitiveness, understanding its nature and drivers while laying emphasis on opportunity entrepreneurship is critical in awakening the potential therein through targeted interventions. This is in line with the country's policy priority of building an entrepreneurial culture, employment creation, income generation, industrial development, poverty reduction and socio-economic transformation. This study also seeks to contribute to the growing literature on entrepreneurship.

1.2 Objectives

The general objective of the study is to explore opportunity entrepreneurs in Kenya. The specific objectives are:

1. To identify the drivers of opportunity entrepreneurship in Kenya.
2. To establish which industrial sectors have a higher probability of undertaking opportunity entrepreneurship in Kenya.

2. Policy Review

2.1 Review of relevant policies

The government has since independence placed emphasis on the development of indigenous enterprises. The 1965 Sessional Paper No. 10 on African Socialism and its Application in Planning, for instance, had an emphasis on assisting African traders and businesses, providing employment opportunities, and industrial development. Subsequent policy instruments including development plans and sessional papers introduced policies, interventions and institutions aimed at supporting and promoting industrial development through entrepreneurship.

Kenya's first Development Plan (1966-70) establishes that there was inadequate indigenous entrepreneurship. Subsequent development plans brought out the need to support local enterprises through government interventions, such as small business promotion centres, training and credit programmes. This saw the establishment of several public sector institutions with the primary aim of promoting indigenous entrepreneurship. These include Development Financial Institutions (DFIs) such as Industrial and Commercial Development Corporation (ICDC) in 1954 with the aim of facilitating industrial and economic development through provision of finance; Development Finance Company of Kenya (DFCK) established in 1963 to invest in industrial and agricultural enterprises; and Industrial Development Bank (IDB) established in 1973 to facilitate industrial development through provision of loans. Others include Kenya Industrial Estates (KIE) established in 1967 to provide technical and financial support, and Kenya Industrial Research and Development Institute (KIRDI) established in 1979 to promote industrial research and technology transfer (Coughlin and Ikiara, 1988). The over-arching mandate of these institutions was to support indigenous entrepreneurs with their financial and infrastructure needs (Ikiara et al., 2004), while institutes such as the Kenya Industrial Training Institute (KITI) established in 1965 and Kenya Business Training Institute (KIBT) established in 1966 had the mandate of providing training in technical skills to support self-employment. The institutions were established to meet a policy gap of strengthening capacity of local entrepreneurs to set up businesses. Training is emphasized in a number of policy documents as a priority to enhance capacity among entrepreneurs. Sessional Paper No. 1 of 1986, which specifically recommends for technical and vocation training at the secondary level aimed at development entrepreneurs, while Sessional Paper No. 2 of 1992 calls for entrepreneurship training and education. KIRDI and KIE were among those that the Sessional Paper No. 2 of 2005 identified to promote technology acquisition and technology transfer and prescribes for the introduction of entrepreneurial development programmes in schools and training institutions. The same institutions, KIRDI, for instance are yet to be transformed as established in MTP II and III to enable them provide world class research and support in line with industry expectations. The need for industry responsive policies and programmes is further established in Sessional Paper No. 1 of 2019 on Reforming Education and Training for Sustainable Development in Kenya, which calls for an education system and training that responds to labour market needs,

and the MTP III which through the National Skills Development Programme aims at developing national skills that are aligned to market requirements.

Other policy instruments by the Government of Kenya to support the development of entrepreneurship include: Sessional Paper No. 2 of 1985 on Unemployment, Sessional Paper No. 1 of 1986 on Economic Management for Renewed Growth, and Sessional Paper No. 2 of 1992 on Small Enterprise and Jua Kali Development in Kenya, and most recently the policy on MSEs, which is Sessional Paper No. 2 of 2005 on Development of Micro and Small Enterprises for Wealth and Employment Creation and Poverty Reduction, and Sessional Paper No. 9 of 2012 on National Industrialization Policy Framework for Kenya (2012-2030).

The key priorities of the Sessional Paper No. 2 of 1985 were to encourage Kenyanization programmes and to promote a favourable environment for the growth of the informal sector, which has an important role in creating employment. Sessional Paper No. 1 of 1986 on Economic Recovery Strategy for Wealth and Employment Creation (ERS) and Sessional Paper No. 2 of 2005 also placed emphasis on small enterprises for job creation and economic growth. The ERS specifically identified the sector as a source of 500,000 jobs annually. Sessional Paper No. 2 of 1992 was instrumental in providing a definition of an entrepreneur as "ones who provide goods and services and employment for others which in turn leads to healthy and viable economic communities" (Government of Kenya, 1992: 5).

Kenya's long-term development plan, the Kenya Vision 2030, also acknowledges an inadequacy in terms of technical and entrepreneurial skills among MSEs in Kenya and calls for capacity building. According to Sessional Paper No. 9 of 2012 on the National Industrialization Policy Framework for Kenya (2012-2030), "enhancing human resource skills through development of technical, entrepreneurial, production and managerial skills for industrial development" is one of the ten identified priority areas of the policy. In terms of interventions, expansion of entrepreneurial training was identified to enhance technical and vocational skills, and development of entrepreneurial "centres of excellence" to support MSMEs in Kenya. This is also reflected in the third Medium-Term Plan of 2018-2022, which calls for the transformation of KITI to a Centre of Excellence. The need to inculcate entrepreneurship skills is further articulated in Sessional Paper No. 1 of 2019 on a Policy Framework for Reforming Education and Training for Sustainable Development in Kenya, and the Competency-Based Education and Training Policy Framework (2018). Both policy documents acknowledge the importance of introducing an education and training approach that is industry centred, to address the inadequacy of entrepreneurial skills. Both policies present a shift in entrepreneurship training to form part of basic education informed by industry. This is aimed at enhancing education and training services to be responsive to industry needs. Further, training and skills development, according to the Kenya Vision 2030, can contribute to knowledge generation, which then contributes to the flourishing of entrepreneurship. The key challenge with these policies, however, is that they fail to elaborate on the criteria for selection of entrepreneurs, who would benefit from the training, skills development or

exposure to the centres of excellence, and which may present implementation challenges.

The policy priority in terms of sector as established in Sessional Paper No. 1 of 1986, the Kenya Vision 2030, the Big Four agenda and the Sessional Paper No. 9 of 2012 on the National Industrialization Policy is the manufacturing sector, initially for attracting and generating indigenous Kenyan entrepreneurs but subsequently as a driver of industrialization and economic growth. The Kenya Vision 2030 identifies other priority economic sectors aimed at achieving an annual GDP growth rate of 10 per cent. These include tourism, agriculture and livestock, wholesale and retail, trade, finance and Internet-enabled services. The Sessional Paper No. 9 of 2012 in building on this prioritizes the development of labour-intensive industrial sectors such as agro-processing; textiles and clothing; leather and leather products; medium to high technology sectors such as iron and steel; machinery and pharmaceuticals; and advanced manufacturing technologies. The policy enabling environment interventions include creating an enabling environment through infrastructure development, enhanced access to technology, adequate physical infrastructure to promote exports, and enhanced access to finance as provided in the policies such as Sessional Paper No. 2 of 1992, ERS, Sessional Paper No. 2 of 2005, and Sessional Paper No. 9 of 2012. The latter policy went further to provide sector-specific policy interventions for the identified priority sectors.

With respect to finance, the 1992 policy calls for a review of lending regulations and procedures aimed at making collateral requirements for small enterprises more flexible and responsive. Some of the policy instruments proposed are credit guarantee scheme and venture capital. The government is now initiating the implementation of a credit guarantee scheme, though almost 30 years after it was first proposed in policy. Making reference to a 1999 MSE survey, the ERS identifies access to affordable credit as among the constraints faced by many MSEs. The 2005 policy builds on this, establishing that access to credit and finance is key to enterprise growth and development and proposed the strengthening of Micro Finance Institutions (MFIs), SACCOs and DFIs to meet the financial needs of MSEs. The Sessional Paper No. 9 of 2012, however, establishes that DFIs experience limitations due to lack of resources and calls for their restructuring. This is also established in MTP III, where the government calls for the consolidation of DFIs. The Kenya Vision 2030, particularly through the Medium-Term Plans, calls for enhanced access to affordable finance, which has seen the establishment of public funds for enterprise development in the form of Youth Enterprise Fund, Women Enterprise Development Fund and Uwezo Fund established through legal notices gazetted in 2006, 2007 and 2014, respectively. The third Medium-Term Plan calls for a consolidation of these funds. These are aimed at building on DFI approach which, according to the First Medium Term Plan on implementation of the Kenya Vision 2030, exists to finance sectors, including MSMEs, that are often overlooked by commercial banks. Strengthening such self-sustaining funds and providing affordable finance for MSEs is therefore a policy priority as established in Sessional Paper on Kenya Micro and Small Enterprises Policy of 2020.

Despite these interventions as relates to finance, MSMEs still face challenges in access to affordable financial services and products. The cost of credit to MSMEs

is also comparatively high compared to large enterprises as established in the 2015 Finaccess Business-Supply Bank Financing of SMEs in Kenya (FSD, 2015). Further, according to the 2016 MSME Survey, public funds have not had the desired effect, given they have only been accessed by 0.1 per cent of MSMEs. The cost of credit and lack of adequate collateral are key constraints faced by MSMEs in accessing credit (KNBS, 2016). The enactment and implementation of the Moveable Property Security Rights Act 2017 will, if well implemented, address the collateral challenge by facilitating the use of moveable property as collateral. From a policy point of view, therefore, an analysis on the contribution of finance to opportunity entrepreneurship will offer critical insights that will inform the consolidation of public enterprise development funds and the credit guarantee scheme.

Gender-related challenges have also been acknowledged by different policy documents, particularly the 1992 and the 2005 Sessional Paper. The 1992 policy acknowledges that women entrepreneurs face unique challenges, particularly due to the traditional domestic roles in society, which is further compounded by lack of information and awareness on business matters. The 2005 Sessional Paper builds on this, catering for gender responsive policies that increase access to finance, education, technological development and entrepreneurship aimed at ensuring gender equity. Other policy interventions proposed in the 2005 policy, and aimed at addressing the challenges associated with unfavourable policy and legal environment, inadequate infrastructure and technology, market access, and limited business and entrepreneurial skills through development of suitable infrastructure including incubation services, and legal and regulatory reforms aimed at supporting the growth and development of MSEs. The findings of this analysis will therefore provide clarity as to whether gendered entrepreneurship support is still necessary.

Licensing has been identified in the 1992 and 2005 sessional papers as an obstacle to MSEs growth. To address the legal and regulatory challenges that relate to licensing, reforms were undertaken in 2005-2007 spearheaded by the Working Committee for Regulatory Reform in Kenya, which culminated in the elimination of a number of licenses and simplification of mandatory licenses through Single Business Permit (SBP). The SBP, which was obtained from the now defunct Local Authorities, is now a function of the County Governments, following the promulgation of the Constitution of Kenya. Multiplicity of licenses, taxes and levies is, however, an emerging challenge as presented in MTP III. MSMEs also perceive licensing to be a key obstacle as established in the 2016 MSME survey. This may therefore adversely impact the contribution made by opportunity entrepreneurs.

To improve business registration, the 2005 policy called for decentralizing the registration services and leveraging on ICT. ICT is among the enablers of economic growth as established in the Kenya Vision 2030. Further, the Kenya Vision 2030 calls for "a citizen-focused and results-oriented" public service. To implement this, the government established an Integrated Service Delivery Model, which includes One-Stop Huduma Centres located in various sub-countries, which are also available electronically with the mandate of enhancing delivery of public services for a wide array of services to the public, including business

registration services[2] and e-Citizen platform to provide services to citizens electronically[3]. Additional reforms to improve business registration in Kenya saw the establishment of the Business Registration Service (BRS), introduced by the Business Registration Service Act No. 15 of 2015. BRS is a single authority for the registration of companies, partnerships, and sole proprietorships. Further, BRS as provided by law can establish branches at the county to ensure reasonable access of services. Previously, business registration was centralized in Nairobi by the Registrar of Companies. The government in the 2020 Kenya Micro and Small Enterprise Policy calls for establishment of integrated Biashara centres across the country to enhance service delivery of business-related government services. This will address informality among MSMEs in Kenya, given that most (75%) of MSMEs operate without a business registration (KNBS, 2016).

The policy interventions also addressed market-side interventions. The market access strategies proposed in the Sessional Paper No. 2 of 2005 targeted promoting purchase of local products by the public sector through public procurement preferences and by the general citizenry through the "Buy Kenyan Build Kenya" campaigns. These policies are currently implemented through the Public Procurement and Asset Disposal Act (2015), which provides that preference will be given to goods manufactured or assembled in Kenya or firms where Kenyan are the majority shareholders. The 2017 "Buy Kenya Build Kenya" campaign strategy is also implemented in the entertainment industry, the broadcasting regulation provided in the Kenya Information and Communications Act (1998), and the sectors Programming Code for Broadcast Services in Kenya published by the Communications Authority of Kenya that ensures 40 per cent local content in Kenyan Television and radio programming.

2.2 Summary of Policy Review

Despite these policy interventions, there has been a deficiency of Kenya's policy framework in effectively addressing the needs of Kenyan entrepreneurs. The 1992 policy defined entrepreneurs as providers of goods, services and employment and subsequent policies proposed interventions aimed at enhancing entrepreneurial capacity, largely through training and financial support, some of which were gender-responsive.

Though the original intent of the policy interventions had been clear, there has been some disconnect over the years. Recent policies have, for instance, presented the inadequacy of the education system in inculcating entrepreneurial skills. The MTP III reports a mismatch between skills and labour market demands and training. Skills enhancement is subsequently a critical policy intervention under the "Big

2 One-Stop Huduma Centres implement integrated service delivery of government services under the Huduma Kenya Service Delivery Programme which was established via Gazette Notice No. 2177 dated 31st March 2014 to transform public service and information delivery.

3 eCitizen.go.ke platform (at www.ecitizen.go.ke), which according to Gazette Notice No. 9290 dated 23rd December 2014 is a wholly owned domain and portal of the Government of Kenya, provides business registration and other services

Four" government agenda. The MTP III subsequently advocates for increasing entrepreneurship skills through training and through the revised curriculum that integrates entrepreneurship in primary and secondary schools, and tertiary institutions. These interventions will be better motivated if it is established empirically that training plays a role in nurturing impactful entrepreneurship. Other shortfalls are with respect to financial support to entrepreneurs as established in the review, despite interventions such as establishment of public enterprise development finance, and additional reforms including enactment of Moveable Property Security Rights Act and introduction of credit referencing aimed at relaxing the collateral requirements. Access to relevant affordable finance remains a constraint to entrepreneurs.

In summary, despite the various policy interventions aimed at facilitating entrepreneurship in Kenya, there are a number of gaps as to their efficiency in instilling relevant skills, provision of appropriate finance, and thus contributing to industrial development. The policy interventions other than the 2012 Sessional Paper on the National Industrialization Policy Framework for Kenya (2012-2030) fail to distinguish with clarity the target group, for instance by sector. Often presenting policy interventions to MSMEs as a homogenous group yet they are heterogeneous. This has contributed to the weak entrepreneurship culture articled in 1992 Sessional Paper and more recently in MTP III.

3. Literature Review

3.1 Theories of Entrepreneurship

According to Iverson et al. (2008), there has been a number of early definitions of an entrepreneur by early scholars who include Richard Cantillon, Jean-Baptise Say and Alfred Marshall.[4] This study reviews the more accepted and referred to definitions derived from works by Joseph Schumpeter, Frank Knight and Isreal Kirzner, whose influence transcends to contemporary conceptualization of entrepreneurship. A number of empirical studies build on these definitions as will be reviewed in section 3.2.

Schumpeter (1949) defined an entrepreneur as an innovator who undertakes the creation of five main areas: new good or new quality; new method of production; new market; new source of supply or new industry. The Schumpeter theory associates entrepreneurship with innovations, thus creation. Schumpeter proposed what is termed as 'creative destruction[5]' "where new firms with the entrepreneurial spirit displace less innovation incumbents, ultimately leading to a higher degree of economic growth." (Audretsch, 2002: 2). Schumpeter is a proponent of the classical school where the central characteristic of entrepreneur behaviours is innovation.

Other scholars such as Drucker (1985) also view entrepreneurs as innovators. For Drucker (1985), innovation is in fact a tool of entrepreneurs to exploit business opportunities. Scholars such as Burch (1986) have viewed entrepreneurship as a source of new products. The link between entrepreneurship and creation of something new also forms part of the definition by Garner where 'something new' represents a new organization or a new economic activity (Gartner, 1988). The definition of entrepreneurship by the Global Entrepreneurship Monitor (GEM) builds this concept of the establishment of a new organization whic, as noted earlier, was among the key definitions of entrepreneurs by Schumpeter. According to GEM, entrepreneurial activity is defined as "any attempt at new business or new venture creation, such as self-employment, a new business organization, or the expansion of an existing business, by an individual, a team of individuals, or an established business." (Reynolds, et al., 1999: 3).

Theories further present traits or attributes of entrepreneurs. Entrepreneurs are, for instance, seen to have certain attributes such as risk-taking (Mill, 1984 and Nelson and Johnson, 1997) and are driven with the need to achieve (McClelland, 1965). These forms the psychological characteristics school of entrepreneurship (Cunningham and Lischeron, 1991). Other than a drive for success, additional characteristics of an entrepreneur in accordance with the great person school

4 For a comprehensive review of the early definition of entrepreneurship, see Iversen el al (2008).

5 In Schumpter (1911) publication Theorie der wirtschftlichen Entwicklungen (Theory of Economic Development).

of entrepreneurship include an intuitive ability, and in-born traits and instincts (Cunningham and Lischeron, 1991). Some of these traits are presented in the table below.

Table 3.1: Entrepreneurial motivation

Entrepreneurial traits	• Confident, optimistic, independent and dynamic • Innovative, creative and knowledgeable • People oriented and flexible • Task-result oriented, profit-oriented, persistent, determined and diligent • Future-oriented • Risk taker and likes challenges
Entrepreneurial behaviours	• Opportunity seeking • Takes independent initiatives • Actively seeks to achieve goals • Copes with and enjoys uncertainty • Risk taker • Creative problem solver
These entrepreneurial traits were identified from an extensive review of research studies by East-West Centre (1977); behaviour traits are drawn from a study by Caird in 1993 who reviews and describes the results of psychological tests which were applied on entrepreneurs.	

Source: Nelson and Johnson (1997); Gibb (1996)

Some schools of thought present that not all entrepreneurs are born with entrepreneurial skills. According to the entrepreneurial self-efficacy theory derived from Bandura (1977), an entrepreneur's belief in their ability to successfully perform various roles and tasks is often established through training and a supportive environment (Chen, et al. 1998). An individual's self-efficacy can further contribute to their resilience (Benight and Bandura, 2004). Additional entrepreneurial management theories reveal that skills can be acquired through training such as strategy, developing business plan, venture marketing which are among the functions carried out by managers. Managers, as organizers of an economic venture, own, manage, and assume the risk (Cunningham and Lischeron, 1991). According to Knight (1942) cited in Iversen, et al. (2008), an entrepreneur is one who owns companies, makes profits, and assumes uncertainty. An entrepreneur adapts to changes in the economic environment. Knight's approach can be broadly classified as the leadership school of entrepreneurship, whereby an entrepreneur is a visionary leader who has personal attributes, values and

goals, absorbs risks and can mentor others (Cunningham and Lischeron, 1991; Kao 1989; Knight, 1942).

These theories expound on Bird's (1988) concept of entrepreneurial intentionality, which presents that the choice to become an entrepreneur is informed by personal factors, which may include the traits as presented by psychological characteristics school of entrepreneurship great person school of entrepreneurship noted above, but also include contextual factors that include social, political and economy variables, which are not within the control of the entrepreneur. Some of these contextual factors are presented by different scholars. The occupational choice literature presents that individuals, influenced by these factors or characteristics, compare utility from engaging in entrepreneurship with the alternative occupation, often employment, with the aim of maximizing utility (Parker, 2018).

Alertness precedes choice. Entrepreneurs need to be alert, and in a position to seize opportunities (Acs and Virgil, 2009; Holmes and Schmitz, 1990). Alertness to opportunities, according to Cunningham and Lischeron (1991), is a factor of intrapreneurial activity. Intrapreneurship occurs when a company adopts an approach of seizing opportunity to expand markets and be competitive, informing their choice to participate in entrepreneurship (Churchill, 1992). Studies further reveal intrapreneurs are resilient and capable of dealing with setbacks (David 1999). An entrepreneur therefore is one who makes certain discoveries and develops them into business ideas, which move the economy towards equilibrium (Kirzner, 1973 cited in Iversen et al., 2008). Kirzner asserts that the economy is in a constant state of disequilibrium, which generate profit opportunities that entrepreneurs can exploit. The opportunity seeker trait of an entrepreneur, according to Gibb (1996: 312) is defined as "someone who combines the factors of production in an innovative manner and who seeks out and exploits opportunities and gaps in the market". Peterson (1985) also defines an entrepreneur as one who can identify and exploit opportunities.

The locus of control theory as advanced by Rotter (1966) provides this study with a framework within the theories reviewed above. Locus of control theory refers to the perceived control over events internally or externally. Internal locus of control implies that the individual has influence over outcomes through ability, effort or human capital and skills. Most of these are explained by psychological characteristics and great persons schools of entrepreneurship described by Cunningham and Lischeron (1991), or the entrepreneurial traits presented in Table 3.1. The external locus of control means outside forces control the outcome. Acs and Virgil (2009), Holmes and Schmitz (1990), Kirzner (1973) and Peterson (1985) bring out opportunity as an external factor. Parker (2005), in the application of the classical occupational choice model, places emphasis on opportunity recognition function of entrepreneurship. Rotter (1966) categorizes individuals as those with internal locus of control, and who believe that their actions are within their control. Those with external locus of control view the external forces as playing a hand and are uncontrollable. The underlying assumption of locus of control theory is that individuals with an internal locus of control who can influence external outcomes are more likely to be entrepreneurs.

The common thread in the above theories is the contribution of the entrepreneur based on the traits, characteristics, psychology, and individual influence. At the firm level, however, there are internal resources and capabilities that, according to the resource-based view, gives a firm its competitive advantage and further informs the firm's strategic decisions. This includes machine capacity, production experience, technological developments, and market opportunities (Wernerfelt, 1984). These therefore also inform the performance of entrepreneurs.

The link between entrepreneurship and the ability to exploit market opportunities contributed to the classification of opportunity entrepreneurs or necessity entrepreneurs who represent pull and push entrepreneurship (Acs and Virgil, 2009; Reynolds et al., 2001; Amit and Muller, 1995). Under this school of thought, there are instances where entrepreneurs are "pushed" into entrepreneurship often as a result of change in external circumstances, including loss of employment, career setbacks or family responsibilities (Zali et al., 2013; Gutterman, 2015). Those who started a business due to push factors are less successful when compared to those who built their business on pull factors (Amit and Muller, 1995). Those who respond to market opportunities make a deliberate choice to become start-up business (Zali et al., 2013; Schjoedt and Shaver, 2012). As summarized by Giacomin et al. (2007), the decision to enter into entrepreneurship is a result of either a disruption (push factors) and/or an opportunity (pull factors). Studies reveal that opportunity entrepreneurs stand a better chance of contributing to a country's industrial and economic growth compared to necessity entrepreneurs. Opportunity entrepreneurs are more impactful in terms of employment creation, innovations and emergence and growth of industry by seizing the opportunity (Global Entrepreneurship Monitor, 2019).

Although there is no single definition of entrepreneurship, the theories reviewed provide some common themes, particularly that entrepreneurship is influenced by internal factors, characteristics of the entrepreneur and external factors, the environment. These factors either "pull" or "push" an individual into entrepreneurship. Those who are "pulled" have a higher probability of contributing to the country's economic growth.

3.2 Empirical Literature Review

Despite several attempts by scholars to define entrepreneurship and entrepreneurial activity, there is little consensus on what constitutes entrepreneurial activity, thus making the concept very multidimensional (Audretsch, 2002). Further, measuring the amount of entrepreneurial activity is not easy, since the multidimensional aspects of different definitions advanced by various scholars are not quantifiable. The views by different scholars are also diverse (Iversen et al., 2008). Different studies have used different methods of measuring entrepreneurship depending on the definition. Knightian entrepreneurs include business owners, hence using self-employment rate would be a good proxy while a Schumpeterian entrepreneur is an innovator, therefore measuring innovation would be appropriate. Other approaches informed by theory include new business (Gartner, 1988), new product

(Burch, 1986) or new market (Kirzner, 1973). Others have adopted a classification between necessity and opportunity entrepreneurship (Amit and Muller, 1995, Reynolds et al., 2001).

The type of measure used is also based on availability of data and type of analysis that is to be undertaken. Audretsch (2002) reviews the empirical literature revealing the common measurements used as: (1) self-employment rates consistent to Knightian's perspectives; (2) Business ownership rates; (3) Measure of innovative activity such as research and development; and (4) New-firm startups (new firm creation). Shane et al. (2003) notes that lack of a definition for entrepreneurship has contributed to challenges of undertaking research and consequently variance in analysis.

Notwithstanding the definition challenges, a review of studies undertaken over the years reveals that several variables have been identified as important contributors to entrepreneurship. Yoon et al. (2018) uses the proportion of working-age population that are either nascent entrepreneurs or owner-managers of a new business whose product or service is new to at least some customers as a proxy for innovative nascent entrepreneurship. The study uses the Global Entrepreneurship Monitor (GEM) data to measure innovative nascent entrepreneurship on 47 countries from 2002 to 2012. GEM is a multi-country survey of entrepreneurial activities and an important source of research data (Reynolds et al., 2005). The independent variables considered in the study include scientific knowledge (scientific journal articles for US 1 million R&D expenditure stock), technological knowledge (patent application per US 1 million R&D expenditure stock), and areas of government activity, which include five elements: (1) size of government; (2) legal system and security of property rights; (3) sound money; (4) freedom to trade internationally; and (5) regulation. Other variables include GDP per capita, GDP growth and unemployment rate. The study established that technological knowledge, size of government, regulation, and access to credit contribute to more innovative nascent entrepreneurship. Scientific knowledge was, however, found to have a significantly negative relationship to innovative nascent entrepreneurship. The study concludes that smaller government sector and less regulation of credit, labour, and business increase innovative nascent entrepreneurship.

The government consequently plays an important role in promoting entrepreneurship. Specifically, the government has a role in enhancing access to finance and education (Elkan, 1988; Reynolds, 2002). Government policies, financial support, education and training (referred to as entrepreneurial framework conditions) play important roles in creating an entrepreneur friendly environment (Reynolds et al., 2002). GEM data was utilized in the study by Reynolds et al. (2002) to carry out a cross-national assessment in 37 countries, including both developed and developing countries. This was complimented with expert assessments and correlation analysis using firm level survey data obtained from each country. The study measure of entrepreneurial activity was "percentage of the labour force that is either actively involved in starting a new venture or the owner/manager of business that is less than 42 months old". The study reveals opportunity entrepreneurs are more dominant in developed countries while necessity entrepreneurs were the majority in developing countries. Further,

men are twice as likely to be involved in entrepreneurship compared to women, and that there exists a statistically significant association between national level of entrepreneurial activity and economic growth. Those aged between 25 and 44 years are most likely to participate in entrepreneurship, whether as necessity or opportunity entrepreneurship. The study further establishes a negative relationship between necessity entrepreneurship activity and economic development. Entrepreneurs in low-income economies or developing countries stand a higher chance of being necessity entrepreneurs compared to wealthier economies. Further, necessity entrepreneurs tend to operate as sole proprietors in the services sectors such as retail (McDade and Spring, 2005; Reynolds et al., 2001).

The role played by gender and education is also analyzed by Zwan et al. (2010). The study uses the 2004 Flash Eurobarometer Survey on Entrepreneurship and establishes that the levels of entrepreneurial process are naturally ordered and in five stages. This include: "Never thought about it"; "Thinking about it", "Taking Steps"; "Young business"; and "Old business." These formed the dependent variable, which was constructed using the responses to the question "Have you started a business recently or are you taking steps to start one?" The study consequently utilized an ordered logit model with decision to become an entrepreneur modelled as a process not a binary. The study establishes that gender (male), education, having self-employed parents are significant to higher levels of entrepreneurship. The study further reveals that age, revealing entrepreneurial engagement has age thresholds after which is it less likely. Moreover, different age groups participate in different levels of entrepreneurship while men have a higher probability to achieve higher levels of entrepreneurship than women. The effect of age on the probability of advancing entrepreneurship becomes negative after some time. This implies that if entrepreneurship is not taken while younger, it may never be taken at all.

Other studies have considered the effects of age on entrepreneurship. Giacomin et al. (2007) observed that younger individuals are informed by both push and pull factors while older firms are informed by push factors or as a hobby (push-pull hobby). The study aimed at establishing the difference between push and pull dynamics. The dependent variable was informed by questions provided in the firm level survey undertaken in Belgium in 2001 defining motivations to starting a business. Two categories could be established to inform the push and pull dynamics and were analyzed using an empirical model that consisted of six equations.[6] Using the seemingly unrelated regressions (SUR) model, the study estimated the effects of gender, human capital level, previous professional experience, financial resources and entrepreneurship family link. The equations that focused on push factors revealed that gender (male), particularly for the family pressure and exit unemployment equations; family experience; and knowledge (which applied for the family pressure equation) were positively significant. As for pull factors, especially entrepreneurs who started a business in search for profits and market opportunity, previous experience was found to be statistically

6 The dependent variable for the six equations were: (1) the need for independence; (2) family pressure; (3) market opportunity; (4) search for profit; (5) social development; (6) exit of unemployment.

significant and positive. Age of the individual was statistically significant but negative for entrepreneurs who start a business for independence (push) and search for profit (pull), while positive for those who entered employment to exit unemployment (push). The latter implies a level of unemployability of older people in formal employment pushes them to entrepreneurship. Bhola et. al. (2006) also establish that age, gender and education level as explanatory variables that informed the differences between opportunity and necessity entrepreneurs. The study adopted a probit equation making use of 2004 Flash Eurobarometer survey. The findings reveal that firms that are less than three years, a high level of education and an internal locus of control have a higher probability of being an opportunity entrepreneur while in firms older than three years, the probability of being an opportunity entrepreneur is influenced by age, education level and risk tolerance. Age and education have a negative relationship with the probability of undertaking opportunity entrepreneurship.

Block and Sander (2009) carried out a study in Germany using a probit model. They establish that the probability of opportunity entrepreneurship increased with the level of financial resources and decreased with education and age, meaning that the older entrepreneurs were less likely to operate as opportunity entrepreneurs, and further those with low levels of education were less likely to operate as opportunity entrepreneurs. This education factor is presented in literature as an important human capital investment contributor (Becker, 1964; 1993). A study by Zwan et al. (2016) investigated business owner survey data conducted in 33 countries in Europe, Asia and United States of America and analyzed socio-economic characteristics, personality, and perceptions of two categories of entrepreneurs, opportunity and necessity. The findings of the multinomial probit regression analysis reveal that the probability of being an opportunity entrepreneur increases with age and wealth (income) and is higher for male, proactive, and optimistic entrepreneurs/business owners. As much as education did not influence the probability of being opportunity entrepreneur, it was found to be significant in the Asian sub-sample. The multinomial logit model had three categories: paid employment, opportunity and necessity business ownership. More recent studies establish that opportunity entrepreneurs are impact entrepreneurs who contribute in terms of job creation, globally competitive products and the emergence and growth of industries (Global Entrepreneurship Monitor, 2019).

In Africa specifically in Uganda, necessity-driven entrepreneurs are unlikely to have growth aspirations (Langevang et.al., 2012). Entrepreneurship motivations and aspirations are closely entwined with changes in the socio-economic environment, social networks, family relations and position in the life course. Langevang et al. (2012) further reveal that, informed by these changes, necessity entrepreneurs can develop growth aspirations. The findings of this study were informed by qualitative analysis conducted in 2011 targeting 2018-2019 Global Entrepreneurship Report.

Mersha and Sriram (2015), in conducting a study in Ethiopia, posit that policy interventions should be tailored to unique needs of either opportunity or necessity

entrepreneurs rather than be generalized. The study established the following as key characteristics of the two categories of entrepreneurs. In terms of the drive, opportunity entrepreneurs are influenced by 'pull' factors aimed at attaining greater personal satisfaction, wealth accumulation and with intent to create employment opportunities for others. Necessity entrepreneurs are driven by 'push' factors, which are last-ditch efforts for economic survival. Other characteristics for opportunity entrepreneurs include skills, having at least secondary education, are primarily based in urban areas, are small enterprises (with more than ten employees), can access finances and loans through own resources or bank loans and involve themselves in imports/exports, light manufacturing, skilled and retail services.

Conversely the necessity entrepreneurs have very low education or no education at all, are based in both rural and urban areas, are mostly sole proprietors, and face challenges in accessing credit, often relying on micro finance or loans from family members, and are micro or small retail businesses characterized with handyman or other unskilled services. Opportunity entrepreneurs were further found to be in a position to navigate the bureaucratic red tape with ease, since they are familiar with the expected process, unlike necessity entrepreneurs who face difficulties. With respect to growth potential, opportunity entrepreneurs have ability to transform their venture(s) to small or medium-size businesses, while necessity entrepreneurs are limited and mostly remain sole entrepreneurs. These findings were a result of an exploratory study conducted to establish the opportunities and challenges faced by opportunity entrepreneurs in Ethiopia. The study targeted entrepreneurs who were motived by better opportunities, established the following four factors as motivation for the establishment of new businesses: the need for independence, family experience in the business, desire for improved earnings, and to utilize skill effectively. This is aimed at strengthening entrepreneurship in Africa and the emerging nations.

3.2.1 Overview of literature

The overview establishes that there exists a rich pool of literature on entrepreneurship, particularly in developed economies and additional qualitative studies conducted within Africa. Literature on opportunity and necessity entrepreneurship in Kenya is, however, limited. There is a dearth of information and studies on the factors that contribute entrepreneurship, particularly recent studies undertaken in Africa, specifically Kenya.

Informed by theory, therefore, the following can be concluded: first, entrepreneurship is an engine for economic growth largely through the establishment of new enterprises, new products, exploitation of market opportunities, innovation and competitiveness. Secondly, entrepreneurship can be categorized as either opportunity or necessity, with evidence that the latter does not contribute to the country's economic development. Third, there are individual and firm level characteristics, both internal and external factors, which inform entrepreneurship such as training, skills or/and capability to exploit market

opportunity for the individual and firm capacity and resources such as registration and access to finance. There are, however, limited empirical studies on the sectors that have a higher probability to undertake opportunity entrepreneurship. This forms two important hypothesis that this study aims to explore; the role of the internal and external factors and the role of the sector.

Informed by literature review, the analysis builds on existing data to establish the factors that drive entrepreneurship in Kenya, specifically opportunity entrepreneurship. This study therefore seeks to fill this gap, and also provide policy prescriptions for stimulating entrepreneurial culture in Kenya.

4. Methodology

4.1 Analytical Framework

As established in literature, entrepreneurship is representative of internal factors and external factors informed by the locus of control theory. Internal factors include characteristics of the entrepreneur (education and gender) and firm dynamics (age of the firm, size of the firm, registration status, and sector of operation). External factors include variables depicting access to finance and government policies. As indicated in section 1, the study's overall objective is to review entrepreneurial culture in Kenya, with emphasis on opportunity entrepreneurship. The study aims to explain why individuals choose to become opportunity entrepreneurs.

According to Parker (2018), logit and probit models are commonly utilized to explain selection into entrepreneurship. This is evidenced in the empirical literature reviewed where Bhola et al. (2006), Block and Sander (2009), Reynolds et al., 2002; Van der Zwan, et. al. (2010) and Giacomin et al. (2007) adopted probit or multinomial probit models to undertake analysis to explain entrepreneurship when categorized opportunity or necessity entrepreneurs.

This study builds on the established literature and on the occupational choice model (Parker 2005; 2018) and therefore follows the probit model used by Parker (2018) on entrepreneurship as an occupational choice with a few modifications to fit the variables considered. The study takes cognizance that due to the existence of the element of choice in the dependent variable a linear probability model (LPM) or logit model could be used in the analysis. However, there are certain weaknesses associated with the two. For example, LPM which is similar to ordinary least squares regression though applied to a binary dependent variable has several weaknesses. LPM has a heteroskedastic error term, which leads to biased estimates and its fitted probabilities may lie outside the 0-1 range. The preference of either probit or logit models follows the assumption of the distribution of the error term. The probit model follows normal distribution while logit model follows logistic distribution. The distributions of the error term are similar in shape, but this study prefers probit model going by literature on occupational choice.

The binary choice model is used due to the nature of the dependent variable where an individual has an unobservable chance to start a business as an opportunity over being a necessity entrepreneur. Starting a business as an opportunity entrepreneur is mirrored to entering self-employment with an aim of earning an income or exploiting market opportunities. Following this approach, an individual (i) has a chance of starting a business as an opportunity entrepreneur (P_i) or necessity entrepreneur *(N_i)*. The individual has a vector of observed characteristics (C_i) and derives utility $U_{ip}=U(C_i;P)+U_{ip}$ from opportunity entrepreneurship, pull factors, and $U_{in}=U(C_i;N)+U_{in}$ from necessity entrepreneurship (push factors). *U(.;.)* is utility, which can be observed by an econometrician and u_i is an idiosyncratic unobserved utility. The individual will only choose opportunity entrepreneurship rather than necessity entrepreneurship when there is a utility differential between the two especially when the former is favoured. This utility differential, which is unobservable, can be expressed as:

$$x_i^* = U(C_i;P) - U(C_i;N) + u_{ip} - u_{in} \quad (1)$$

If we assume linearity: $U(.;.)$ then $U(C_i;P) = \beta_p' C_i$ and $U(C_i;N) = \beta_n' C_i$ where β_p and β_n are vectors of coefficients then equation (1) can be rewritten as:

$$x_i^* = \alpha + \beta' C_i + v_i \quad (2)$$

Where

$\beta' = \beta_p' - \beta_n'$ is another vector of coefficients

$\alpha = E[u_{ip} - u_{in}]$ is an intercept

$v_i = (u_{ip} - u_{in-\alpha}) \sim IIN(0,\delta^2)$ is a disturbance term

Individual (i) chooses opportunity entrepreneurship over necessity entrepreneurship if $x_i^* \geq 0$.

Therefore, the observable binary variable can be defined as:

$$x_i = \{(1 \text{ individual i is an opportunity entrepreneur; if } x_i^* \geq 0) @ 0 \text{ individual i is a necessity entrepreneur; if } x_i^* < 0)) \quad (3)$$

The probability that an individual is observed to be an opportunity entrepreneur in a representative sample, with characteristic vector C_i, is:

$$Pr(x_i = 1) = Pr(x_i^* \geq 0) \quad (4)$$

The probit model assumes that the distribution of the disturbance term v_i is normal.

Deducing from equation (4) the probability that an individual i is an opportunity entrepreneur will be given by:

$$Pr(y_i = 1 \mid C_i) = \Phi((\beta' i)/\delta) \text{ and } Pr(y_i = 0 \mid C_i) = 1 - \Phi((\beta' C_i)/\delta) \quad (5)$$

Where $\Phi(.)$ is the cumulative distribution function of a normal distribution; δ is assumed to be 1. The estimated probit model for this study takes the form:

$$Pr(typent_i = 1 \mid C_i firm) = \Phi(\beta_o + \beta_1 C_i + firm_i + E_i) \quad (6)$$

Where

$typent_i$ is a dummy that represents whether one is an opportunity entrepreneur denoted by (1); (0), otherwise. C_i is a vector of individual attributes that are said to influence one's decision to be an opportunity entrepreneur or otherwise while firm represents firm level attributes that influence an entrepreneur's decision into being an opportunity or a necessity one.

Drawing from literature, individual characteristics informed by scholars such as Schumpeter (1949), Drucker (1985), Cunningham and Lischeron (1991), Bird's

(1988), Acs and Virgil (2009) and Holmes and Schmitz (1990), which can be categorized as skill and personal traits. The resource-based view establishes that there are firm level resources that inform decision-making. These inform the size sector, production, and market access of the firm. Technological development are captured by the innovation undertaken by the firm and market opportunities captured by the sector of the firm. The hypothesis is that the individual, as established in the local control theory, leverages individual characteristics and firm resources factors to identify and exploit market opportunities.

Parker (2018) and Çağlayan and Un (2012) note that binary models from equation 5 will yield biased and inconsistent results, since the variance of the error term is not likely to be constant across sample observations. In such a scenario, the error term is said to be heteroscedastic. The standard way of dealing with this heteroscedastic error problem is to apply heteroscedastic probit estimators (Parker, 2018; Çağlayan and Un, 2012). If the form of heteroscedasticity were known, σ would be replaced by σ_1. To deal with the problem of heteroscedasticity, this study follows Çağlayan and Un (2012) where heteroscedastic probit model is introduced. This is aimed at making the heteroscedastic component of the model to be statistically and economically significant. Since the form of heteroscedasticity is unknown, it can be specified as follows (see Çağlayan and Un, 2012).

$$\delta_i = exp\,(\gamma' H_i) \qquad (7)$$

H_i is a vector of covariates of the i^{th} observation and γ is a vector of parameters to be estimated. For the heteroscedastic model to be valid, the heteroscedastic component of the model should be statistically and economically significant.

4.2 Data Sources and Sampling Frame

The study uses the Kenya National Bureau of Statistics (KNBS) MSMEs 2016 survey data, which comprises of comprehensive data of 24,164 establishments. Given the selection of the dependent variable, some observations that did not fall into the categorizations used were not included. The observations in the final analysis also indicate the same. The unit of observation was the establishment rather than the enterprise. For survey purposes, an establishment was defined as an economic unit that produces and/or sells products and operates from a single physical location. Noting the locations include permanent and semi-permanent locations include markets, streets, and households of mobile. If an enterprise has several locations, therefore, it is reported as a separate establishment. The economic units considered were non-primary activities or businesses thereby excluding primary activities such as agricultural production, animal husbandry, fishing, hunting and forestry. Agribusiness activities were, however, not considered primary and included if activities were carried out for profit or for market. The non-primary activities, therefore, represented almost all sectors of the economy. The definition of MSMEs is enterprises having between 1 and 99 employees and includes those that operate formally or informally, seasonally or all year. Noting employment include all categories, including regular and temporary workers. The

MSME survey was cross-sectional and designed to capture estimates at national and county levels by leveraging on business registers maintained by county governments (KNBS, 2016).

4.3 Measurement of Variables

4.3.1 Constructing the dependent variable

In undertaking this study, the dependent variable was constructed from the MSME 2016 dataset based on the question posed to the owner(s) of MSMEs on the main reason for starting the business. This question had 9 options but elicited a single response as follows: (i) skilled in this activity; (ii) family has worked in this activity; (iii) adviced by others; (iv) availability of capital required; (v) high demand for product/service/ready market; (vi) influenced by advertisements; (vii) no other alternative; (viii) better income; or (ix) prefer self-employment. Among these responses, there are 'pull' and 'push' factors. The literature reviewed established that opportunity entrepreneurial activity occurs when an individual makes a choice to start a business that either exploits market opportunity, has income generation opportunities or for employment creation while necessity entrepreneurship occurs when the individuals lacks an alternative and is therefore 'pushed' into entrepreneurship. Reynolds et al. (2002), Giacomin et al. (2007) and Mersha and Sriram (2015) establish entrepreneur's motivation to start a business are either pull factors or push factors. Opportunity entrepreneurs are influenced by 'pull' factors such as wealth accumulation, employment creation or responding to market opportunities (Zali et al., 2013; Schjoedt and Shaver, 2012; Mersha and Sriram, 2015). The choices that inform the pull factors are enhancing income opportunities, exploiting market opportunities or introducing new products (Peterson, 1985; Gibb, 1996; Carter et al., 2003; Giacomin et al., 2007; Giacomin et al., 2011). Necessity entrepreneurs are driven by 'push' factors simply for economic survival. An individual is pushed into entrepreneurship due to obligations to take over the family business, loss of employment or career setbacks (Bhola et al., 2006; Zali et al., 2013; Gutterman, 2015; Zwan et al., 2016). Informed by this classification, MSMEs in Kenya who started the business due to either of the following pull factors are categorized as opportunity motivated entrepreneurs; that is skilled in activity, high demand/ready market, or better income MSMEs who indicated either of the following reasons for starting the business or categorized as necessity entrepreneurs; that is, no other alternative, carry on family business or prefer self-employment. This study's dependent variable constructed is thereby binary as defined in equation 3 above.

4.3.2 Independent variables

Informed by literature reviewed, the independent variables fell into three broad categories. Individual characteristics include gender and education level of MSMEs' owner to capture skills, and firm level characteristics such as age, size, capital, innovation undertaken by the business and sector to capture the firm level resources.

Table 4.1: Measurement of variables

Variable	Description	Apriori expectation
Dependent variable		
Nature of entrepreneurship	Binary variable constructed as presented in section 4.3.1 where (1) represents opportunity entrepreneurs and (0) necessity entrepreneurs	-
Independent Variables		
Age of the firm	Described as the number of years from birth (inception) of the establishment to the current period. Age is transformed into logarithm to attaining normality to deal with high levels of skewness	+ve
Gender of owner	Captured as 1 if owned by male/ males, 2 if owned by female/females and 3 if ownership is male/female partnership	Mixed
Size of the firm	Coded 1 if micro (1-9); 2 if small (10-49); 3 if medium (50-99) and 4 if large (100+ employees)	Mixed
Business registration	Denoted as a dummy variable with 1 if formally registered and 0 otherwise	+ve
Education level	Denoted as a categorical variable with 0 if no education, 1 if primary, 2 if secondary, 3 if certificate/diploma, and 4 if degree/ postgraduate	+ve
Source of initial capital	Coded 1 if family/own funds/friends; 2 if from bank; 3 if from non- bank credit institutions/micro finance institutions (MFIs); 4 if Rotating Savings and Credit Association (ROSCAs) or *Chamas*; 5 if government loan; 6 if formal/informal cooperatives, and 7 if money lenders/NGOs/ trade credits/in-kind/postal savings	Mixed
Product innovation	Coded 1 if the respondent indicated that they had either introduced a new product or significantly improved the product between 2013 and 2015 and 0 otherwise	+ve
Process innovation	Coded 1 if the respondent indicated that they had either introduced a new process or significantly improved the process between 2013 and 2015 and 0 otherwise	+ve
Marketing innovation	Coded 1 if the respondent indicated that they had either introduced a new marketing technique or significantly improved the technique between 2013 and 2015 and 0 otherwise	+ve
Business income	Previous month's income of the establishment. This is transformed into logarithm.	Mixed

Sector	Different sectors as captured in the dataset using different codes	Mixed
County	Different counties as captured in the dataset using different codes	Mixed

Source: Author's (2020)

5. Results and Discussions

5.1 Descriptive Statistics and Correlations

Table 5.1: Descriptive statistics

	N	Mean	Std. Dev	Min	Max
Type of entrepreneurship	21,486	0.61	0.49	0	1
Age	24,164	8.15	8.03	0	96
Age squared	23,604	3.82	3.23	0	21
Gender	24,164	1.74	0.82	1	3
Size of firm	24,164	1.13	0.41	1	4
Registration status	24,164	0.26	0.44	0	1
Education status	20,508	2.02	1.15	0	4
Product innovation	23,806	0.09	0.29	0	1
Process innovation	23,801	0.04	0.19	0	1
Market innovation	23,818	0.05	0.23	0	1
Capital	21,045	1.34	1.11	1	7
Income	21,844	613,174.70	16,800,000	0	800,000,000

Source: Author's computations

Table 5.1 presents descriptive statistics. It shows that the incidence of being an opportunity entrepreneur is about 61 per cent. The average age of the firm is 8 years. In addition, about 26 per cent of the enterprises are formally registered and each enterprise is owned by one person on average. In terms of innovation, about 9 per cent of the firms are involved in product innovation, 5 per cent in market innovation and 4 per cent in process innovation. Revealing low levels of innovation among MSMEs with process and market innovation less common. The average monthly income of the establishment is Ksh 613,175. Appendix 1 shows that majority of correlations between the independent variables are below 0.5. The only high correlations are between age and age squared (r=0.95), which is expected. This implies that multi-collinearity is not likely to bias the regression results.

5.2 Model Validity

The validity of the heteroscedastic model can be tested from the diagnostic statistics. Resulting, this is evident from the statistical significance (at 1%) of the coefficient on the income variable in the four models. Model 1 is the basic model, which includes all covariates, excluding sector and counties. Model 2 includes sector effects, Model 3 includes county effects and Model 4 presents results when

both sector and county effects are factored. The Wald Chi² test for the statistical significance of lnsigma² models report Chi² statistics of 12.92, 21.26, 30.5 and 35.37 (Table 5.2) for Models 1, 2, 3, and 4, respectively. The respective probability values (prob<0.01) for all the four models indicate that the null hypothesis (H0: the coefficient associated with the independent variable is equal to zero) is rejected at the 1 per cent level. Further, it can be concluded that the lnsigma² model is valid, which justifies the use of heteroscedastic probit estimators. Chi square tests show that the four models are statistically significant and that the model with more explanatory variables presents a stronger fit statistically.

5.3 Regression Results

The results are presented in Table 5.2. The dependent variable as presented in Table 5.1, is whether one is an opportunity entrepreneur (1) or otherwise (0).

Table 5.2: Marginal effects

Variables description	Variable	Model 1	Model 2	Model 3	Model 4
Age	Ln_age	0.06*** (0.014)	0.05*** (0.014)	0.05*** (0.014)	0.04*** (0.014)
Age squared	ln_agesq	-0.02*** (0.004)	-0.02*** (0.004)	-0.02*** (0.004)	-0.02*** (0.004)
Gender	Female	-0.02** (0.010)	-0.02** (0.010)	-0.01 (0.009)	-0.01 (0.009)
	Male/ Female	0.00 (0.010)	0.02* (0.010)	0.01 (0.010)	0.03** (0.010)
Size of firm	Small (10-49)	0.08*** (0.020)	0.02 (0.021)	0.08*** (0.019)	0.04** (0.020)
	Medium (50-99)	-0.04 (0.059)	-0.09 (0.055)	0.01 (0.055)	-0.03 (0.054)
	Large (100+)	-0.06 (0.082)	-0.10 (0.076)	-0.03 (0.082)	-0.06 (0.083)
Registration status	Formal	0.05*** (0.011)	0.04*** (0.011)	0.05*** (0.011)	0.05*** (0.011)
Education status	Primary	0.04** (0.015)	0.03* (0.015)	0.04*** (0.015)	0.03** (0.015)
	Secondary	0.02 (0.015)	0.02 (0.015)	0.04** (0.015)	0.03** (0.015)
	Certificate/ diploma	0.09*** (0.016)	0.07*** (0.016)	0.10*** (0.016)	0.08*** (0.016)
	Degree/ postgraduate	0.13*** (0.020)	0.11*** (0.021)	0.14*** (0.020)	0.12*** (0.020)
Innovation	Product	-0.05*** (0.016)	-0.05*** (0.016)	-0.03* (0.016)	-0.03* (0.016)
	Process	-0.00 (0.024)	-0.04 (0.024)	0.00 (0.023)	-0.04 (0.023)

	Market	-0.01 (0.022)	0.01 (0.021)	-0.02 (0.022)	-0.01 (0.022)
Capital	Bank	0.05*** (0.015)	0.05*** (0.015)	0.05*** (0.015)	0.06*** (0.015)
	Non-bank/MFI	-0.02 (0.043)	-0.02 (0.044)	-0.00 (0.042)	-0.00 (0.043)
	ROSCAs/ *Chamas*	0.01 (0.025)	0.01 (0.025)	0.02 (0.025)	0.02 (0.025)
	Government	0.34*** (0.047)	0.33*** (0.053)	0.33*** (0.058)	0.31*** (0.065)
	Cooperatives	0.22*** (0.045)	0.21*** (0.046)	0.19*** (0.049)	0.18*** (0.049)
	Others- Money lenders/NGOs	0.04 (0.027)	0.03 (0.027)	0.05* (0.027)	0.04* (0.027)
Sector	Mining and quarrying		-0.07** (0.030)		-0.08*** (0.030)
	Manufacturing		-0.09*** (0.032)		-0.09*** (0.032)
	Water supply		0.17*** (0.029)		0.15*** (0.030)
	Construction		-0.10*** (0.033)		-0.10*** (0.032)
	Wholesale and retail		-0.10** (0.038)		-0.10*** (0.038)
	ICT		0.11*** (0.041)		0.12*** (0.041)
	Real estate		0.06** (0.031)		0.07** (0.030)
	Public administration		-0.06** (0.036)		-0.06** (0.036)
	Arts entertainment		0.15*** (0.028)		0.16*** (0.028)
	Lnsigma^2				
	Income	0.00*** (0.000)	0.00*** (0.000)	0.00*** (0.000)	0.00*** (0.000)
	Observations	14,968	14,968	14,968	14,968
	Wald chi^2	12.92	21.26	30.5	35.37
Prob. Value	0.000	0.000	0.000	0.000	0.000

Robust standard errors are in parentheses. ***, ** and * indicate statistical significance at 1%, 5% and 10% respectively. Income is the single covariate in the variance regression equation. The statistical significance of this variable validates the heteroscedastic probit model. Only sectors that were statistically significant presented above. Full list available in Appendix II.

For the dummy variables, the findings presented therefore are against the base case as follows; for male for gender, micro (1-9) for size of firm, no education for education status, family/friends loan for capital and agriculture (agribusiness) for sector.

Source: Author's computations

Table 5.2 represents the regression results presented in form of marginal effects. Four models are estimated: Model 1 presents results of the baseline model only to determine the predictors of opportunity entrepreneurship. Model 2 presents results of the baseline model when sector effects are factored in; Model 3 presents results of the baseline model when county effects are considered while Model 4 presents results when both sector and county effects are factored. Basically, the need for these models is to disaggregate the analysis by general predictors of opportunity entrepreneurship and then factor in sector and county effects. For purposes of presentability of the work, both county and sector effects were accounted for, but left out of Table 5.2. Appendix 2 presents the same results with sector effects included.

In all the model's predictors of opportunity entrepreneurship include age, gender of the owner (manager), size, registration status, and education status of the owner (manager) of the establishment. In addition, ability to innovate by the entrepreneur, and source of initial capital are also important in explaining opportunity entrepreneurship. Nearly all the results remain consistent in the four models, with a few alterations when gender of the owner of the firm is joint, owner undertakes product innovation, and source of initial capital is from others such as money lenders or NGOs.

Age of the firm remains consistent as a predictor of opportunity entrepreneurship with the marginal effects showing that the older the establishment, the higher the probability of the owner being an opportunity entrepreneur. Regarding age squared, there is a quadratic effect in the findings across the models with age increasing the probability of being an opportunity entrepreneur at a decreasing rate. In model 1, a marginal change in the age of the firm will lead to a 6 per cent likelihood of one becoming an opportunity entrepreneur. In model 2 and 3, the same finding is upheld with a 5 per cent likelihood while in model 4 there is a 4 per cent chance of one being an opportunity entrepreneur. The results are significant at 1 per cent level across the models. The findings are consistent to Van der Zwan et. al. (2010) who establish that age is synonymous to opportunity entrepreneurship.

Regarding gender of the owner of the firm, being female decreases the chances of becoming an opportunity entrepreneur than being male. This finding is consistent and significant at 5 per cent level (model 1 and 2) while model 3 and 4 fail to be important. Being female decreases the probability of one being an opportunity entrepreneur by 2 per cent than being male. Related, the probability of becoming an opportunity entrepreneur increases if the firm is jointly owned by male/female as opposed to if the entrepreneur is male. The results are significant in model 2 and 4, with likelihood of being an opportunity entrepreneur increasing by 2 per cent (model 2) and 3 per cent (model 4). The results are important at 10 per cent (model 2) and 5 per cent (model 4) level. This is an indication that being male is a predictor of opportunity entrepreneurship. These findings agree with Reynolds et al., 2002; Van der Zwan, et. al., 2010; Giacomin et al., 2007; and Zwan et. al., 2016 who establish that being male increases propensity for entrepreneurship.

With respect to size of the firm, those who run small firms are highly likely to

be opportunity entrepreneurs compared to micro-enterprises. Owning an establishment considered as small increases the probability of one being an opportunity entrepreneur by 8 per cent (model 1 and 3) and 4 per cent (model 4). The results are important at 1 per cent and 5 per cent, respectively. While this may be surprising compared to medium firms, it perhaps implies that those who own small firms maybe more aggressive and with real hunger to expand their realms for growth in business than the other categories (stronger push). This finding is consistent with Mersha and Sriram (2015), who establish that small enterprises who hire more than 10 people are more likely to be opportunity entrepreneurs.

Registration status of the business is a predictor to be an opportunity entrepreneur. The results indicate that formally registered firms are highly likely to be owned by opportunity entrepreneurs than otherwise. In fact, being formal increases the likelihood of the owner to be an opportunity entrepreneur by 5 per cent (model 1, 3 and 4) and 4 per cent (model 2). The results are strongly important at 1 per cent significance level. This finding perhaps emphasizes an important policy need of why firms should strive to formalize.

The education status of the entrepreneur is important in explaining whether one becomes an opportunity entrepreneur or not. As a result, attaining primary level education increases the chances of one being an opportunity entrepreneur by 4 per cent (model 1 and 3) and 3 per cent (model 2 and 4) compared to those with no education. The results are variedly important at 1 per cent, 5 per cent and 10 per cent significance level. Those who attain secondary level education have a higher chance of being opportunity entrepreneurs by 4 per cent (model 3) and 3 per cent (model 4) compared to those who have no education. The results are important at 5 per cent significance level. Additionally, those who attain a certificate, or a diploma have a higher probability of becoming opportunity entrepreneurs compared to those with no education. Having a certificate or a diploma increases the chances of being an opportunity entrepreneur by 9 per cent (model 1), 7 per cent (model 2), 10 per cent (model 3) and 8 per cent (model) with the findings being significant at 1 per cent level. Similarly, attaining a degree including a post-graduate degree increases the probability of one being an opportunity entrepreneur by 13 per cent (model 1), 11 per cent (model 2), 14 per cent (model 3) and 12 per cent (model 4) compared to those with no education. The results are strongly important at 1 per cent significance level. This points to the importance of education in advancing entrepreneurship and industrialization. Efforts by the Government of Kenya aimed at promoting of entrepreneurial skills and training at all levels of the education system should be upheld. These findings agree with Van der Zwan et al. (2010), Block and Sander (2009), and Mersha and Sriram (2015) who observe that higher levels of education are synonymous to promoting opportunity entrepreneurship.

The study establishes that involvement in both process and market innovations fail to be important towards being an opportunity entrepreneur. However, entrepreneurs who engage in product innovation are less likely to be opportunity entrepreneurs than those who do not. As a matter of fact, the results indicate that a marginal change in one being a product innovator reduces the chances of being an opportunity entrepreneur by 5 per cent (model 1 and 2) and 3 per cent

(model 3). The results are significant at 1 per cent and 10 per cent, respectively. As established in literature, entrepreneurs as defined by Schumpeter (1949), who views an entrepreneur as an innovator of new products, new methods or new markets. Drucker (1985) also establishes that entrepreneurs are innovators with innovative business ideas. The hypothesis, therefore, is that the business opportunity established by the opportunity entrepreneur is established from the innovation. Additionally, as established earlier, the probability of participating in opportunity entrepreneurship increases with the age of firm. Going by this hypothesis and the findings on the age of the firm, this explains why those that had developed a product innovation within a period preceding the survey (2013 to 2015) were less likely to be opportunity entrepreneurs. This establishes Drucker's (1985) conceptualization of innovation as a tool for opportunity entrepreneurs to exploit markets (Drucker, 1985). This also presented opportunity for further research on the role of innovation, when innovation has not time bound.[7] A second hypothesis that may explain this finding is that where there is a "business or market opportunity" there may be a deficit in innovative opportunities, particularly product innovation.

Reflecting on finance, access to initial capital from a bank is an important predictor of being an opportunity entrepreneur compared to those who use family, own funds or funds from friends. The results indicate that a marginal change in access to initial capital from the bank increases the probability of being an opportunity entrepreneur by 5 per cent (model 1, 2, and 3) and 6 per cent (model 4). The results are highly significant at 1 per cent level. This is an indicator that banks are critical sources of capital for meaningful entrepreneurship that can spur industrialization and efforts to enhance financial inclusion are still relevant. Interestingly, sourcing initial capital from non-bank institutions or Micro Finance Institutions (MFIs) has a negative but insignificant correlation with promoting opportunity entrepreneurship. Equally, access to government funds is found to be important in spurring opportunity entrepreneurship. From the results, access to initial capital from the government increases the probability of being an opportunity entrepreneur by 34 per cent (model 1), 33 per cent (model 2 and 3), and 31 per cent (model 4) compared to those who use family, own funds or funds from friends. The results are significant at 1 per cent level. This finding strengthens the need for government support by financing in promoting entrepreneurship. Current government financing initiatives for enterprise development include the Youth Enterprise Fund, Women Enterprise Development Fund and UWEZO fund as presented in section 2.1. In addition, access to initial capital from cooperatives is also important in advancing opportunity entrepreneurship. The results show that accessing initial capital from a cooperative increases the probability of being an opportunity entrepreneur by 22 per cent (model 1), 21 per cent (model 2), 19 per cent (model 3), and 18 per cent (model 4) compared to those who use family, own funds or funds from friends. The results are significant at 1 per cent level. These results are consistent with Yoon et al., 2018; Reynolds et al., 2002; and Mersha and Sriram (2015) who establish that access to finance are predictors of opportunity entrepreneurship.

7 See section 6.3.

With respect to sector as indicated in model 2 and 4, establishments in mining and quarrying, manufacturing, construction, wholesale and retail, and public administration have a less likelihood of being in opportunity entrepreneurship compared to those in agriculture (agri-business) (Table 5.2). The finding for public administration is explained by the fact that public sector establishments are often not entrepreneurial in nature. However, manufacturing, construction, wholesale and retail sector are critical sectors that represent 25 per cent of Kenya's GDP, and 40 per cent of Kenya's labour force. Manufacturing, wholesale and retail form priority economic sectors as established in the Kenya Vision 2030. Further, as established in the 2016 MSME Survey Report, enterprises operating in manufacturing and wholesale and retail account for 90 per cent of those that closed between 2010 and 2015. This may be an indicator of weak entrepreneurial culture among these sectors. This is further in line with studies such as McDade and Spring (2005), Reynolds et al. (2001) who found that necessity entrepreneurs tend to operate in retail sectors. Establishments in water supply, information communication and technology (ICT), real estate and arts entertainment have higher probability of being in opportunity entrepreneurship than those in agriculture. ICT is dynamic and often responsive to the needs of the market while also acting as a driver or enabler of economic growth. This is therefore a critical sector for support from a policy point of view. Service sector players in real estate and arts entertainment also associated with opportunity entrepreneurship and therefore stand a higher chance of impact in terms of employment creation, innovations and emergence and growth of industry. The arts entertainment or creative economy is increasingly getting the attention of policy makers and leaders. As mentioned earlier, Kenya's Movable Property Security Rights Act, 2017 establishes intellectual property as possible collateral.

6. Conclusion and Recommendations

6.1 Conclusions

This study was aimed at identifying the drivers of opportunity entrepreneurship in Kenya and establishing if sectors are influencing factors. In achieving this, the study undertook a policy analysis which revealed that interventions placed emphasis on training and enhancing financial access. However, these have not yet had the desired effect; training has some deficiencies since they are often not demand-driven or industry-driven, leading to mismatch between market needs and labour provisions. Entrepreneurs also continue to face access to finance with very few establishments have access to the public funds designed to support enterprise development. The analysis further reveals that the government's focus on promoting entrepreneurship is embedded on job creation and that policies promote entrepreneurial friendly environment and framework conditions. Empirical studies reveal that government plays a role in promoting entrepreneurship through provision of financial support and skills enhancement. Literature also reveals that opportunity entrepreneurs contribute to employment, product and/or industry development, thus influence the country's industrial and economic growth and competitiveness compared to necessity entrepreneurs. From a policy point of view, therefore, it is important for clear policy interventions that target opportunity entrepreneurs, given the study reveals there are differences between opportunity and necessity entrepreneurs, with the former offering more impact with respect to employment and growth opportunities.

The study reviewed the determinants of opportunity entrepreneurship in Kenya. In undertaking this, the study informed by literature reviewed, identifies and constructs the dependent variable to account for opportunity entrepreneurs from the 2016 MSME survey dataset. The study then uses a probit analysis to establish the drivers of opportunity entrepreneurship in Kenya. The findings of empirical analysis reveal that individual and firm level factors inform the decision to operate as an opportunity entrepreneur. Specifically, the probability of operating as an opportunity entrepreneur increases with size of the firm, and registration status thus firm level factors are important. Further, individual factors such as level of education of the business owner and the gender of the owner also come into play, given the probability it increases under joint ownership compared to when the owner is male. Further credit from banks, government funds and cooperatives appropriately support opportunity entrepreneurs compared to non-bank institutions, which have a negative, though insignificant, effect. This study therefore concludes that training and education and access to appropriate finance has the effect of influencing opportunity entrepreneurship.

The study established that certain industrial sectors have a higher probability of undertaking entrepreneurship in Kenya. Specifically, the study established, water supply, ICT, real estate and arts entertainment were found to be positively associated with opportunity entrepreneurship while certain sectors such as mining and quarrying, manufacturing, construction and wholesale and retail sectors are negatively associated with opportunity entrepreneurship. This provides clarity

on the sectors that tend to operate as opportunity entrepreneurs and can inform implementation of Kenya's Industrialization Policy.

6.2 Recommendations

Informed by the fact that government plays a role in ensuring an enabling environment of entrepreneurship in Kenya, and further bearing in mind the foregoing findings, the study recommends the following:

Need for targeted policy: Policy interventions should be aimed at addressing specific needs of opportunity entrepreneurs for better impact.

Enhanced access to finance: Opportunity entrepreneurs have a higher probability of accessing financial services from banks, government funds or cooperatives. These financing sources are more formal and, therefore, regulated thus providing the entrepreneur with confidence. Additionally, with planned restructuring of DFIs; consolidation of enterprise development funds, and general implementation of self-sustaining enterprise funds, emphasis should be made to enhance access among opportunity-driven MSMEs. These financial institutions should provide financial products developed meet the needs of opportunity entrepreneurs. From a policy point of view, there are a number of interventions that financial service providers can leverage on. This includes credit referencing, use of venture capitalists, proposed credit guarantee schemes and use of moveable property as security, as provided in the Movable Property Security Rights Act, 2017. These, if well implemented, could result in enhanced access to finance. This calls for the establishment of relevant policy and incentive frameworks incorporating credit guarantee systems, functional collateral register and a well-structured comprehensive financial literacy programme for MSMEs.

Entrepreneurship oriented training: The government's priority in provision of entrepreneurship training is founded. The Competency-Based Education (CBC) and Training Policy Framework and the development of relevant policy and revision of curriculum should continue placing emphasis on the promotion of entrepreneurial skills and training at all levels of the education system. For the training to be effective, it needs to be comprehensive, addressing the needs of the entrepreneur. This is important since theory supports entrepreneurial skills enhancement through training. Training may not be limited to school education. MSMEs tend to be educated up to primary and secondary school level, thus emphasizing the importance of establishing a framework for post-training skills and development as proposed in the 2019 Sessional paper. Learning and skills upgrading should not be limited to classroom, but other innovative approaches should be adopted, including e-learning and on job training mechanisms that would provide the entrepreneur's flexibility in skills enhancement. Further, education is also important as an enabler of financial literacy, and is key to formal finance access. A review of training programmes to establish the extent to which they address the capacity needs of entrepreneurs, including frequent capacity needs assessments conducted on local businesses should be undertaken by the Ministry in charge of micro and small enterprises in Kenya. The findings of such a

review would be enlightening in informing the transformation of KITI to a Centre of Excellence and the restructure of KIBT to ensure both institutions are relevant to industry needs.

Promotion of women entrepreneurs: Policy interventions should be tailored at enhancing the capacity of women entrepreneurs to participate in opportunity entrepreneurship since women are less likely to become opportunity entrepreneurs compared to men. This calls for continued gender-sensitive policy interventions for enhanced women empowerment. Policies should be designed to accommodate unique needs of women including access to finance and capacity building programmes where women entrepreneurs are affected disproportionately. Emphasis should be placed in developing and implementing appropriate interventions that support small enterprises as they stand a higher chance of being opportunity entrepreneurs. The sector's growth potential could also be attributed to capacity for employment considering more than 9 employees are catered for. Further, opportunity entrepreneurs have a higher probability of being registered, hence operating within the regulatory ambit that is synonymous to tax revenue contribution.

Sector support: The manufacturing sector is earmarked to have potential impact to the economy of the country with greater than 15 per cent contribution to GDP. The sector has over the years stagnated at 10 per cent GDP or below. Further, as established in the study enterprises in the manufacturing sector are less likely to be opportunity entrepreneurs. This is in spite of policy attention dating back to the 1986 sessional paper, which identified it to have potential of generating indigenous Kenyan entrepreneurs. The sector can strengthen economic inclusion due to its role in establishing forward and backward linkages with other economic activities, including sectors such as ICT, real estate and entertainment. These have higher probability of breeding opportunity entrepreneurs. Policy focus on nurturing an entrepreneurial culture that targets sectors such as manufacturing sector is critical. In fact, sector disaggregated policy interventions may offer more relevant and practical interventions. As evidenced from the findings of this study, opportunity entrepreneurs require appropriate education and skills, which can be achieved through training, enhanced access to government enterprise funds designed to meet financing needs of the enterprise, and access to business development services aimed at facilitating business registration. In addition, supporting adoption of ICT, which is at the heart of driving the fourth industrial revolution and among the sectors that present a higher probability to operate as opportunity entrepreneurs, will transform the MSME operations. Policy focus on promoting the development of Industry 4.0, the fourth industrial revolution is paramount.

The creative economy is established in this study as having a higher probability of operating as opportunity entrepreneurs, thus presenting impact in terms of employment and contribution to the country's economic development. Kenya's advantage is in creative innovative youth, the Kenya Vision 2030 and the Youth Development Policy (2019) is cognisant of this and calls for the establishment of talent development institutions to nurture creative youth. In informing implementation of such policies, emphasis should be laid on promoting the

entrepreneurial culture within arts and entertainment; promoting awareness and adoption of intellectual property rights aimed at promoting the valuation and consequent commercialization of intellectual assets of the art and entertainment nature. Policies that prompt market access including local content provisions in broadcasting should also be prioritized.

Government-led business development services: Lastly, continued policy interventions aimed at graduating enterprises from micro to small should form a critical policy agenda. This is because Kenya's industrial base is largely micro and informal, yet small formal enterprises are the ones who stand a higher chance of participating in opportunity entrepreneurship. The key policy agenda in this respect, therefore, include reducing transaction costs associated with registering and licensing a business, which can be achieved through simplified one-stop-shop business registration and licensing procedures using both physical infrastructure such as government proposed Biashara Centres or existing Huduma Centres and upscaling e-Citizen platform, thus leveraging on ICT to provide end-to-end business registration and licensing services. This calls for clear policy interventions promoting business registration aimed at nurturing opportunity entrepreneurs able to access markets and enter contracts due to their business legal status. Licensing reforms should also be prioritized to address the multiplicity of licenses and/or the arbitrary introduction of fees and charges by national regulatory agencies and county governments.

6.3 Areas for Future Research

Future research should seek to look at the incidence of opportunity entrepreneurship from a sector lens. This should be aimed at providing in-depth analysis that would inform policy on the key sectors that have been established to have potential for high impact for achieving industrialization. Such a study would be informative in establishing the skills, technology and infrastructural requirements and needs for the different sectors. Other critical aspects for future analysis include review of the role of the age of the entrepreneur. Literature reviewed reveals age of the entrepreneur plays a role. However, this variable was not provided in the 2016 MSME dataset. Lastly, it would be important to establish the role of played by innovation within out restricting the period of innovation to the three years preceding the survey as is the case with the database used. In this case, therefore, the relevant variable for analysis would be whether the entrepreneurs have introduced a significant improvement or a process, product or market within the lifetime of the business.

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Appendices

Appendix 1: Correlation matrix

	1	2	3	4	5	6	7	8	9	10	11
1. Age	1.00										
2. Age squared	0.95	1.00									
3. Gender	0.01	0.02	1.00								
4. Size of firm	0.13	0.14	0.09	1.00							
5. Registration status	0.07	0.07	0.05	0.33	1.00						
6. Education status	-0.04	-0.04	0.05	0.26	0.31	1.00					
7. Product innovation	0.04	0.03	0.05	0.13	0.12	0.12	1.00				
8. Process innovation	0.04	0.03	0.02	0.14	0.10	0.08	0.41	1.00			
9. Market innovation	0.03	0.02	0.02	0.13	0.11	0.11	0.50	0.42	1.00		
10. Capital	0.00	0.00	0.06	0.05	0.03	0.03	0.03	0.03	0.03	1.00	
11. Income	0.05	0.07	0.02	0.16	0.06	0.01	0.01	0.02	0.01	0.08	1.00

Source: Authors computations

Appendix 2: Regression model results with sector and county effects accounted for

Variables description	Variable	Regression 1	Regression 2	Regression 3	Regression 4
Age	Ln_age	0.06*** (0.014)	0.05*** (0.014)	0.05*** (0.014)	0.04*** (0.014)
Age squared	ln_agesq	-0.02*** (0.004)	-0.02*** (0.004)	-0.02*** (0.004)	-0.02*** (0.004)
Gender	Female	-0.02** (0.010)	-0.02** (0.010)	-0.01 (0.009)	-0.01 (0.009)
	Male/Female	0.00 (0.010)	0.02* (0.010)	0.01 (0.010)	0.03** (0.010)
Size of firm	Small (10-49)	0.08*** (0.020)	0.02 (0.021)	0.08*** (0.019)	0.04** (0.020)
	Medium (50-99)	-0.04 (0.059)	-0.09 (0.055)	0.01 (0.055)	-0.03 (0.054)
	Large (100+)	-0.06 (0.082)	-0.10 (0.076)	-0.03 (0.082)	-0.06 (0.083)
Registration status	Formal	0.05*** (0.011)	0.04*** (0.011)	0.05*** (0.011)	0.05*** (0.011)
Education status	Primary	0.04** (0.015)	0.03* (0.015)	0.04*** (0.015)	0.03** (0.015)
	Secondary	0.02 (0.015)	0.02 (0.015)	0.04** (0.015)	0.03** (0.015)
	Certificate/ diploma	0.09*** (0.016)	0.07*** (0.016)	0.10*** (0.016)	0.08*** (0.016)
	Degree/ postgraduate	0.13*** (0.020)	0.11*** (0.021)	0.14*** (0.020)	0.12*** (0.020)
Innovation	Product	-0.05*** (0.016)	-0.05*** (0.016)	-0.03* (0.016)	-0.03* (0.016)
	Process	-0.00 (0.024)	-0.04 (0.024)	0.00 (0.023)	-0.04 (0.023)
	Market	-0.01 (0.022)	0.01 (0.021)	-0.02 (0.022)	-0.01 (0.022)
Capital	Bank	0.05*** (0.015)	0.05*** (0.015)	0.05*** (0.015)	0.06*** (0.015)
	Non-bank/MFI	-0.02 (0.043)	-0.02 (0.044)	-0.00 (0.042)	-0.00 (0.042)
	ROSCAs/ Chamas	0.01 (0.025)	0.01 (0.025)	0.02 (0.025)	0.02 (0.025)
	Government	0.34*** (0.047)	0.33*** (0.053)	0.33*** (0.058)	0.31*** (0.065)
	Cooperatives	0.22*** (0.045)	0.21*** (0.046)	0.19*** (0.049)	0.18*** (0.049)
	Others- Money lenders/NGOs	0.04 (0.027)	0.03 (0.027)	0.05* (0.027)	0.04* (0.027)

Sector	Mining & quarrying		-0.07** (0.030)		-0.08*** (0.030)
	Manufacturing		-0.09*** (0.030)		-0.09*** (0.030)
	Electricity		0.04 (0.032)		0.03 (0.032)
	Water supply		0.17*** (0.029)		0.15*** (0.030)
	Construction		-0.10*** (0.033)		-0.10*** (0.032)
	Wholesale and retail		-0.10** (0.038)		-0.10*** (0.038)
	Transportation		-0.04 (0.035)		-0.03 (0.035)
	Accommodation		0.03 (0.030)		0.03 (0.029)
	ICT		0.11*** (0.041)		0.12*** (0.041)
	Financial and ins		-0.02 (0.032)		-0.02 (0.032)
	Real estate		0.06** (0.031)		0.07** (0.030)
	Professional		0.03		0.05
			(0.042)		(0.041)
	Administrative		-0.01 (0.044)		0.01 (0.043)
	Public adm.		-0.06** (0.030)		-0.06** (0.030)
	Education		0.05 (0.032)		0.04 (0.032)
	Human health		-0.02 (0.036)		-0.01 (0.036)
	Arts entertainment		0.15*** (0.028)		0.16*** (0.028)
County	Nyandarua			-0.02 (0.048)	-0.01 (0.048)
	Nyeri			-0.05** (0.027)	-0.06** (0.027)
	Kirinyaga			0.14*** (0.045)	0.14*** (0.045)
	Murang'a			0.34*** (0.044)	0.34*** (0.042)
	Kiambu			0.19*** (0.043)	0.19*** (0.042)
	Mombasa			-0.09*** (0.036)	-0.11*** (0.036)
	Kwale			-0.10** (0.039)	-0.11*** (0.039)

	Kilifi			0.16*** (0.033)	0.15*** (0.032)
	Tana River			0.01 (0.038)	0.01 (0.038)
	Lamu			0.20*** (0.038)	0.20*** (0.038)
	Taita Taveta			0.01 (0.031)	0.01 (0.031)
	Marsabit			-0.03 (0.042)	-0.02 (0.040)
	Isiolo			0.34*** (0.027)	0.34*** (0.027)
	Meru			0.21*** (0.026)	0.22*** (0.026)
	Tharaka Nithi			0.03 (0.043)	0.04 (0.042)
	Embu			0.06** (0.029)	0.07** (0.029)
	Kitui			-0.01 (0.026)	-0.00 (0.025)
	Machakos			-0.06** (0.030)	-0.06** (0.030)
	Makueni			0.08** (0.032)	0.08** (0.032)
	Garissa			-0.11*** (0.033)	-0.09*** (0.033)
	Wajir			-0.12*** (0.031)	-0.12*** (0.031)
	Mandera			-0.03 (0.048)	-0.03 (0.049)
	Siaya			-0.08** (0.031)	-0.07** (0.031)
	Kisumu			0.12*** (0.039)	0.12*** (0.038)
	Migori			-0.05 (0.033)	-0.04 (0.033)
	Homa Bay			0.10*** (0.034)	0.10*** (0.034)
	Kisii			0.01 (0.033)	0.01 (0.033)
	Nyamira			0.17*** (0.028)	0.17*** (0.029)
	Turkana			-0.19*** (0.030)	-0.18*** (0.030)
	West Pokot			-0.04 (0.137)	-0.00 (0.136)
	Samburu			-0.00 (0.079)	0.03 (0.087)

	Trans Nzoia			-0.23 (0.303)	-0.12 (0.332)
	Baringo			-0.01 (0.197)	0.04 (0.186)
	Uasin Gishu			-0.07 (0.092)	-0.05 (0.101)
	Elgeyo Marakwet			-0.13 (0.078)	-0.10 (0.087)
	Nandi			0.02 (0.088)	0.03 (0.097)
	Laikipia			-0.09 (0.079)	-0.07 (0.087)
	Nakuru			-0.06 (0.091)	-0.08 (0.100)
	Narok			-0.04 (0.081)	-0.01 (0.089)
	Kajiado			-0.24** (0.109)	-0.19 (0.116)
	Kericho			-0.03 (0.089)	0.00 (0.097)
	Bomet			-0.10 (0.085)	-0.07 (0.093)
	Kakamega			0.07 (0.081)	0.08 (0.090)
	Vihiga			0.05 (0.085)	0.05 (0.094)
	Bungoma			0.03 (0.084)	0.05 (0.092)
	Busia			-0.01 (0.079)	0.03 (0.088)
Lnsigma²					
	Income	0.00*** (0.000)	0.00*** (0.000)	0.00*** (0.000)	0.00*** (0.000)
	Observations	14,968	14,968	14,968	14,968
	Wald chi²	12.92	21.26	30.5	35.37
	Prob. Value	0.000	0.000	0.000	0.000
Robust standard errors are in parentheses. ***, ** and * indicate statistical significance at 1%, 5% and 10% respectively. Income is the single covariate in the variance regression equation. The statistical significance of this variable validates the heteroscedastic probit model.					

Source: Authors' computations

ISBN 978 9966 817 65 5

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