New paradigms on performance of SMEs: The reflection on entrepreneurial innovation in Burundi

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ABSTRACT

Small and medium enterprises are major players in the competition and growth of economies. They have been accelerating changes towards achieving Burundi's vision 2025. Even so, they have experienced numerous challenges which hinder their performance. Those obstacles can be improved by adopting entrepreneurial innovation as a strategy. The focus of this paper was to examine how entrepreneurial innovation affects the performance of small and medium enterprises in Bujumbura, Burundi. The resource-based view and dynamic capability theory were the main theories. This study used positivism as a research philosophy. An explanatory research design was employed on a sample size of 164 small and medium enterprises selected from the target population of 279 small and medium enterprises in Bujumbura, Burundi. The study found that process, organizational, and market innovation all had a significant effect on the performance of small and medium enterprises, while product innovation had no effect. The study recommends that small and medium business owners and managers should focus their efforts on establishing entrepreneurial innovation such as process, organizational, and market innovation to improve their performance and acquire a long-term competitive edge.

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Introduction

The significance of small and medium-sized enterprises (SMEs) to the economy has been noted in different studies, including by Shahjahan (2018). Shahjahan asserted that enterprises with fewer than 20 employees have increased job creation in the United States since 1963. Small and medium enterprises are main players in the competition and growth of economies, and therefore, are considered the core of innovation activities worldwide.

SMEs are estimated to be more than 95%, offering over 60% of the employment opportunities in the private sector. In developed economies, they contribute to around 64% of the GDP (Muathe & Muraguri-Makau, 2020). SMEs have provided 1.5 million jobs between 2009 to June 2014 in Bangladesh (Iqbal & Rahman, 2015). In eastern African countries such as Kenya, 80% of companies are SMEs and contribute approximately 40% of GDP (KNBS, 2016).

Therefore, different governments have initiated several programs to boost entrepreneurship. SMEs are recognized as key factors or drivers of social and economic development, employment, and wealth creation; creating competition due to their generous contributions to the economy. They keep innovating to offer chances for enhancing and adopting suitable technology (Subrahmanyam, Mathirajan & Krishnaswamy, 2010).

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In Burundi, the SME sector has been accelerating changes towards achieving Burundi's vision 2025 under the objective of developing a strong and competitive economy, as this sector generates revenue for the government, creates new employment opportunities, and reduces unemployment, poverty, and income inequality (Gilbert, 2017).

Small and medium enterprises have been experiencing numerous challenges, including competition from established larger companies and multinationals, restricted financial resources, saturated markets, and stringent legal regulations (Bizimungu, 2016). According to the private sector development strategy (PSDS) in Burundi, the SME sector mainly made of manufacturing, services, and commerce (ISTEEBU, 2021) has contributed 13% of the GDP for 2014-2020. Despite the expected 50% contribution of SMEs to GDP by 2025, their performance has not been realized to its full potential, thus hindering their contribution to socio-economic development.

Entrepreneurs must devise strategies that would contribute to their businesses' development and increase their performance so that the sector can continue to play a vital role in national development (Kiraka, 2009; KAM, 2012). Entrepreneurial innovation is accepted as a major key to promote corporate performance. The capability of SMEs to innovate for change and satisfy the demands of their customers' markets is considered a good competitive advantage (Kiveu, Namusonge & Muathe, 2019). Camison and Lopez (2010) observed how entrepreneurial innovation is key when improving the performance of firms. Entrepreneurial innovation takes different forms such as product, process, organizational, and market innovation.

Previous studies on innovation found the effect of different aspects of innovation on the performance of SMEs. Kiveu, Namusonge, and Muathe (2019) stated that for manufacturing firms in Kenya to be competitive, they must develop the process, marketing, and organizational innovation. Nonetheless, the study found that product innovation was not significant. This study focused on Kenya, a different environment from Burundi. It examined innovation in the context of competitiveness. Schumpeter (1934) reported that product innovation involves bringing new goods to the market that are unfamiliar to consumers and of higher quality. According to Hult, Hurley, and Knight (2004), product innovation affects performance positively as it protects the company from competition and market threats. Process innovation is a method of improving a firm's internal operations. It can take several forms, including the development or creation of techniques and systems. For instance, technology innovation, expertise, and methods are utilized in transforming or producing a product (Oke, Burke & Myers, 2007). Process innovation contributes significantly to improving the efficacy and efficiency of a company's operations (Rosil & Sidek, 2013).

Organizational innovation entails incorporating new organizational methods into a firm's business operations to improve performance. These methods include introducing new ways of organizing work and practices and developing new methods of building relationships (OECD, 2005). Abdullah and Yusoff (2016) found that firms that prioritized organizational innovation were in a position to perform higher than firms that were not focused on that. Market innovation is the improvement or creation of a marketing strategy (John, 1999). For example, the internet allows businesses to reach customers worldwide at a lower cost and shorter time. As indicated by Rodriguez-Cano (2004) firms must engage in market innovation to meet the market demands.

This study contributes to the study knowledge by considering different aspects of entrepreneurial innovation, such as the effect of product innovation, process innovation, organizational innovation, and market innovation. Most of the previous researchers did not consider all those aspects at once. Most of them overlooked one or two of those aspects when conducting research. Most of the previous research considered RBV theory and Schumpeter's theory of innovation only. This study contributes to the research by providing theories that support the study's hypotheses. The primary theory, RBV theory, discusses how entrepreneurial innovation is a capability that allows firms to create and combine resources by providing means for the firm to achieve higher performance.

The dynamic capability theory goes beyond the concept of sustainable competitive advantage and supports the RBV theory. The theory discusses responding to a quickly changing environment by combining, developing, assembling, and restructuring internal and external resources. Finally, Schumpeter's theory examines the importance of entrepreneurial innovation in enhancing business performance and economic development and defining various forms of innovation that may be used to generate value.

This study aims to investigate the effects of entrepreneurial innovation (product, process, organizational, and market innovation) on the performance of small and medium enterprises in Bujumbura, Burundi using an explanatory research design on a sample size of 164 SMEs selected from the target population of 279 SMEs in Bujumbura, Burundi. Primary data were collected using a semi-structured questionnaire. Data were analyzed using descriptive statistics and inferential statistics.

Literature Review

Theoretical Review

The Resource-Based View Theory

Developed by Edith Penrose (1959), this theory proposed that capabilities are the knowledge employed by a firm to organize and to put resources into its unique identity and productivity which includes the firm's structure and operations, and hence, resources and capabilities are fundamental. According to the RBV theory, for the development or performance of any company, resources must be allocated in a way that can be transformed into the company's special qualities.

The theory is primarily predicated on four assumptions: heterogeneous, immobile, inimitable, and non-substitutable. Heterogeneous provides insight into various organizations' talents, competencies, and other resources. Immobility highlights resources that do not move quickly from one firm to another, such as intangible resources. Companies cannot replicate the resources, skills, and competencies used by their competitors due to these circumstances. According to Bowman and Ambrosini (2003), firms can use resources that are valuable, difficult to copy, inimitable, and irreplaceable, to gain a competitive advantage and improve efficiency, a viable strategy for surviving.

Innovation provides a means for a firm to achieve higher performance by producing outputs with valuable, rare, inimitable, and non-substitutable (VRIN) characteristics (OECD, 2009). Rumelt (1987) reported that RBV is an outstanding theory in innovation and competition since it improves performance. Entrepreneurial innovation is a capability that allows businesses to build and combine resources to bring new heterogeneous resources. Product quality can evolve due to innovation, resulting in improved performance and competitive advantage for companies. Entrepreneurial innovation takes different forms. For instance, process, product, organizational, and market innovation can enable a firm to outperform its rivals when properly used. According to Eisenhardt and Martin (2000), the RBV hypothesis has some flaws, such as neglecting external elements that contribute to the venture's success, such as consumers and regulations because no firm can succeed without them. RBV is entirely focused on internal causes. Entrepreneurs must be able to invest resources in true mass production to prosper and outperform their competitors, according to Barney, Wright, and Ketchen (2001) and Mckelvie and Davidson (2009).

Dynamic Capabilities Theory

Teece, Pisano, and Shuen (1997) developed the theory which examines how organizations attain sustained competitiveness or greater performance in a changing and dynamic environment, and it arose as a result of the resource-based theory's constraints. Dynamic Capabilities theory supports the RBV theory and goes beyond the idea of a sustainable competitive advantage which is all about VRIN resources that businesses must acquire (Dushime, Muathe & Kavindah, 2021). Entrepreneurship, innovation, organizational learning, knowledge, and change management are all covered in this approach (Teece, 2010). Dynamic capabilities indicate the skills of the company of behaving towards the changing environment while developing innovative products to respond to the changing market conditions (Muithya & Muathe, 2020). Within a rapidly changing environment when a firm needs to perform and sustain, the dynamic capabilities help the firm to use its resources efficiently and innovation is among those critical capabilities (Sok, O'Cass & Sok, 2013). The theory shows how SMEs that work in dynamic environments should increase the chances for survival as well as growth, they must enhance their dynamic capabilities (Cepeda & Vera, 2007). The theory gives a broad view of how SMEs can create value to increase their performance (Muithya & Muathe, 2020).

Schumpeter's Theory of Innovation

Joseph Schumpeter (1911) originated and promoted Schumpeter's theory of innovation which explains the importance of entrepreneurship and innovation in economic growth. Joseph Schumpeter explained that an entrepreneur is an agent of innovation as well as a pivot of change (Schumpeter, 1934). Schumpeter established different innovation aspects which promote economic development, and these include; "establishing new or changing existing products; the use of new production methods, the development of different market approaches, and the setting up of a different industrial design" (Schumpeter, 1934). Therefore, innovation is unique instrument entrepreneurs utilize to bring up opportunities for different products or services. The theory explains the importance of innovation and its main purpose of establishing new products that give entrepreneurs a competitive edge compared to their rivals. Schumpeter (1942) showed that the reason behind better performance in terms of profits and investments is innovation, and the theory supports that by showing that businesses' profits performance can be gotten through entrepreneurial innovation. That's why innovation is a vital factor for growing the economy and the gain of competitive advantage for businesses.

Empirical Review and Hypothesis Development

Previous studies on innovation found the effect of different aspects of innovation on the performance of SMEs. In consonance with Nazlina (2016), they asserted that to achieve optimal performance within an organization, there is a need to adopt organizational innovation. The researchers used a descriptive design which is a weak design that observes only the behavior of organizational innovation and the performance of the organization. Kiveu, Namusonge, and Muathe (2019) stated that for manufacturing firms in Kenya to be competitive, they must develop the process, marketing, and organizational innovation. Nonetheless, the study found that product innovation was not significant. This study focused on Kenya, a different environment from Burundi. It examined innovation in the context of competitiveness. According to Camison and Lopez (2014), the performance of SMEs tends to improve as new products enter the market. In a fast-changing environment, product innovation establishes a competitive edge. The study concluded that product innovation can help firms acquire a competitive advantage, but the effect of product innovation was not assessed in the context of performance.

In contrast, Mensah and Acquah (2015) conducted a study in the metropolis of Sekondi- Takoradi and acclaimed that product innovation was positive, however not significant to the organizational performance of SMEs. They recommended SME managers focus on applying innovative activities in their companies as the results observed that innovation was responsible for more than 51% of the changes in organizational performance. Since Mensah and Acquah (2015) utilized a survey research design and the data were analyzed quantitatively, the current study analyzed the data both qualitatively and quantitatively, since qualitative data supplements

quantitative data, and in this study, an explanatory research design was used. Process innovation contributes significantly to improving the efficacy and efficiency of a company's operations. According to a study conducted in Malaysia, Rosil and Sidek (2013) observed that product innovation and process innovation significantly affect the performance of firms, although the effect of process innovation was not very strong compared to the effect of product innovation. Martin and Namusonge (2014) reported in the study carried out in Kenya, that for SMEs to perform, they have to introduce process innovation.

In addition to the findings by Martin and Namusonge (2014), John and Kithae (2020) carried out a study in Nairobi County, Kenya. They found the same results, but the study considered market innovation also, as an aspect that can improve performance and entrepreneurship. The two studies used a descriptive research design, a weak design that only explains the behavior or characteristics of the study variables. However, in this study, an explanatory research design was utilized which is more committed to bringing up causal relationships between the study variables. Organizational innovation entails incorporating new organizational methods into a firm's business operations to improve performance. Salim and Sulaiman (2011) conducted a study of Malaysian information and communication technology companies and advised firms to adopt innovative strategies such as organizational innovation to outperform their competitors, observing that firms that perform well are consistent with organizational innovation. The study was conducted in Malaysia, whereas this study was carried out in Burundi. The study by Abdullah and Yusoff (2016), supported by the observations made by Salim and Sulaiman, had the same finding that the more innovative activities organizations undertake, the more they can enhance their performance. The study also found that firms that prioritized organizational innovation were in a position to perform higher than firms that were not focused on organizational innovation. Market innovation is the improvement or creation of a marketing strategy (John, 1999). The study of John and Kithae (2020) discovered that when consumers' needs change, SMEs should adjust their plans to include market innovation activities to be more responsive. Regardless, the study utilized a descriptive research design which is a poor design, it only explains the behavior or features of the study variables. The present study employed an explanatory research design to demonstrate a causal link between them. The effect of innovation was not examined in the context of performance, and therefore, the dependent variables differed. In the state of Guanajuato in Mexico, Valdez-Bocanegra, Maldonado-Guzman, and Valdez-Gonzalez (2020) argued that competition of firms depends on the adoption of marketing, process, product, and management innovation. These are critical when comparing the financial performance or the purchasing costs with the sector's average or in terms of technology. They found that for the manufacturing industry of Guanajuato, there is an effect of management, process, marketing, and product innovation on competitiveness.

The studies reviewed present contextual, conceptual, and methodological research gaps and the limitation of not addressing the outcomes of entrepreneurial innovation's effect on SME performance in Bujumbura, Burundi. Based on those research gaps identified several hypotheses were drawn.

H₀₁: Product innovation has no significant effect on the performance of Small and Medium Enterprises in Bujumbura, Burundi.

H₀₂: Process innovation has no significant effect on the performance of Small and Medium Enterprises in Bujumbura, Burundi.

H₀₃: Organizational innovation has no significant effect on the performance of Small and Medium Enterprises in Bujumbura, Burundi.

H₀₄: Market innovation has no significant effect on the performance of Small and Medium Enterprises in Bujumbura, Burundi.

Research and Methodology

This study used positivism as a research philosophy. An explanatory research design was employed on a sample size of 164 SMEs selected from the target population of 279 SMEs in Bujumbura, Burundi. An explanatory research design was used since this design aims at bringing out causal effect relationships amidst variables as noted by Saunders, Lewis, and Thornhill (2009). The unit of analysis was the SMEs, while the unit of observation was the SME owners or managers. There are different categories of SMEs in Bujumbura and these include services, commerce, manufacturing, and others. The researcher utilized a stratified random sampling technique to select the required sample size. For sample determination, this study used the Yamane (1967) formula. Primary data were collected using a semi-structured questionnaire to assess the effect of entrepreneurial innovation on the performance of SMEs in Bujumbura. Data were summarized using descriptive statistics such as standard deviation and mean and hypotheses were tested using inferential statistics specifically, a multiple linear regression model.

The model is as below:

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

Where:

Y = dependent variable (performance of SMEs)

X₁ = product innovation

X₂ = process innovation

X₃ = organizational innovation

X₄ = market innovation

β₀ = Constant

e = error term

β = coefficient of independent variables

Figure 1: Research Model; *Source:* Dushime et al. (2021)

Results and Discussion

A regression analysis was conducted to determine the relationship between product innovation, process innovation, organizational innovation, and market innovation on performance. The results for that regression analysis are presented in Table 1.

Table 1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change
1	.729 ^a	.532	.517	.29156	.532

a. Predictors: (Constant), Product Innovation, Process Innovation, Organizational Innovation, Market Innovation

b. Dependent Variable: Performance

Source: Survey data, 2021

The linear correlation between the predicted and observed variables in Table 1 is 0.729. It indicates a significant relationship between performance and product innovation, process innovation, organizational innovation, and market innovation. Second, the R^2 of 53.2% indicated that product innovation, process innovation, organizational innovation, and market innovation can explain 53.2% of the variance in the performance of SMEs. Finally, the autocorrelation in the residuals was assessed by Durbin Watson which is 2.232 which was within the range indicated by Levine, Stephan, and Berenson (2004), who found that the optimum range to exhibit uncorrelated residues is between 1 and 3.

Table 2: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	12.277	4	3.069	36.104	.000 ^b
	Residual	10.796	127	.085		
	Total	23.073	131			

a. Dependent Variable: Performance

b. Predictors: (Constant), Product Innovation, Process Innovation, Organizational Innovation, Market Innovation.

Source: Survey data, 2021

Table 2 results show a p-value = 0.000 that is less than 0.05 and $F(4,127) = 36.104$, which means a significant effect of entrepreneurial innovation (product innovation, process innovation organizational innovation, market innovation) on the performance of SMEs.

Table 3: Regression Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.752	.236		7.418	.000
	Product Innovation	.025	.049	.039	.505	.614
	Process Innovation	.265	.108	.251	2.454	.015
	Organizational Innovation	.439	.050	.679	8.865	.000
	Market Innovation	.341	.082	.341	4.180	.000

a. Dependent Variable: Performance

Source: Survey data, 2021

According to Table 3, three of the objectives are statistically significant, including the relationship between process innovation, organizational innovation, and market innovation on small and medium enterprise performance. Those results in Table 3 can be stated in the following model:

$$\text{Performance of SMEs} = 1.752 + 0.265 \text{ Process_Innovation} + 0.439 \text{ Organizational_Innovation} + 0.341 \text{ Market_Innovation} + e$$

Table 3 shows that the relationship between product innovation and the performance of SMEs is statistically insignificant as $\beta = 0.25$ and $p = 0.614$ which is greater than 0.05 at the confidence level of 95%. H_{01} was not rejected, but rather accepted, implying that product innovation had little effect on the performance of Bujumbura's SMEs. The study of Kiveu, Namusonge, and Muathe (2019) is in line with the findings of this study, revealing a positive but negligible link between product innovation and business competitiveness/performance. Furthermore, Acquah and Mensah (2015) observed that product innovation helps to company competitiveness, but only slightly.

Process innovation has $\beta = 0.265$ and $p = 0.015$ which is less than 0.05. It implies that process innovation has a positive significance on the performance of SMEs in Bujumbura, Burundi, at the confidence level of 95%. H_{02} was rejected; thus, the alternative hypothesis was accepted. The results above aligned with those of John and Kithae (2020) and Martin and Mamusonge (2014), who showed process innovation and performance are related positively. The studies pointed out that process innovation helps enterprises to carry out activities more effectively and efficiently. According to Faiz, Ramayah, Mustapha, and Pawanchik (2010), most SMEs must adopt process innovation to be competitive. RBV theory and dynamic capabilities theory arguments support these findings because innovation capability enables businesses to use existing resources to develop new processes and systems in a changing environment to gain a competitive advantage (Sok, O'Cass, & Sok, 2013).

The table above reveals that, at a 95% confidence level, organizational innovation and the performance of SMEs in Bujumbura, Burundi are significantly related, with $p = 0.000$ less than 0.05. H_{03} was shown to be false. Hence, the alternative hypothesis was adopted. Organizational innovation has the greatest effect of all the innovations. According to the studies by Kiveu, Namusonge, and Muathe (2019), Abdullah and Yusoff (2016), and Salim and Sulaiman (2011), organizational innovation and performance are positively and significantly related, and enterprises that focus on organizational innovation outperform enterprises that do not focus on organizational innovation. Furthermore, Sylvie (2012) observed the same results that the performance of small businesses is greatly affected by organizational innovation.

The table reveals market innovation and the performance of SMEs in Bujumbura, Burundi are significantly related, at a confidence level of 95%, as $\beta = 0.341$ and $p = 0.000$ which is less than 0.05. H_{04} was rejected. Hence, the alternative hypothesis was accepted. Several studies have revealed that market innovation and performance are positively related (Valdez-Bocanegra, Maldonado-Guzman, & Valdez-Gonzalez, 2020; Kiveu, Namusonge, & Muathe 2019; and Al-Ansari, Pervan, & Xu, 2013). According to Martin and Namusonge (2014), when consumers' tastes and preferences change, SMEs should alter their plans to include market innovation initiatives to be more responsive to them. According to Dixon and Day (2014), SMEs should focus on reorganizing resources to meet market shifts, address market challenges, and develop new markets through innovation consistent with the reasoning of dynamic capabilities theory

Policy Implication

According to the study conclusions, SMEs owners and managers should introduce process innovation by adopting process design through standardization, regular auditing, and establishing and following business rules to enhance their performance. The introduction of process innovation in firms reduces production costs and time while increasing productivity and profit.

SMEs owners and managers should implement organizational innovation by establishing relationships with other businesses, using a management reporting system, managing data, and using a policy support system as it is one of the key strategies under entrepreneurial innovation that can help them achieve performance. Implementing organizational innovation will help SMEs enhance employee creativity, customer service, teamwork efficiency, profits, and market share. According to the conclusions, small and medium-sized business owners and managers should utilize discounts to expand their market and online marketing to reach new customers while keeping strong ties with current ones. These are the most effective marketing innovation strategies for SMEs to attain performance. The responsible offices in the ministry of communications, information, technologies, and media and investors in Burundi should invest in developing telecommunications infrastructure to facilitate online marketing for SMEs.

Finally, responsible offices in the ministry of industry, trade, and tourism in Burundi should establish more programs for SMEs by introducing institutions in charge of innovation of SMEs to provide them with the relevant skills and resources. They should introduce more business incubators, connect SMEs with universities and experts, and establish more research institutes. Thus, SMEs would perform better and contribute considerably to Burundi's economic growth

Conclusion

According to the results, the study found that product innovation has a positive but insignificant effect on the performance of SMEs in Bujumbura, Burundi. The increase in product innovation through product differentiation and quality goods may result in a minor boost in performance. Therefore, the study concluded that the effect of product innovation on performance was not significant.

The study found an effect of process innovation on the performance of SMEs in Bujumbura, Burundi. According to the findings, process design through standardization, regular auditing, and establishing and following business rules greatly improves their performance, and therefore, the study concluded that SMEs can consider process innovation to enhance their performance as process innovation and the performance of SMEs in Bujumbura, Burundi are positively related.

The research found that there is an effect of organizational innovation on the performance of SMEs in Bujumbura, Burundi based on the study objective. Quality management, the introduction of new management, and building relations with other firms greatly affect the performance. Thus, the study concluded that SMEs can rely on organizational innovation to promote their performance as organizational innovation and performance are positively related.

The study revealed that market innovation affects the performance of small and medium companies in Bujumbura, Burundi. SMEs that expanded their market by attracting new customers through discounts and online marketing improved their performance. Accordingly, the study concludes that market innovation can improve performance as its effect on performance is positive and significant.

This study was limited to Bujumbura's SMEs. The researcher proposes that other researchers perform similar research on all of Burundi's small and medium businesses. This study considered net profit and market share as measures of performance. Future studies should examine other performance indicators including the number of employees, employee satisfaction, and customer satisfaction. In answering questions related to business profit from the questionnaire, respondents became suspicious and were uncomfortable revealing such data. To address this challenge, the researcher assured respondents maximum confidentiality while handling the information provided. The innovation effect on businesses has a timeframe and limit. To address this shortcoming, the researcher only considered the innovations created within the last three years of operations or less for new SMEs. Most respondents could not read or understand a questionnaire written in English, as Burundi uses French as the official language. The researcher overcame that challenge by translating the questionnaire to French.

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