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Influence of Innovation on the Growth of Micro and Small Pharmaceutical Enterprises in Kenya

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Abstract

Medium and Small Enterprises (MSEs) are engines of economic development through contribution of jobs and poverty reduction. Currently, the MSE sector in Kenya contributes over 70% of the country's GDP. Despite this importance, 3 out every five of MSEs in Kenya collapse within 3-5 years of operation leading to loss of jobs, increased poverty and low GDP. Innovation has been termed as one of the most crucial elements in today's globalized and competitive environment. Remaining competitive in today's modern world require organizations to pursue innovation the objective of the study was to determine the influence of innovation on growth of micro and small pharmaceutical enterprises in Kenya. To achieve this objective, a descriptive survey study design shall be adopted. The target population of the study was the pharmaceutical MSEs in Nairobi County. Random sampling technique was used to get sample size of 30 .The research study adopted a questionnaire as a research data collection instrument. Both open and closed ended questions shall be used to elicit responses from respondents. The research data collected was analyzed using the statistical package for social scientists software and the results presented using charts and tables. Descriptive statistical data was used for analysis and reporting. The reliability of the test instrument shall be done using Cronbach's alpha coefficient. Regression analysis was used to establish the relationship between growth and the types of innovation applied in pharmaceutical Mses. The study results were presented through tables and figures. The study concludes that open innovation has a positive and significant effect on growth of micro and small pharmaceutical enterprises in Kenya. In addition, the study concludes that process innovation has a positive and significant effect on growth of micro and small pharmaceutical enterprises in Kenya. Further, the study concludes that front end innovation has a positive and significant effect on growth of micro and small pharmaceutical enterprises in Kenya. The study also concludes that market innovation has a positive and significant effect on growth of micro and small pharmaceutical enterprises in Kenya. Based on the results, this study recommends that the management of micro and small pharmaceutical enterprises should encourage open innovation to ensure maximum utilization of resources and minimize wastage. Further, the management of micro and small pharmaceutical enterprises should formulate and implement effective marketing strategies to increase the sales of their firm.

Keywords: *Innovation, Leadership Skills, Pharmaceuticals, Micro and Small Enterprises*

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1.1 Background of the Study

The need for business growth through market share expansion, profitability and how to be competitiveness is a key a strategic business objective (Andrew, 2015) and (Prahalad, 2013). Various strategies are pursued in the quest to outdo competitors in the market place, remain competitive and achieve sustained growth. According to Lahovnik and Breznik (2014), the ability to survive and grow in market share is dependent on the ability to continuously generate innovations that correspond to changes in both the external and internal business environment.

There is no one universally accepted definition of an MSPE. The criteria for most definitions however is the number of workers employed value of assets and sales turnover (Garikai, 2011, & OECD, 2004). According to the small business Act of South Africa (2008), an MSPE is defined as 'a separate distinct entity including cooperative enterprises and non-governmental organizations managed by one owner or more, including branches or subsidiaries if any.' In the European Union, Micro and small pharmaceutical enterprise (MSPE) are 'non-subsidiary, independent firms which employ at most 250 employees (OECD, 2005).MSPE include enterprises which employ 1-50employees with annual revenues not exceeding EUR 10 million (OECD, 2005).

In Kenya, the Micro and Small Enterprises Act No. 55 of 2012 defines "micro enterprise" as firms whose annual turnover does not exceed five hundred thousand shillings, employ less than ten people and whose total assets and financial investment shall be as determined by the Cabinet Secretary from time to time. "Small enterprise" means firms whose annual turnover ranges between five hundred and five million shillings; and which employ between ten and fifty people; and whose total assets and financial investment shall be as determined by the Cabinet Secretary from time to time. This study will look at the firms which employ 1-50 people.

Pharmaceuticals are a major contributor to the global economy. In Ireland the pharmaceutical and chemical industry continues to perform strongly throughout the economic crisis and now accounts for 60% of Ireland manufacturing exports. Kenya is a principle exporter of pharmaceuticals to the EAC and the COMESA regions, amounting to 0.3% of the value of all the exports to these destinations in 2008. Kenya has one of the most vibrant pharmaceutical sector in the common wealth, ranking as the largest producer of pharmaceutical products in East and Central Africa (KPPB, 2012). However, Kenya is a net importer of pharmaceuticals. In 2008, Kenya shillings 20.7 billion worth of pharmaceuticals were imported, a 30% increase from 2007.The imports are mainly from India, China and other countries.

Pharmaceuticals are critical to the economic and social development of Kenya. Medicines treat diseases, save lives and promote health, and they are a core component of the Right to Health. Ensuring access to medicines is one of the targets of the Millennium Development Goals (MDGs). Access has multiple dimensions, i.e. availability, geographical reach, affordability, safety, efficacy and quality; and appropriateness for the patient and the condition being treated. These dimensions apply equally to medicines, medical supplies and other health technologies; and similar principles apply to veterinary medicines. A critical step toward the attainment of universal access to medicines is comprehensive policy guidance to address all the dimensions of access (MOH, 2012)

The MSEs in generates 20 % of the country's GDP while providing employment to over 80% of the total workforce (ROK, 2012). Statistics however indicate that the failure rate among

MSEs remain very high with more than 90% of new enterprises dying within three years of inception. The pharmaceutical MSEs have been experiencing challenges that inhibit growth as witnessed in both in the developing and the developed economies. Various research studies and statistics reveal that despite the high growth potential, the volatility amongst pharmaceutical MSEs is still high. Pharmaceutical firms in Nairobi County form an important segment of the Kenyan MSPE sector. A market survey study on the pharmaceutical market in 2012 estimated the Kenyan market to be 208.6 million dollars. This trend was projected to grow to 558.5 million dollars (Frost & Sullian, 2015).

Innovation is the creation and transformation of knowledge into new products, processes, or services that meet market needs. Research on innovation in firms is important as there may be a unique set of processes and resources involved that may help explain innovation as a critical factor in predicting MSPE growth (Anderson and Eshima 2011; Achtenhagen et al. 2010). Iqbal, Rasheed, Khan and Siddiqi (2020) explains that the organizational practices of the innovation are maintained, established and uses the standard set of actions or systems like designing of an idea or thought, evaluation and managerial efforts and practices for innovation like flexible roles, rotation,, for time being projects teams, self-organizing groups.

Marketing innovation includes the use of new channels of distribution and new advertising approaches for selling current or new products. MSPE can expand their revenues by selling their current products in new regional or international markets or by expanding their existing product lines into new segments of existing markets (Ndalira, Ngugi & Chepkulei, 2013). This kind of innovation, "application innovation" involves applying existing technology for new uses in new markets (Kinoti, 2013). Eisenhardt et. al., (2010) suggests that either the complementary processes, harmonization, Meta level collective orientation or gather them in constant dialogic relationship in order to have control on both sides. Woodman (2010) state that in order to improve the performance of an individual or group of an organization the thought or idea can be taken as a collective practice in order to get the best play of day by day increasing innovation and renewal demands that is the main player between the individual and organizational knowledge.
Growth is an organizational outcome resulting from the combination of firm-specific resources, capabilities and routines (Becker & Knudsen, 2012). Firm growth is an increase in certain attributes, such as sales, employment, and/or profit of a firm between two points in time (Hakkert & Kemp, 2006). Firm growth can be determined by the degree of effectiveness and capability with which firm-specific resources such as labor, capital and knowledge are acquired, organized, and transformed into sellable products and services through organizational routines, practices, and structure (Nelson & Winter, 1982; Nickell, 1996).

Firm growth can be determined by how successfully one sells products and services to the customers. Therefore, market orientation can be considered an important determinant of growth. Firms with market orientation are able to track and respond to the customer's needs and preferences (Jaworski & Kohli, 1993) .Growth can be defined in terms of revenue generation, value addition, and expansion in terms of volume of the business. It can also be measured in the form of qualitative features like market position, quality of product, and goodwill of the customers (Kruger, 2011). In this study growth will be measured in terms of revenue, number of employees and net assets over a period of three years which is consistent with a study carried out by (Kamendi, 2016).

1.2 Statement of the Problem

The MSME sector in Kenya has over the years been recognized for its role in provision of goods and services, enhancing competition, fostering innovation, generating employment and in effect, alleviation of poverty(economic survey 2016) .The MSEs in Kenya generates 20 % of the country's GDP while providing employment to 80% of the total workforce (ROK, 2016). However the failure rates among the MSE remain very high with more than 90% of new enterprises dying within three years of inception. (ROK, 2015). A study by Obakiro, Kiprop, Kowino, Kigondu, Odero, Omara and Bunalema (2020) showed that over 70% of pharmaceutical MSPE do not survive for more than 5yrs while over 98% remain small, despite increase in The demand for pharmaceuticals due to increase in pandemic and lifestyle diseases (MOH,2014). One of the characteristics of high growth firms is innovativeness (Gloet & Samson, 2015). Inability to innovate has led to short enterprise lifespan and understanding innovation may provide an opportunity to reverse this dangerous trend.

The pharmaceutical sector plays a vital role in ensuring access to health. Three of the eight Millennium Development Goals (MDGs) call for specific health improvements by 2030. Health is increasingly viewed as fundamental to the achievement of other MDGs, including eradicating extreme poverty and hunger (MDG 1), achieving universal primary education (MDG 2), promoting gender equality and empowerment (MDG 3), and ensuring environmental sustainability (MDG 7) VISION 2030. This study will investigate the influence of innovation on the growth of pharmaceutical MSE in Kenya.

1.3 Objectives of the Study

i. To determine influence of open innovation on growth of micro and small pharmaceutical enterprises in Kenya
ii. To determine the influence of process innovation on growth of micro and small pharmaceutical enterprises in Kenya.
iii. To determine the influence of front end innovation (FEI) on growth of micro and small pharmaceutical enterprises in Kenya
iv. To determine the influence of marketing innovation on growth of micro and small pharmaceutical enterprises in Kenya

2.1 Theoretical Review

The study was guided by the Resource Based View Theory, Schumpeterian Theory on Innovations, Acquired Needs Theory and the Reinforcement Theory.

2.1.1 Resource Based Theory

Resource-based theory aspires to explain the internal sources of a firm's sustained competitive advantage (Kraaijenbrink, Spender, & Groen, 2010). It was Penrose who established the foundations of the resource-based view as a theory (Roos & Roos, 1997). Penrose first provides a logical explanation to the growth rate of the firm by clarifying the causal relationships among firm resources, production capability and performance. She claimed that bundles of productive resources controlled by firms could vary significantly by firm, that firms in this sense are fundamentally heterogeneous even if they are in the same industry (Barney & Clark, 2007). Wernerfelt (1984) took on a resource perspective to analyze antecedents of products and ultimately organizational performance and believed that "resources and products are two sides

of the same coin" and firms diversify based on available resources and continue to accumulate through acquisition behaviors.

According to RBT, sustainable competitive advantage results from resources that are inimitable, not substitutable, tacit in nature, and synergistic (Barney, 1991). Therefore, managers need to be able to identify the key resources and drivers of performance and value in their organizations. The RBT also states that a company's competitive advantage is derived from the company's ability to assemble and exploit an appropriate combination of resources. Such resources can be tangible or intangible, and represent the inputs into a firm's production process; such as capital, equipment, the skills of individual employees, patents, financing, and talented managers. As a company's effectiveness and capabilities increase, the set of available resources tends to become larger. Through continued use, these "capabilities", defined as the capacity for a set of resources to interactively perform a stretch task or an activity, become stronger and more difficult for competitors to understand and imitate.

(R&D expenditures) and can be used to augment future production possibilities. The above information triggered question one. What is the influence of open end innovation on the growth of pharmaceutical MSPE in Nairobi County?

According to Chesbrough, Vanhaverbeke and West (2006) open innovation involves an outflow and inflow of skills, knowledge and capabilities developed both internally and externally to the firm. The open innovation builds on the idea of knowledge leakage between a firm and the external world. According to Colombo and Zito (2014), MSPE can rely on the resources of external partners to drive their internal innovativeness. A study on innovation amongst Chinese MSPE firms reveals that inter firm cooperation increases firm innovativeness (Zheng, Chen, Huang & Zhang, 2013). The study further revealed that the growth MSPE firms highly infirmed by collaborative rather than competitive innovativeness. In early stages of business growth and development, open innovation has been found to be helpful as it frees capital required for growth (Lee & Mason, 2010).

2.1.2 Schumpeterian Theory on Innovations

Schumpeter's (1934) theory of innovative profits emphasized the role of entrepreneurship (His term was entrepreneurial profits) and the seeking out of opportunities for novel value and generating activities which would expand (and transform) the circular flow of income through risk taking, pro activity by the enterprise leadership and innovation which aims at fostering identification of opportunities through intellectual capital of entrepreneur to maximize the potential profit and growth.
Schumpeterian growth theory goes beyond economist theory by distinguishing explicitly between physical and intellectual capital, and between saving, which makes physical capital grow, and innovation, which makes intellectual capital grow. It supposes that technological progress comes from innovations carried out by firms motivated by the pursuit of profit, and that it involves what Schumpeter called "creative destruction". That is, each innovation is aimed at creating some new process or product that gives its creator a competitive advantage over its business rivals; it does so by rendering obsolete some previous innovation; and it is in turn destined to be rendered obsolete by future innovations (Schumpeter, 1934).Endogenous growth theory challenges this neoclassical view by proposing channels through which the rate of technological progress, and hence the long-run rate of economic growth, can be influenced by economic factors.

Schumpeter, as cited by Swedberg (2000), pointed out economic behavior is somewhat automatic in nature and more likely to be standardized, while entrepreneurship consists of doing new things in a new manner, innovation being an essential value. As economics focused on the external influences over organizations, he believed that change could occur from the inside, and then go through a form of business cycle to really generate economic change.
He set up a new production function where the entrepreneur is seen as making new combinations of already existing materials and forces, in terms of innovation; such as the introduction of a new good, introduction of a new method of production, opening of a new market, conquest of a new source of production input, and a new organization of an industry (Casson, 2002). For Schumpeter, the entrepreneur is motivated by the desire for power and independence, the will to succeed, and the satisfaction of getting things done (Swedberg, 2000).
He conceptualized 'creative destruction' as a process of transformation that accompanies innovation where there is an incessant destruction of old ways of doing things substituted by creative new ways, which lead to constant innovation (Aghion & Howitt, 1992). The entrepreneur's crucial significance to the dynamics of the capitalist system flows from the fact that it is the entrepreneur's innovations that disrupt the economy and move it forward from one equilibrium to the other. Rather than adapting to external pressures, the entrepreneur destroys the static equilibrium from within the system by inventing new products, processes or behaviors that contrast the routine systems and activities (Andersen, 2004; McDaniel, 2005; Drejer, 2004). The Schumpeterian Theory is important in guiding the entrepreneur in such a case. What is the influence of process innovation on the growth of pharmaceutical MSPE in Nairobi County?

2.1.3 Acquired Needs theory

McClelland, a well-known psychologist at the Harvard University, studied employee's behaviour. He used the Thematic Apperception Test (TAT) to measure employee motivation in satisfying various needs and found out that employees craved the need for achievement, the need for power and the need for affiliation (Kreitner & Kinicki, 1998). The acquired needs theory focuses on the diversity of people and is rooted in culture. It assumes that needs are acquired or learned on the basis of our life experiences. When a need is strong, it will motivate the person to engage in behavior that satisfies that need. Achievement is represented by the drive to excel, accomplish challenging tasks to achieve a standard of excellence. Achievement motivation depends on childhood, personal and occupational experience and even the type of organization. According to this theory some people have a compelling drive to succeed. They strive for personal achievement rather than for the rewards of success. They have a strong desire to do something better or more efficiently than it has been done before. In this quest, they seek feedback and look for innovative ways to achieve their objectives. Individuals high on achievement needs often make good entrepreneurs running their own business (Johns, 1996). Successful innovation in a business depends on how the business enterprises are able to manage the idea harvesting process from both the workers and customers to create value for customers.

2.1.4 Reinforcement Theory

Reinforcement theory was formulated by Skinner and is based on Skinner's classical experiments (Hellriegel et al. 2001). It states that individual's behavior is a function of its consequences. It is based on "law of effect", i.e., individual's behavior with positive

consequences tends to be repeated, but individual's behavior with negative consequences tends not to be repeated.

It shifts emphasis from the employee's underlying needs and cognitive processes to the rewards and punishments in the work environment. The two underlying assumptions of the theory are that human behavior which is followed by a pleasant consequence is more likely to be repeated. Hellriegel et al., (2001) provide an example of an employee who receives a reward (a bonus, a compliment, or promotion) for superior performance.

Reinforcement theory has been used in many areas of study to include animal training, raising children, and motivating employees in the workplace. Reinforcement theories focus on observable behavior rather than needs theories that focus on personal states. Reinforcement theory is a form of operant conditioning and focuses on the environmental factors that contribute to shaping behavior. Simply put, reinforcement theory claims that stimuli are used to shape behaviors. There are four primary approaches to reinforcement theory: positive reinforcement, negative reinforcement, positive punishment, and negative punishment, which will be covered in a later paragraph. By analyzing the various components of the Law of Effect and the primary approaches, we can achieve desired results through its application within the workplace.

2.2 Conceptual Framework

Conceptual framework is defined as the system of concepts, assumptions, expectations, beliefs, and theories that supports and informs a research study (Miles & Huberman, 1994; Robson, 2011). The conceptual framework in a study according to Miles and Huberman (1994) is visual a visual or written product, one that explains, either graphically or in narrative form parameters that form the basis of a study. A conceptual framework can also be defined as is a summary of the key issues, factors and concepts in a study and how they may be related. A conceptual framework is seeks to show the link between phenomena and the possible theoretical framework that that informs a study. According to Mugenda (2008), a conceptual framework is a concise description of the phenomenon under study accompanied by a graphical or visual depiction of the major variables of the study. The conceptual framework under this study has the innovation parameters that form the basis of the study and how this influences the growth of pharmaceutical MSPE in terms of sales revenue, firm size and, number of employees

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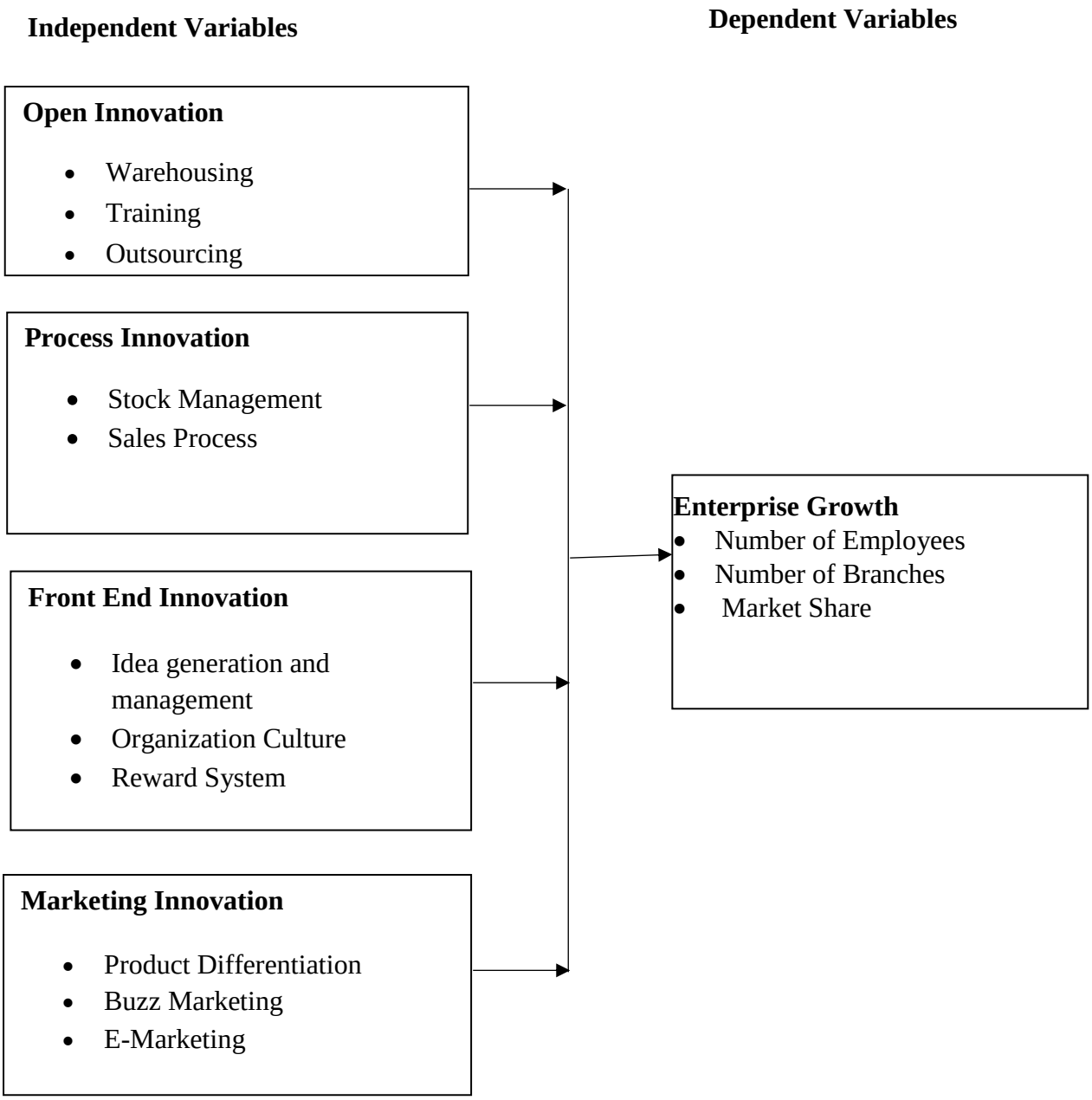

Figure 1: Conceptual Framework

2.3 Empirical Literature

This section covers the empirical literature on innovation and how it affects growth of micro and small pharmaceutical enterprises in Kenya. The section covers empirical literature in open innovation, process innovation, marketing innovation and front end innovation.

2.3.1 Open innovation

Open innovation scholars have focused on the need for focal organizations to transcend their boundaries by sourcing knowledge and technology externally. The underlying mechanisms for accessing external knowledge and fostering open innovation have, in turn, encompassed a range of alternatives including contests and tournaments, alliances and joint ventures, corporate venture capital, licensing, open source platforms, and participation in various development communities (von Hippel, 2005; von Hippel & von Krogh, 2003; Laursen & Salter, 2006).

Scholars have recently started to look at the governance implications of open innovation. In general, the findings suggest that increased linkages to and knowledge flows from various external partners, particularly in uncertain environments, will lead to improved innovation outcomes (West & Bogers, 2011). For example, Fey and Birkinshaw (2005; cf. Dahlander & Gann, 2010) argue and find that a firm's R&D and innovation performance will increase as more relational governance modes are utilized, such as Linkages to alliance partners and universities. In line with this argument, Keil et al (2008) also find that the increased use of various, more open governance forms—e.g., alliances, CVC investments, joint ventures —will lead to increased innovation outcomes for firms. The central intuition, whether we are talking about formal governance arrangements, or informal search (Ahuja and Lampert, 2001; Laursen and Salter, 2006; Tether & Tajar, 2008), is that an increase in the number of external linkages and breadth of search can have beneficial outcomes for organizations striving to innovate. Along these lines, Leiponen and Helfat (2010) also find that an increased number of external knowledge sources leads to increased innovation and better financial performance. Love et al, (2013) recently point to similar findings by highlighting how the "breadth of external innovation linkages" can lead to improved innovation outcomes.

Beyond this focus on the breadth or number of external ties, yet other studies have highlighted the benefits of interacting with specific external constituents, such as users and communities (Jeppesen & Frederiksen,2006; also see Chatterji & Fabrizio, 2014; Foss et al., 2011) or universities (Bercovitz & Feldman, 2007). While a case can certainly be made for the need for firms to draw on knowledge from external sources, as well as the need for more openness in innovative activities, the comparative and managerial governance implications of this argument are not quite as clear. The aforementioned work tends to focus on firm-level aggregates, for example, on how certain types or aggregate quantities of external linkages or governance modes can lead to increased innovation (Fey & Birkinshaw, 2005). But any advice or prescriptions based on firm-level aggregates (that is, for the firm as a whole to increasingly use more open governance modes can lead to mis-specified governance solutions at the micro level. After all, firms continue to exist and organizational boundaries remain highly relevant for activities that, for example, have a high level of asset specificity (Williamson, 1991).Thus a more fine-grained, nuanced and normative approach is needed, focused on the micro-level, comparative choices that managers face when innovating, with particular attention to when more open versus more closed forms—and vice versa—might be more beneficial. Thus our focus is on the respective benefits and costs of disparate open and closed forms of governance. In short, when should firms use specific open forms of governance versus when should they use alternative, more closed forms?

2.3.2 Process innovation

Process innovation means the implementation of a new or significantly improved production or delivery methods, including significant changes in techniques, equipment and/or software). Minor changes or improvements, an increase in production or service capabilities through the addition of manufacturing or logistical systems which are very similar to those already in use, ceasing to use a process, simple capital replacement or extension, changes resulting purely from changes in factor prices, customization, regular seasonal and other cyclical changes, trading of new or significantly improved products are not considered innovations.

A review of empirical studies reveal there is a close relationship between process and product innovation (Becker & Egger, 2007; Adner & Levinthal, 2001). Hence, product or service development and process development are closely related to each other. For instance, an important success factor of new product development (NPD) is optimizing the process of it as well. . Firms can develop new process either by themselves or with the help of outside firms (Polder et al., 2010). Firms bring process innovation to produce innovative products and amendments are also brought in their processes to produce new products (Adner & Levinthal, 2001). To decrease the production cost, firms go for process innovation. The process innovation is reflected by the cost of the product (Olson et al. 1995).

2.3.3 Front End Innovation

Research studies suggest that a firm should proactively manage and optimize the FEI to boost the chances of developing successful innovations (Reinertsen, 1999; Boeddrich, 2004). The ability to stimulate innovation is dependent on the stock of potential ideas, which are available to feed the new product development process (Brennan & Dooley, 2005). This emphasizes the importance of an effective process for idea generation and development also referred to as the front end on innovation (FEI). Empirical evidence reveals that the front end process has the largest potential for improving innovation at the least effort (Nobelius & Trygg, 2002; Perttula, 2004).

2.3.4 Marketing innovation

Marketing innovation is non technological innovation. Firms bring innovation in their marketing methods to bring efficiency in their business (Polder et al., 2010). According to Hurley and Hult (1998), entrepreneurs when faced with declining markets turn to marketing innovation strategies that seek to increase customer intimacy through differentiated market offerings. Marketing innovation is developing new techniques and methods for marketing. New techniques, methods and tools when used in for marketing have a significant role in the success of the organizations. Marketing innovation may involve changing of collecting customer's information through for instance using computer information. Online marketing innovation is known to have changed the way of doing business through the introduction of formats and stores such as Amazon and Paypal (Chen, 2020).

Marketing innovation strategies focus on implementing new marketing methods that involve significant changes in the packaging, design, placement and product promotion and pricing strategy. The objective of marketing innovation is to increase sales, market share and opening up new markets. Marketing innovations as opposed to other innovations entails the implementation of new marketing methods not applied in the firm before. The methods may

involve change in product design or appearance without changing product functionality or features and functionality (OECD, 2005).

According to a research on innovation in textile MSPE in Nairobi County it was revealed that most firms in the sector practiced innovative marketing to drive sales in a growing competitive market. The study revealed that there was a positive correlation between marketing innovation and business growth. The study further revealed that the textile firms owing to declining market for their products relied on marketing innovation to acquire new markets (Olazo, 2020). Marketing innovation has a positive relation with increased customer loyalty and therefore critical to firm performance.

According to a research on innovation in textile MSPE in Nairobi County it was revealed that most firms in the sector practiced innovative marketing to drive sales in a growing competitive market (Akawa, 2021). The study revealed that there was a positive correlation between marketing innovation and business growth. The study further revealed that the textile firms owing to declining market for their products relied on marketing innovation to acquire new markets (McCormick et al. 2007). Marketing innovation has a positive relation with increased customer loyalty and therefore critical to firm growth (Nyago'or, 1994).

3.0 Research Methodology

The research design that was adopted for this study was descriptive research design because it determines and reports the way things are (Mugenda & Mugenda, 2003). The study targeted SMPEs in Nairobi County that had been in operation for more than 5 years. Data from PPB (2011) indicate that of the 2563 registered SMPEs in Kenya, 1985 are in Nairobi County. OF the 1985, only 274 have been operating for more than five years, and these are the ones that formed the sampling flame. The study adopted systematic random sampling to determine the respondents. According to Kothari (2004) systematic random sampling provides equal or better precision than a simple random sample of the same size and as such 137 enterprises were used.

The primary data was collected using structured and semi-structured questionnaires that capture the variables of the study. A pilot study was conducted to establish the reliability and validity of the questionnaire.

The study applied both qualitative and quantitative approaches for data analysis. Qualitative data was analyzed through content analysis and presented in form of explanatory notes while quantitative data, was analyzed trough descriptive statistics such as frequencies, percentages, means and standard deviations and presented in the form of tables and charts. The study also employed a multiple linear regression analysis to establish the relationship between the independent and the dependent variables. The multiple linear regression equation was:

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

$Y = \beta_0 + B_1 X_1 + B_2 X_2 + B_3 X_3 + B_4 X_4 + \varepsilon$, Where,
Y = Growth of MSPE
β0 = constant (coefficient of intercept)
X_1 = open innovation
X_2 = process innovation
X_3 = front end innovation
X_4 = marketing innovation

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While β_1, β_2, β_3 and β_4 are coefficients of Xi variables and ε is the error term. The constant used in the model shall be used to estimate how the various form of innovation influence growth.

4.0 Findings and Discussions

This section discusses the data analysis as well as the interpretation of the findings. The general objective of the study was to determine the influence of innovation on growth of micro and small pharmaceutical enterprises in Kenya.

4.1 Response Rate

The sample size for the study comprised of 137 respondents comprising of SME owners. The researcher sampled 137 respondents who were each administered with the questionnaires. From the 137 questionnaires 131 were completely filled and returned hence a response rate of 95.6%. The response rate was considered as suitable for making inferences from the data collected.

4.2 Descriptive Statistics

This section discusses the level of agreement on various statements relating to open innovation, process innovation, front end innovation, marketing innovation and growth of Micro and Small Pharmaceutical Enterprises. A 5 point Likert scale was used where 1 symbolized strongly disagree, 2 symbolized disagree, 3 symbolized neutral, 4 symbolized agree and 5 symbolized strongly agree.

4.2.1 Open Innovation and Growth of Micro and Small Pharmaceutical Enterprises

From the results in Table below 1, the respondents agreed that they ensure collaboration with other partners to make bulky discounted purchases. This is supported by a mean of 3.968 (std. dv = 0.636). In addition, as shown by a mean of 3.830 (std. dv = 0.972), the respondents agreed that group transport for products from suppliers is cheaper. Further, the respondents agreed that use of stock management software from other companies to monitor stock enhances growth of SMEs. This is shown by a mean of 3.712 (std. dv = 1.005). The respondents also agreed that they have been able to adopt various practice from other dealers in the last one year. This is shown by a mean of 3.710 (std. dv = 0.608). With a mean of 3.673 (std. dv = 0.983), the respondents agreed that they are satisfied with the extent of open innovation in their firm.

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Table 1: Open Innovation and Growth of Micro and Small Pharmaceutical Enterprises

Statement	Mean	Std. Deviation
We ensure collaboration with other partners to make bulky discounted purchases	3.968	0.636
Group transport for products from suppliers is cheaper	3.830	0.972
Use of stock management software from other companies to monitor stock enhances growth of SMEs	3.712	1.005
Have been able to adopt various practice from other dealers in the last one year	3.710	0.608
I'm satisfied with the extent of open innovation in our firm	3.673	0.983
Aggregate	**3.718**	**0.873**

4.2.2 Process Innovation and Growth of Micro and Small Pharmaceutical Enterprises

From the results shown in Table 2, the respondents agreed that computerized sales management influences growth of micro and small pharmaceutical enterprises. This is supported by a mean of 3.818 (std. dv = 1.064). In addition, as shown by a mean of 3.779 (std. dv = 0.858), the respondents agreed that online order management facilitates growth of micro and small pharmaceutical enterprises. Further, the respondents agreed that computerized stores management system facilitates efficiency in operations. This is shown by a mean of 3.755 (std. dv = 0.902). With a mean of 3.688 (std. dv = 0.910), the respondents agreed that they are satisfied with the extent of process innovation in their SME.

Table 2: Process Innovation and Growth of Micro and Small Pharmaceutical Enterprises

	Mean	Std. Deviation
Computerized sales management influences growth of micro and small pharmaceutical enterprises	3.818	1.064
Online order management facilitates growth of micro and small pharmaceutical enterprises	3.779	0.858
Computerized stores management system facilitates efficiency in operations	3.755	0.902
I'm satisfied with the extent of process innovation in our SME	3.688	0.910
Aggregate	**3.722**	**0.841**

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4.2.3 Front End Innovation and Growth of Micro and Small Pharmaceutical Enterprises

The results in Table 3 show that the respondents agreed that presence of suggestion box helps customers to present their views. This is supported by a mean of 3.955 (std. dv = 0.850). In addition, as shown by a mean of 3.927 (std. dv = 0.658), the respondents agreed that online customer interaction helps in improving quality of products offered. Further, the respondents agreed that workers have committee that comes up with improved business operations. This is shown by a mean of 3.917 (std. dv = 0.974). As shown in the results, the respondents agreed that all packaging material have company contacts. This is shown by a mean of 3.837 (std. dv = 0.928). In addition, with a mean of 3.789 (std. dv = 0.865), the respondents agreed that, they are satisfied with the extent of front end innovation in our organization.

Table 3: Front End Innovation and Growth of Micro and Small Pharmaceutical Enterprises

	Mean	Std. Deviation
Presence of suggestion box helps customers to present their views	3.955	0.850
Online customer interaction helps in improving quality of products offered	3.927	0.658
Workers have committee that comes up with improved business operations	3.917	0.974
All packaging material have company contacts	3.837	0.928
I'm satisfied with the extent of front end innovation in our organization	3.789	0.865
Aggregate	**3.879**	**0.865**

4.2.4 Marketing Innovation and Growth of Micro and Small Pharmaceutical Enterprises

From Table 4, the results show that the respondents agreed that they have adopted new marketing strategies in the last three months. This is supported by a mean of 3.855 (std. dv = 0.902). In addition, as shown by a mean of 3.788 (std. dv = 1.010), the respondents agreed that they have redesigned their shop layout in the last six months. Further, the respondents agreed that product differentiation influences organization growth. This is shown by a mean of 3.730 (std. dv = 0.935). With a mean of 3.727 (std. dv = 0.935), the respondents agreed that they use online marketing (website) to market their products. Further, with a mean of 3.730 (std. dv = 0.935). With a mean of 3.698 (std. dv = 0.786), the respondents agreed that they have adopted various online marketing strategies to market their products. The respondents also agreed that their firm has grown as a result of market innovation strategies. This is shown by a mean of 3.654 (std. dv = 0.879).

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Table 4: Marketing Innovation and Growth of Micro and Small Pharmaceutical Enterprises

	Mean	Std. Deviation
We have adopted new marketing strategies in the last three months	3.855	0.902
We have redesigned our shop layout in the last six months	3.788	1.010
Product differentiation influences organization growth	3.730	0.935
We use online marketing (website) to market our products	3.727	0.935
We have adopted various online marketing strategies to market our products	3.698	0.786
Our firm has grown as a result of market innovation strategies	3.654	0.879
Aggregate	**3.739**	**0.867**

4.2.5 Growth of Micro and Small Pharmaceutical Enterprises

From the results in Table 5, the results, the respondents agreed that the market share of their SME has improved over the years. This is supported by a mean of 3.915 (std. dv = 0.776). In addition, as shown by a mean of 3.858 (std. dv = 0.636), the respondents agreed that the sales of their firm has significantly increased. Further, the respondents agreed that the profitability of their firm has improved over the years. This is shown by a mean of 3.710 (std. dv = 0.972). The respondents also agreed that they are satisfied with the growth rate of their firm. This is shown by a mean of 3.612 (std. dv = 1.005). With a mean of 3.552 (std. dv = 0.608), the respondents agreed that there are few complaints from their customers concerning quality of their products and services.

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Table 5: Growth of Micro and Small Pharmaceutical Enterprises

	Mean	Std. Deviation
The market share of our SME has improved over the years	3.915	0.776
The sales of our firm have significantly increased	3.858	0.636
The profitability of our firm has improved over the years	3.710	0.972
I'm satisfied with the growth rate of our firm	3.612	1.005
There are few complaints from our customers concerning quality of our products and services	3.552	0.608
Aggregate	**3.754**	**0.786**

4.3 Inferential Statistics

Inferential statistics such as correlation analysis and regression analysis were used to assess the relationships between the independent variables (open innovation, process innovation, front end innovation and marketing innovation) and the dependent variable (growth of micro and small pharmaceutical enterprises in Kenya).

4.2.1 Correlation Analysis

This research adopted Pearson correlation analysis determine how the dependent variable (growth of micro and small pharmaceutical enterprises in Kenya) relates with the independent variables (open innovation, process innovation, front end innovation and marketing innovation). The findings were as depicted in Table 6.

From the results, there was a very strong relationship between open innovation and growth of micro and small pharmaceutical enterprises in Kenya (r = 0.811, p value =0.000). The relationship was significant since the p value 0.000 was less than 0.05 (significant level). The findings are in line with the findings of Keil *et al.*, (2018) who indicated that there is a very strong relationship between open innovation and firm performance.

Moreover, there was a very strong relationship between process innovation and the growth of micro and small pharmaceutical enterprises in Kenya (r = 0.830, p value =0.001). The relationship was significant since the p value 0.001 was less than 0.05 (significant level). The findings are in line with the findings of Polder *et al*., (2016) who indicated that there is a very strong relationship between process innovation and firm performance.

Further, there was a very strong relationship between front end innovation and growth of micro and small pharmaceutical enterprises in Kenya (r = 0.828, p value =0.002). The relationship was significant since the p value 0.002 was less than 0.05 (significant level). The findings are in line with the findings of Backman, (2017) who indicated that there is a very strong relationship between front end innovation and firm performance.

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The results also revealed that there was a very strong relationship between marketing innovation and growth of micro and small pharmaceutical enterprises in Kenya (r = 0.855, p value =0.001). The relationship was significant since the p value 0.001 was less than 0.05 (significant level). The findings are in line with the findings of Polder *et al.*, (2018) who indicated that there is a very strong relationship between marketing innovation and firm performance.

Table 6: Correlation Coefficients

		Firm Performance	Open Innovation	Process Innovation	Front end Innovation	Marketing Innovation
Firm Performance	Pearson Correlation	1.000				
	Sig. (2-tailed)					
Open Innovation	Pearson Correlation	.811**	1.000			
	Sig. (2-tailed)	.000				
Process Innovation	Pearson Correlation	.830**	.297	1.000		
	Sig. (2-tailed)	.001	.060			
Front end Innovation	Pearson Correlation	.828**	.382	.281	1.000	
	Sig. (2-tailed)	.002	.070	.076		
Marketing Innovation	Pearson Correlation	.855**	.199	.195	.280	1.000
	Sig. (2-tailed)	.001	.079	.081	.071	

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

4.2.2 Regression Analysis

Multivariate regression analysis was used to assess the relationship between independent variables (open innovation, process innovation, front end innovation and marketing innovation) and the dependent variable (growth of micro and small pharmaceutical enterprises in Kenya).

The model summary was used to explain the variation in the dependent variable that could be explained by the independent variables. The r-squared for the relationship between the independent variables and the dependent variable was 0.851. This implied that 85.1% of the variation in the dependent variable (growth of micro and small pharmaceutical enterprises in Kenya) could be explained by independent variables (open innovation, process innovation, front end innovation and marketing innovation).

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Table 7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.923[a]	.851	.853	.10482

a. Predictors: (Constant), Open Innovation, Process Innovation, Front End Innovation and Marketing Innovation

The ANOVA was used to determine whether the model was a good fit for the data. F calculated was 937.76 while the F critical was 2.445. The p value was 0.002. Since the F-calculated was greater than the F-critical and the p value 0.002 was less than 0.05, the model was considered as a good fit for the data. Therefore, the model can be used to predict the influence of open innovation, process innovation, front end innovation and marketing innovation on growth of micro and small pharmaceutical enterprises in Kenya.

Table 8: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	102.028	4	25.507	937.76	.002[b]
	Residual	33.668	124	.0272		
	Total	135.696	130			

a. Dependent Variable: Growth of micro and small pharmaceutical enterprises

b. Predictors: (Constant), open innovation, process innovation, front end innovation and marketing innovation

The regression model was as follows:

$$\mathbf{Y = 0.342 + 0.397X_1 + 0.387X_2 + 0.339X_3 + 0.318X_4}$$

According to the results, open innovation has a significant effect on growth of micro and small pharmaceutical enterprises in Kenya β_1=0.397, p value= 0.000). The relationship was considered significant since the p value 0.000 was less than the significant level of 0.05. The findings are in line with the findings of Keil *et al.,* (2018) who indicated that there is a very strong relationship between open innovation and firm performance.

The results also revealed that process innovation has a significant effect on growth of micro and small pharmaceutical enterprises in Kenya, β_2=0.387, p value= 0.001). The relationship was considered significant since the p value 0.001 was less than the significant level of 0.05. The findings are in line with the findings of Polder *et al*., (2016) who indicated that there is a very strong relationship between process innovation and firm performance

Furthermore, the results revealed that front end innovation has a significant effect on growth of micro and small pharmaceutical enterprises in Kenya β_3=0.339, p value= 0.002). The relationship was considered significant since the p value 0.002 was less than the significant level of 0.05. The findings are in line with the findings of Backman, (2017) who indicated that there is a very strong relationship between front end innovation and firm performance.

In addition, the results revealed that marketing innovation has a significant effect on the growth of micro and small pharmaceutical enterprises in Kenya β_4=0.318, p value= 0.003). The relationship was considered significant since the p value 0.003 was less than the significant level of 0.05. The findings are in line with the findings of Polder *et al.*, (2018) who indicated that there is a very strong relationship between marketing innovation and firm performance.

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Table 9: Regression Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.342	0.089		3.843	0.002
Open Innovation	0.397	0.097	0.398	4.093	0.000
Process Innovation	0.387	0.097	0.389	3.990	0.001
Front End Innovation	0.339	0.094	0.340	3.606	0.002
Marketing Innovation	0.318	0.091	0.319	3.495	0.003

5.0 Conclusions

The study concludes that open innovation has a positive and significant effect on growth of micro and small pharmaceutical enterprises in Kenya. Findings revealed that warehousing, trainings and outsourcing influences growth of micro and small pharmaceutical enterprises in Kenya.

In addition, the study concludes that process innovation has a positive and significant effect on growth of micro and small pharmaceutical enterprises in Kenya. Findings revealed that stock management, sales process and purchase process influences growth of micro and small pharmaceutical enterprises in Kenya.

Further, the study concludes that front end innovation has a positive and significant effect on growth of micro and small pharmaceutical enterprises in Kenya. Findings revealed that idea generation and management, organization culture and reward system influences growth of micro and small pharmaceutical enterprises in Kenya.

The study also concludes that market innovation has a positive and significant effect on growth of micro and small pharmaceutical enterprises in Kenya. Findings revealed that product differentiation, buzz marketing and e-marketing influences growth of micro and small pharmaceutical enterprises in Kenya.

6.0 Recommendations

The study found that open innovation has a positive and significant effect on growth of micro and small pharmaceutical enterprises in Kenya. This study therefore recommends that the management of micro and small pharmaceutical enterprises should encourage open innovation to ensure maximum utilization of resources and minimize wastage.

Further, the study found that process innovation has a positive and significant effect on growth of micro and small pharmaceutical enterprises in Kenya. This study therefore recommends that the management of micro and small pharmaceutical enterprises should ensure effectiveness in stock management, sales process and purchase process.

In addition, the study found that front end innovation has a positive and significant effect on growth of micro and small pharmaceutical enterprises in Kenya. This study therefore recommends that the management of micro and small pharmaceutical enterprises should encourage creativity and innovation among employees to improve firm performance.

The study also found that market innovation has a positive and significant effect on growth of micro and small pharmaceutical enterprises in Kenya. This study therefore recommends that

the management of micro and small pharmaceutical enterprises should formulate and implement effective marketing strategies to increase the sales of their firm.

REFERENCES

Achtenhagen, L., Naldi, L., & Melin, L. (2010). "Business growth"—Do practitioners and scholars really talk about the same thing?. *Entrepreneurship theory and practice*, *34*(2), 289-316. https://doi.org/10.1111/j.1540-6520.2010.00376.x

Adner, R., & Levinthal, D. (2001). Demand heterogeneity and technology evolution: implications for product and process innovation. *Management science*, *47*(5), 611-628. https://doi.org/10.1287/mnsc.47.5.611.10482

Aghion, P., & Howitt, P. (1992). mA Model of Growth through Creative Destruction, nEconometrica. https://doi.org/10.2307/2951599

Ahuja, G., & Morris Lampert, C. (2001). Entrepreneurship in the large corporation: A longitudinal study of how established firms create breakthrough inventions. *Strategic management journal*, *22*(6-7), 521-543. https://doi.org/10.1002/smj.176

Andersen, B. (2004). If 'intellectual property rights' is the answer, what is the question? Revisiting the patent controversies. *Economics of innovation and new technology*, *13*(5), 417-442. https://doi.org/10.1080/1043859042000188692

Anderson, B. S., & Eshima, Y. (2013). The influence of firm age and intangible resources on the relationship between entrepreneurial orientation and firm growth among Japanese SMEs. *Journal of business venturing*, *28*(3), 413-429. https://doi.org/10.1016/j.jbusvent.2011.10.001

Andrew, H. F. (2015). Corporate social responsibility an open systems perspective. *Academy of Strategic Management Journal*, *14*(2), 49. https://doi.org/10.1007/978-3-658-06794-6_3

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of management*, *17*(1), 99-120. https://doi.org/10.1177/014920639101700108

Barney, J. B., & Clark, D. N. (2007). *Resource-based theory: Creating and sustaining competitive advantage*. OUP Oxford.

Becker, M., & Knudsen, T. (2012). Nelson and Winter revisited. In *Handbook on the Economics and Theory of the Firm*. Edward Elgar Publishing.

Becker, S. O., & Egger, P. H. (2007). *Employment Effects of Product and Process Innovations*. mimeo.

Bercovitz, J. E., & Feldman, M. P. (2007). Fishing upstream: Firm innovation strategy and university research alliances. *Research policy*, *36*(7), 930-948. https://doi.org/10.1016/j.respol.2007.03.002

Boeddrich, H. J. (2004). Ideas in the workplace: a new approach towards organizing the fuzzy front end of the innovation process. *Creativity and innovation management*, *13*(4), 274-285. https://doi.org/10.1111/j.0963-1690.2004.00316.x

Brennan, A., & Dooley, L. (2005). Networked creativity: a structured management framework for stimulating innovation. *Technovation*, *25*(12), 1388-1399. https://doi.org/10.1016/j.technovation.2004.08.001

Chatterji, A. K., & Fabrizio, K. R. (2014). Using users: When does external knowledge enhance corporate product innovation?. *Strategic Management Journal*, *35*(10), 1427-1445. https://doi.org/10.1002/smj.2168

Chen, S. (2020). *Towards secure communication and authentication: Provable security analysis and new constructions* (Doctoral dissertation, Georgia Institute of Technology).

Chesbrough, H., Vanhaverbeke, W., & West, J. (Eds.). (2006). *Open innovation: Researching a new paradigm*. Oxford University Press on Demand.

Dahlander, L., & Gann, D. M. (2010). How open is innovation?. *Research policy*, *39*(6), 699-709. https://doi.org/10.1016/j.respol.2010.01.013

Drejer, I. (2004). Identifying innovation in surveys of services: a Schumpeterian perspective. *Research policy*, *33*(3), 551-562. https://doi.org/10.1016/j.respol.2003.07.004

Eisenhardt, K. M., Furr, N. R., & Bingham, C. B. (2010). CROSSROADS—Microfoundations of performance: Balancing efficiency and flexibility in dynamic environments. *Organization science*, *21*(6), 1263-1273. https://doi.org/10.1287/orsc.1100.0564

Fey, C. F., & Birkinshaw, J. (2005). External sources of knowledge, governance mode, and R&D performance. *Journal of Management*, *31*(4), 597-621. https://doi.org/10.1177/0149206304272346

Foss, N. J., Laursen, K., & Pedersen, T. (2011). Linking customer interaction and innovation: The mediating role of new organizational practices. *Organization science*, *22*(4), 980-999. https://doi.org/10.1287/orsc.1100.0584

Frost, W., & Sullivan, P. (2015). The 2015 Global Information Security Workforce Study.

Garikai, B. W. (2011). Exportation challenges by small and medium enterprises and possible exportation strategies. *Journal of Finance*, *95*(18), 105-126.

Hakkert, R., & Kemp, R. G. M. (2006). An Ambition to Grow. *Netherlands, Zoetemeer, Scales*, (s 26), 27.

Hellriegel, D., Slocum, J. W., & Woodman, R. W. (2001). Organization behavior. *South Western Collage Publishing*.

Hippel, E. V., & Krogh, G. V. (2003). Open source software and the "private-collective" innovation model: Issues for organization science. *Organization science*, *14*(2), 209-223. https://doi.org/10.1287/orsc.14.2.209.14992

Hurley, R. F., & Hult, G. T. M. (1998). Innovation, market orientation, and organizational learning: an integration and empirical examination. *Journal of marketing*, *62*(3), 42-54. https://doi.org/10.1177/002224299806200303

Iqbal, S., Rasheed, M., Khan, H., & Siddiqi, A. (2020). Human resource practices and organizational innovation capability: role of knowledge management. *VINE Journal of Information and Knowledge Management Systems*. https://doi.org/10.1108/VJIKMS-02-2020-0033

Jaworski, B. J., & Kohli, A. K. (1993). Market orientation: antecedents and consequences. *Journal of marketing*, *57*(3), 53-70. https://doi.org/10.1177/002224299305700304

Jeppesen, L. B., & Frederiksen, L. (2006). Why do users contribute to firm-hosted user communities? The case of computer-controlled music instruments. *Organization science*, *17*(1), 45-63. https://doi.org/10.1287/orsc.1050.0156

Johns, G. (1996). *Organizational behavior: Understanding and managing life at work*. HarperCollins College Publishers.

Kamendi, B. (2016). The Role of entrepreneurial orientation on the growth of small and medium enterprises in Nairobi County. *Unpublished Masters Dissertation. University of Nairobi*.

Keil, T., Maula, M., Schildt, H., & Zahra, S. A. (2008). The effect of governance modes and relatedness of external business development activities on innovative performance. *Strategic management journal*, *29*(8), 895-907. https://doi.org/10.1002/smj.672

Kinoti, J. T. (2013). *E-procurement adoption by government parastatals in Kenya: the supplier perspective* (Doctoral dissertation, University of Nairobi).

Kothari, C. R. (2004). *Research methodology: Methods and techniques*. New Age International.

Kraaijenbrink, J., Spender, J. C., & Groen, A. J. (2010). The resource-based view: A review and assessment of its critiques. *Journal of management*, *36*(1), 349-372. https://doi.org/10.1177/0149206309350775

Kreitner, R., & Kinicki, A. (1998). *Organizational behavior*. Irwin/McGraw-Hill.

Lahovnik, M., & Breznik, L. (2014). Technological innovation capabilities as a source of competitive advantage: A case study from the home appliance industry. *Transformations in business & economics*, *13*(2), 144-160.

Laursen, K., & Salter, A. (2006). Open for innovation: the role of openness in explaining innovation performance among UK manufacturing firms. *Strategic management journal*, *27*(2), 131-150. https://doi.org/10.1002/smj.507

Lee, R., & Mason, A. (2010). Fertility, human capital, and economic growth over the demographic transition. *European Journal of Population/Revue européenne de Démographie*, *26*(2), 159-182. https://doi.org/10.1007/s10680-009-9186-x

Leiponen, A., & Helfat, C. E. (2010). Innovation objectives, knowledge sources, and the benefits of breadth. *Strategic management journal*, *31*(2), 224-236. https://doi.org/10.1002/smj.807

Love, J., & Roper, S. (2013). SME innovation, exporting and growth. *Enterprise Research Centre*, *5*, 1-56.

McCormick, K., & Kautto, N. (2013). The bioeconomy in Europe: An overview. *Sustainability*, *5*(6), 2589-2608. https://doi.org/10.3390/su5062589

McDaniel, M. A. (2005). Big-brained people are smarter: A meta-analysis of the relationship between in vivo brain volume and intelligence. *Intelligence*, *33*(4), 337-346. https://doi.org/10.1016/j.intell.2004.11.005

Mugenda, A. (2008). Social science research: Conception, methodology and analysis. *Nairobi: Kenya Applied Research and Training Services*, *10*(1).

Mugenda, O. M., & Mugenda, A. G. (2003). Research methods: Quantitative and. *Qualitative. Approaches. Nairobi; African Centre for Technology Studies*.

Ndalira, D. W., Ngugi, J. K., & Chepkulei, B. (2013). Effect of the type of innovation on the growth of small and medium enterprises in Kenya: a case of garment enterprises in Jericho, Nairobi. *European Journal of Management Sciences and Economics Vol*, *1*(2).

Nelson, R. R., & Winter, S. G. (1982). The Schumpeterian tradeoff revisited. *The American Economic Review*, *72*(1), 114-132.

Nickell, S. J. (1996). Competition and corporate performance. *Journal of political economy*, *104*(4), 724-746. https://doi.org/10.1086/262040

Nobelius, D., & Trygg, L. (2002). Stop chasing the front end process—management of the early phases in product development projects. *International Journal of Project Management*, *20*(5), 331-340. https://doi.org/10.1016/S0263-7863(01)00030-8

Obakiro, S. B., Kiprop, A., Kowino, I., Kigondu, E., Odero, M. P., Omara, T., & Bunalema, L. (2020). Ethnobotany, ethnopharmacology, and phytochemistry of traditional medicinal plants used in the management of symptoms of tuberculosis in East Africa: a systematic review. *Tropical Medicine and Health*, *48*(1), 1-21. https://doi.org/10.1186/s41182-020-00256-1

Olazo, D. (2020). The Mediating Role of Marketing Innovation to the Marketing Competence and Sustainable Competitive Advantage of the Selected Small and Medium Enterprises. *Philippine Academy of Management E-Journal*, *4*(1), 73-89.

Olson, E. M., Walker Jr, O. C., & Ruekert, R. W. (1995). Organizing for effective new product development: The moderating role of product innovativeness. *Journal of marketing*, *59*(1), 48-62. https://doi.org/10.1177/002224299505900105

Perttula, K. H. (2004). *The POW factor: Understanding and igniting passion for one's work*. University of Southern California.

Polder, M., Leeuwen, G. V., Mohnen, P., & Raymond, W. (2010). Product, process and organizational innovation: drivers, complementarity and productivity effects. *CIRANO-scientific publications 2010s-28*. https://doi.org/10.2139/ssrn.1626805

Prahalad, D. (2013). Design Strategy for the Bottom of the Pyramid. In *Social Innovation* (pp. 131-144). Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-36540-9_12

Reinertsen, D. G. (1999). Taking the fuzziness out of the fuzzy front end. *Research-Technology Management*, *42*(6), 25-31. https://doi.org/10.1080/08956308.1999.11671314

Roos, G., & Roos, J. (1997). Measuring your company's intellectual performance. *Long range planning*, *30*(3), 413-426. https://doi.org/10.1016/S0024-6301(97)90260-0

Schumpeter, J. A., & Nichol, A. J. (1934). Robinson's economics of imperfect competition. *Journal of political economy*, *42*(2), 249-259. https://doi.org/10.1086/254595

Swedberg, R. (2000). Afterword: The role of the market in Max Weber's work. *Theory and Society*, *29*(3), 373-384. https://doi.org/10.1023/A:1007056722175

Tether, B. S., & Tajar, A. (2008). Beyond industry–university links: Sourcing knowledge for innovation from consultants, private research organisations and the public science-base. *Research Policy*, *37*(6-7), 1079-1095. https://doi.org/10.1016/j.respol.2008.04.003

Von Hippel, E. (2005). Democratizing innovation: The evolving phenomenon of user innovation. *Journal für Betriebswirtschaft*, *55*(1), 63-78. https://doi.org/10.1007/s11301-004-0002-8

Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic management journal*, *5*(2), 171-180. https://doi.org/10.1002/smj.4250050207

West, J., & Bogers, M. (2011). Profiting from external innovation: A review of research on open innovation. *Available at SSRN 1949520*. https://doi.org/10.2139/ssrn.1949520

Williamson, O. E. (1991). Comparative economic organization: The analysis of discrete structural alternatives. *Administrative science quarterly*, 269-296. https://doi.org/10.2307/2393356

Woodman, G. F. (2010). A brief introduction to the use of event-related potentials in studies of perception and attention. *Attention, Perception, & Psychophysics*, *72*(8), 2031-2046. https://doi.org/10.3758/BF03196680

Zheng, D., Chen, J., Huang, L., & Zhang, C. (2013). E-government adoption in public administration organizations: integrating institutional theory perspective and resource-based view. *European Journal of Information Systems*, *22*(2), 221-234. https://doi.org/10.1057/ejis.2012.28