Business Innovations as Pathways for Small and Medium Manufacturing Enterprise Resilience in Kampala, Uganda

CJSSM
ISSN 2518-8623

Volume 1. Issue I
pp. 1-19, September 2022
www.cavendish.ac.ug
email: secretarycjssm@cavendish.ac.ug

Faith Ahabyoona Mugisha
Cavendish University Uganda
Email: ahabyoonaf@gmail.com

Alex Thomas Ijjo
Cavendish University Uganda
Email: atijjo@gmail.com

Abstract
This article analyzes the relationship between business innovations and the resilience of small and medium manufacturing enterprises (SMMEs) in Kampala, Uganda. Specifically, the paper examined the different forms of innovations in SMMEs, measurements of resilience amongst the SMMEs, and the relationship between the two. The paper employs a cross-sectional research design and canvassed a sample of 140 SMMEs from a population of 240 with a response rate of about 72%. Using mixed methods analysis, the findings revealed that the top four forms of business innovations relate to organizational, product, process and delivery aspects. The measurements of SMME resilience considered are financial capability, operational capability, turnover, and tax remittance. The study finds product and delivery innovations to be statistically significant predictors of SMME resilience in the sample considered. The coefficients of product innovation and delivery innovations are 0.185, and 0.54 respectively with the adjusted R-square and F statistic as 0.74 and 59.24 respectively. The study therefore recommends interventions that encourage product and delivery innovations as a means of strengthening the resilience of SMMEs.

Keywords: *Business innovation, resilience, micro and medium manufacturing enterprises, Uganda*

Introduction

On the continental scorecard, which reports how African governments are incorporating the SDGs into their national strategies, budgets and public engagements, a performance score of 29% was reported for aspiration. This is on "A prosperous Africa based on inclusive growth and sustainable development," reflecting a slow progress registered in the implementation of "Transformed Economies and Job Creation" (AU, 2015). It is attributed to declining manufacturing value added as a percentage of GDP, which is falling in many countries (AU, 2015).

In Uganda, small and medium manufacturing enterprises (SMMEs) continue to take center stage in driving industrialization with the expected benefits of creating employment (Mutambi, 2013). 90 percent of SMEs in Uganda are in the private sector, potentially the main driver of industrialization in the country. However, the sector is still weak and struggling to respond to various challenges relating to aspects of undeveloped economic infrastructure, and high cost of finance and production. The SMEs in manufacturing contribute approximately 75 percent of the manufacturing contribution to Gross Domestic Product (Hatega, 2007). In terms of location, 80 percent of these SMMEs are located in urban areas, specifically in Kampala, the Capital city of Uganda. The rationale for this occurrence is that Kampala has produced a diaspora of people in search of a better quality of life from rural areas to the city (World Bank 2017; Hatega, 2007; Kigozi, 2009; KPMG, 2009) as a result of failed agriculture. In terms of employment, the sector employed approximately 2.5 million people between 2008 and 2019.

A further review of Uganda' growth rate to-date shows a declining growth rate of about 3.0% of GDP as of 2020 (PWC, 2021). This trend does not show strong, resilient and transformative development economic growth. Uganda's economic growth for 2020/21 was projected at 3.3%, significantly below the average growth of 6.5% for the preceding two years, which is largely attributed to the shock of the Covid-19 pandemic and the associated economic lockdowns. This has resulted in inflation projected at 4.7%, over and above the previous year's rate of 3.0%. Due to increased borrowing to combat the effect of the Covid-19 pandemic, Uganda's public debt rose to nearly USD 18 billion or 49.8% of GDP by the end of 2020, much higher than the 40.9% at the end of 2019/20. The debt level is projected to peak at 54.1% in 2022/23. All these are indicators of an economy that is not resilient to the prevailing harsh economic conditions. (Martin & Sunley, 2015).

The exact interest of this paper is the resilience of SMMEs. Resilience has been conceptualized from so many angles; all conceptions of resilience, however, point to the capacity of enterprises to ensure stressors and shocks do not have long-lasting adverse development consequences (TWG-RM, 2014; Hallagate, 2014; Benè, 2013). There are basically two main approaches to defining resilience (Sutcliffe & Vogus, 2003). The first approach, also known as the characteristic approach, emphasizes the characteristics of individuals or organizations, which allow them to continue performing under difficult circumstances and recover from shocks. The second approach, known as the developmental approach (Bernard & Barbosa, 2016), views resilience from a more developmental perspective. Thus, this study adopted the development perspective definition, summarized as, 'resilience is the capacity of enterprises

to rebound from an economic shock strengthened and more resourceful.'

With the above consideration, Uganda's SMMEs have had a number of economic shocks (PWC, 2020). The unanswered question is whether enterprises emerge stronger after such economic shocks. From a causal perspective, shocks in Uganda have been due to: political instability, epidemics, civil war, fluctuating global commodity prices, and various economic reforms (OECD, 2020). These trends are best explained through the various historical phases of a 60-year-old independent country. Prior to 1900 (before the colonial era), there must have been something going on, but there is information sanctity (Kabuga & Batarinyebwa, 1995). The period that followed was the colonial era, one of the impressive years of economic growth because the country had been introduced to cash cropping (contributing 76% of exports to a ready market); however, this was minimal work by SMMEs (Carswell, 2003). The greater part of the value chain was managed by the experts who were the colonial masters. The period that followed was the post-colonial period, with the first five years after independence leading to the formation of the East African Community, an intentional creation of a common market for sectoral competitive advantages, and boosting markets for economic resilience (GOU, 2011). During this period, SMMEs were at invention, but utilizing indigenous means of operation. The period between 1971 to 1986 was characterized by political instability; this not only eroded foreign economic interests, but displaced Ugandan trade experts of Indian decent totaling to over 70,000 who were advancing SMMEs in Uganda. Hence, an economic decline, sending the economy into recession, increased external debt and lowering Uganda's investor confidence.

At the dawn of 1986 when the National Resistance Movement (NRM) took over power, there was minimal SMMEs presence in the country. The NRM undertook major economic reforms aimed at encouraging private sector growth and investment (Byres, 2003). As the SMMEs were stabilizing with the government support, they were hit by the global crisis of 2008 to 2012, and currently the Covid-19 pandemic shock in the last two years. The (World Economic Outlook Report, 2021) details that global prospects for recovery remain highly uncertain due to new virus mutations, and the accumulating human toll raises concerns. Economic recoveries are diverging across countries and sectors, reflecting variation in pandemic-induced disruptions and the extent of policy support. The IMF projected that the global economy will grow by 6% in 2021, moderating to 4.4% in 2022. This projected recovery varied across countries, depending on the severity of the health crisis, the extent of domestic disruptions to activity, the exposure to cross-border spillovers, and the effectiveness of policy support to limit persistent damage. Beyond 2022, the IMF projects global growth to moderate to 3.3% over the medium term. Although GDP recovered stronger than expected in the second half of 2020, it remains significantly below pre-pandemic trends in most countries, and is expected to remain as such through 2024 for most countries. These economic shock effects are not only felt at the national level, but in SMMEs, depicted through job cuts, reduced business incomes, very expensive financing, growing inflation, among others.

To mitigate the above situation of deep-rooted less resilient SMMEs, the government of Uganda continues to support small businesses through providing an enabling environment by : a) designing a policy instrument for SMEs with the rationale of streamlining activities in the

sector to fulfil its potential (GoU, 2015); b) setting up eBiz, which is Uganda's one-stop center for starting a business (GoU, 2015); c) setting up a directorate of micro, small and medium enterprises in the Ministry of Trade, Industry and Cooperatives, which had a budget allocation of US$593,000 (GoU, 2015); d) setting up an SME division with the overall goal of developing sustainable domestic investment; and, e) supporting Enterprise Uganda to adopt the Empretec model, which is designed as a one-stop capacity-building programme (GoU, 2015).

While the aforementioned efforts by GoU are commendable, the resilience of SMMEs depends on their ability to emerge stronger from the various shocks (Conz et al. 2017), thereby learning and responding strongly to these situations. In light of that, SMMEs need to innovate on-bounding business innovations which foster faster, consistent and cheaper services (Adam & Alarifi, 2021). Business innovation's conceptualization according to Bucherer et al. (2012) and Terjesen and Patel (2017), takes three forms: product, process, marketing and organizational innovation. Marketing innovation involves improvements in product design or packaging, product promotion, product pricing (Okumu & Buyinza, 2020; Bucherer et al., 2012). Product innovation typically involves improving a firm's existing goods or services, or simply introducing a new product or service (Okumu & Buyinza, 2020). Organizational innovation could involve adopting new practices or policies, or a cultural re-orientation of a firm, while process innovation involves introducing a new or significantly improved method of manufacturing or offering services (Okumu & Buyinza, 2020).

Based on the above discussion, the question is, how do innovations relate with enterprise resilience? This paper examined the process of enterprise responses to adverse economic conditions through resilience-enhancing innovations, looking at a sample of SMEs drawn from Kampala, Uganda. The objectives of the paper therefore are: 1) to examine the forms of business innovations among small and medium manufacturing enterprises in Kampala, Uganda; 2) to establish measures of resilience of small and medium manufacturing enterprises in Kampala, Uganda; 3) to analyze the relationship between business innovations and resilience in small and medium manufacturing enterprises in Kampala, Uganda

Literature Review

The evolutionary economic geography theory

The evolutionary economic geography theory tends to consent that resilience is the capacity of a local economy to withstand, recover and reorganize in the face of a competitive and economic shock for its sustainable growth path (Bristow & Healy 2014; Martin & Sunley, 2015). As such, there is an increasing agreement that, resilience is a complex, multi-dimensional property of economic systems embracing resistance; recovery (the speed of recovery); reorientation (the extent to adapt to new economic structures); and, renewal (Martin, 2012). It's worth noting that literature doesn't explain the various linkages between different measures of resilience (Cowell et al., 2016). For instance, a firm may experience a quick recovery in terms of output and income after a shock; however, this recovery may be based on existing sources of knowledge and technologies that may make it easy to develop and utilize sufficient opportunities. These may be upgrading its industrial and technological structure to future challenges (Simmie & Martin 2010). The firm's ability to respond to shocks and demonstrate

adaptation may be constitutive of its capacity to develop new growth paths and demonstrate adaptability (Boschma, 2015). This indicates both the relevance of understanding the measurement of resilience and the industrial structures, capacities, and nature of adaptability.

Various strands of evolutionary theories have been explained in an effort to provide a more specific understanding of the role of innovation in resilience. Firstly, the work of Schumpeter (1939, 1942) has been widely drawn upon in developing the notion that business innovation is one of the key drivers of adaptive processes, hence resilience. Schumpeter identified the four-phase cycle of a capitalist economy namely, prosperity, recession, depression and recovery. He posited that accelerated innovation through the period of depression acted as the main driver of recovery. He further argued that recession and depression serve to destroy some outmoded or unproductive sectors through gales of creative destruction, thereby creating opportunities for the development of new sectors and phases of growth (Simmie, 2014 b).

Innovation is thus conceived in relatively narrow terms as ostensibly a technological process with the capacity to disrupt and transform. A developing body of work within evolutionary geography has highlighted the importance of innovation in the reorientation and renewal dimensions of resilience through its role in facilitating the adaptability of the region's industrial structure (Boschma, 2015). Innovation is regarded as critical in enabling enterprises to continually branch out of existing specialized industrial sectors and develop more diversified economies (Isaksen and Tripple, 2014). Innovation has become a necessity for all contemporary enterprises that want to survive in a world characterized by competition, technological change, and recurring crises.

Literature on business innovations

Business innovation refers to the use of new technology or new management practices in an organization to achieve a targeted improvement in its operations (Tornatzky et al., 1990). From an SME perspective, innovation commonly indicates new products or processes that address customer needs more competitively and profitably than existing ones (O'Regan & Ghobadian, 2006). We use the term "business innovation" in this study to refer to the effective implementation of new solutions to challenges faced by SMMEs, which include effective implementation of new ideas in relation to the organization's product, services, or processes; new marketing mechanisms; or, new administrative practices for work amelioration and upgraded performance (Damanpour, 1992; Johannessen et al., 2001).

Researchers (Wondolleck & Yaffee, 2000), strongly suggest that innovation comes to businesses in many ways, but all of this relies on a diversity of thought. Diversity of thought might be deficient, then the alternative is to gaze outside the organization for varying points of view, and this is a likely reason why accelerators have grown in popularity (Shalley & Gilson, 2004; Lauer, 2019). The WBES 2013 dataset stipulates 698 SMMEs in Uganda, these are disaggregated based on the different types of business innovations as follows: 67% are involved in process innovation; 69% in product innovation; 63% in marketing innovation; and, 60% in organizational innovation. Marketing innovation implies refinements in logistical and distribution methods. Process innovation includes agile, efficient production methods leading to more product efficiency. Product innovation means product modification to reflect changing customer

preferences. Organizational innovation implies improvements in management practices for management efficiency (Okumu & Buyinza, 2020).

Literature on Resilience

Resilience researchers, Alamene, et al. (2017) and Joseph et al. (2009), explain that resilience is the ability to timely respond to inevitable disruptive change that may occur in an organization. Resilience is also the ability of a system or person to absorb stress in a way that it (stress) cannot obstruct normal function during or after a stressful situation (National Research Council, 2011). Resilience is about being creative and eager to respond fast in order to minimize the impact of unexpected change (Heifers et al., 2009; Weick & Sutcliffe, 2007). A system can demonstrate resilience when its core value is not altered while going through threatening setbacks (Alpaslan & Mitroff, 2003). Researchers and practitioners are now engaged significantly with resilience in order to suggest better mechanisms to manage various economic business shocks (Bahadur et al., 2013). All the above conceptualization tends to agree with Sutcliffe and Vogus (2003) who popularize the characteristic approach and development approach to resilience as previously discussed in the introduction section.

The developmental approach presents that shocks and challenging circumstances can provoke the emergence of resilience, evidenced by an increasing ability to respond and to emerge stronger from shocks or difficult experiences. This definition also can apply to individuals and organizations (Conz, Denicolai & Zucchella, 2017). This approach offers a view of resilience as the ability of individuals or organizations to bounce back from adversity stronger and more capable than they were prior to the shock. For Sutcliffe and Vogus (2003), the appeal of a developmental perspective is that it captures the idea of resilience as 'relative, emerging and changing in transaction with specific circumstances and challenges. Therefore, an enterprise needs to innovate in order to enhance their resiliency (Joseph et al., 2009). Resiliency is the most strategic tool that can keep a firm at the edge of other market players because it makes the organization discover and explore before the knowledge of other competitors.

Literature on the relationship between innovation and resilience of enterprises by Klepper and Thompson (2006) expresses that, there has been reasonable efforts to explain firm's resilience and industry change. Business innovation features prominently in the case studies of industry change and growth from one stage to another (Klepper and Simons 1997); however, the analysis of the issues has failed to account for the complex nature of the innovation process. Studies by Alamene et al. (2017) particularly did not account for the fact that, while some innovations succeed, a good number of them failed, implying that in essence even though innovation increases the likelihood of exceptional performance, it can also lead to collapse or death of SMEs if it's not appropriately understood and on-boarded.

The above being contrary to the argument arrogated in most studies of firms' resilience that innovation is the essence for a firm's survival because only those firms that can successfully innovate are able to build and sustain a competitive advantage in the market (Wagner, 1999). Though this argument could be true, there is another side to the story that needs to be told; understanding the forms of innovations, the measurements of resilience, and the relationship between the two variables, to enable the alignment of the policy players and networks in the

national innovation systems to on-board appropriate support mechanisms of these SMEs. Last, but not least, innovation is not just about firm dynamism, but it's a prerequisite for economies to survive in the fourth industrial revolution which is contracting on resource usage and expounding on use of technology to easy service delivery across the globe. The inability of economies to join the revolution will continuously cripple and undermine resilience to economic shocks which are far from ending.

Methodology

A cross-sectional survey, a form of the quasi experimental research design was adopted for this study. The study population consisted of 240 SMMEs in Kampala, Uganda. Using the Krejcie and Morgan (1970) sampling table, a sample size of 142 SMMEs was derived. The unit of inquiry for the study was the business owner or manager, and the unit of analysis was the enterprise. The study used questionnaires and interview guides to collect both quantitative and qualitative data. These were prepared in three sections: section (1) background information; section (2) resilience measurements; and, section (3) business innovation.

Data analysis was done at univariate, bivariate and multivariate using descriptive statistics, correlation, regression analysis and thematic content analysis for qualitative data. The Statistical Package for Social Sciences version 24 was used for data analysis. A Cronbach's Alpha of 0.855 as a measure of reliability was obtained. Throughout the study, the researchers observed ethical standards of informed consent, anonymity, voluntary participation and confidentiality.

Business innovations was the independent variable with parameters of: Financial, delivery, product, and process. Resilience was measured as financing capability, operational capability, turnover and tax remittance.

The different variables with their respective sub-constructs were represented in the data collection instruments in an effort to explain the variables at hand. The questionnaire was measured on a five-interval Likert Scale as recommended by Likert (1932). The choice of this scale was based on its ease to construct; its reliability in data collection since respondents can answer different questions (Kothari, 2010). A qualitative interview guide was measured based on the study themes' contribution by the respective respondents. The values used to measure the different Likert scale values are as shown in Figure 1:

Figure 1: Measurement of Values

Values	Level of agreement	Interpretation
4.1 - 5.0	Strongly Agree	Very satisfactory
3.1 - 4.0	Agree	Satisfactory
3	Not Sure	Below Average
2.0 – 2.9	Disagree	Fairly satisfactory
1.0 – 1.9	Strongly Disagree	Not satisfactory

Note. Adopted with modifications from Likert (1932)

Results and Analysis

The response rate was ascertained before undertaking the analysis in order to ensure that the findings were representative of the sample, and that the data collected could be relied upon. (Mugenda & Mugenda, 2003). Of the 142 questionnaires that were distributed to SMMEs, 102 questionnaires were returned, giving a response rate of 71.8%. Out of the 30 intended interviews, 20 were conducted, representing 70%. AAPOR (2011) contends that a high response rate assures accuracy and builds confidence in the results.

Background Information

The results shown in Table 4-1 indicate that respondents that participated in the survey on behalf of the SMMEs were: 71.6% owners and 28.4% managers; and, 18.6% female and 81.4% male. The enterprises' years of existence were: 1 - 5 years (52%); between 5-10 years (21.6%); and, above 10 years (26.5%). In terms of manufacturing category, foods and beverages processing accounted for 38.2%; African crafts, 24.5%; other general manufacturing, 16.7%; health and wellness processing, 12.7%; and, laundry Processing, 7.8%. The results for the level of education were: Degree holders (51%), and Advanced certificate of education (49%). The enterprises' turnover was registered as 47.1% between 1 to 10 Million, and 52.9% above 20 million. In terms of the number of employees at the enterprises, 56.9% had between 1 to 5 employees; while, 43.1% had between 6 to 25 employees.

From these findings, the study can confirm that the respondents were adequately educated, and the businesses had been in operation beyond the last economic shock. Additionally, the enterprises were vastly spread-out in various manufacturing industries and there was sufficient capital for them to provide reliable data for the study.

Table 0-1: Background Information

Title of the enterprise respondent	Number of respondents	Percentage
Owner	73	71.6
Manager	29	28.4
Gender of respondents		
Female	19	18.6
Male	83	81.4
Enterprise Age in years		
Between 1 to 5 Years	53	52
Between 5 to 10 Years	22	21.6
Beyond 10 Years	27	26.5
Enterprise Industry of manufacturing		
Foods and Beverages Processing	39	38.2
Health and Wellness Processing	13	12.7
Laundry Processing	8	7.8
African Crafts Manufacturing	25	24.5

Other General Manufacturing	17	16.7
Education level of the respondent		
Secondary Level	50	49
Graduate	52	51
Enterprise' turnover from 2019 to 2021		
0 to 10 Million	48	47.1
Above 20 Million	54	52.9
Enterprises number of employees		
Between 1 to 5 employees	58	56.9
Between 6 to 25 employees	44	43.1

Source: Primary data, 2022

Descriptive Statistics on the Forms of Business Innovation in the SMMEs

The results in table 4-2 indicate that 7/8 forms of business innovation confirmed in literature were actually agreed upon by the SMMEs. The findings in Table 4-2 reflect that business innovations take the forms identified, and are important because their mean is above 3.00 and majority of their standard deviation was oscillating below 1, indicating an accurate representation of the data. For example, organizational Innovations had a mean value of 4.23 (SD=0.673); process innovations had a mean value of 3.93 (SD=0.428); product innovations had a mean value of 3.67 (SD=0.978); delivery innovations had a mean value of 3.58 (SD=0. 861); marketing innovations had a mean value of 3.48 (SD=1.031); financial innovations had a mean value of 3.32 (SD=0.987); market innovations had a mean value of 3.19 (SD=1.377); and, price innovations had a mean value of 2.75 (SD=1.287).

These findings emphasized the presence and relevance of the different forms of business innovations in SMMEs. Mostly emphasized were the organizational innovations that revealed mean values in excess of 4.0.

Table 0-2: Descriptive statistics on the forms of business innovations

	N	Minimum	Maximum	Mean	Std. Deviation
Marketing Innovations	102	2	5	3.48	1.031
Financial Innovations	102	1	5	3.32	.987
Delivery Innovations	102	2	5	3.58	.861
Product Innovations	102	2	5	3.67	.978
Process Innovations	102	3	5	3.93	.428
Organizational Innovations	102	3	5	4.23	.673
Market Innovations	102	1	5	3.19	1.377
Price innovations	102	1	4	2.75	1.287

Source: Primary data, 2022

Descriptive Statistics on the Measures of Resilience in the SMMEs

The results in table 4-3 indicate that 6/8 measures of resilience confirmed in literature were actually agreed upon by the SMMEs. The findings reflect that SMMEs were aware of resilience and agreed to the different measures since their mean was above 3.00; majority of their standard deviation was below 1, indicating an accurate representation of the data. For example, financing capability had a mean value of 4.25 (SD=0.438); operational capacity had mean value of 4.08 (SD=0.270); business income had a mean value of 3.94 (SD=0.830); taxes remittances had mean value of 3.91 (SD=0.976); employment rate had a mean value of 3.74 (SD=0.843); expansion capacity had a mean value of 3.53 (SD=0.575); production capacity had a mean value of 3.00 (SD=0.00); and, community and political favor had a mean value of 2.92 (SD=1.05).

These findings emphasized the presence and relevance of the different measures of resilience in SMMEs, except for production capability and community favor. These quantitative findings presented above were triangulated with findings from the interviews. When asked about measuring resilience using community and political favors, one of the SMME owners expressed that:

> *"Even though community and political favor are important, it's not a sustainable means of measuring resilience because the government can easily change or the person you knew in government can easily be let go and you hard earned empire can collapse."* (SMME owner, 2022)

Another interviewee decried inadequate connections to the right people n government and as thus, he is 'struggling alone.'

These finding, therefore, emphasized the financial capacity and operational capacity as critical measures of resilience since they revealed mean values in excess of 4.0.

Table 0-3: Descriptive statistics on the measures of resilience

	N	Minimum	Maximum	Mean	Std. Deviation
Using business income	102	3	5	3.94	.830
Taxes Remittances	102	1	5	3.91	.976
Employment rate	102	3	5	3.74	.843
Production Capacity	102	3	3	3.00	.000
Operational capability	102	4	5	4.08	.270
Financing capability	102	4	5	4.25	.438
Community and political favor	102	1	4	2.92	1.050
Expansion Capability	102	3	5	3.53	.575

Source: Primary data, 2022

Correlation analysis between business innovations and resilience amongst SMMEs.

Computing a summary of statistics that measures the scale of the relationship between the independent and dependent variable is very critical and paramount in relational studies (Islami, Mustafa, & Topuzovska, 2020; Breheny, 2016). In the current study, the correlation analysis was run to measure the direction, the strength of the suggested association between business innovations and resilience in SMMEs, and to test the hypothesis. The results showed a positive and significant Pearson correlation coefficient between the business innovation variables and business resilience of financial innovation r =.520**, Delivery Innovations r = .668** and Product Innovations r = .247*. This suggests a positive relationship between the two. However, for Process innovation, the results showed a negative but significant Pearson correlation coefficient. These results are presented in correlation analysis in Table 4-4.

Table 0-4: Correlations Analysis Result

		Financial Innovations	Delivery Innovations	Product Innovations	Process Innovations	Resilience
Financial Innovations	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	102				
Delivery Innovations	Pearson Correlation	.885**	1			
	Sig. (2-tailed)	.000				
	N	102	102			
Product Innovations	Pearson Correlation	.667**	.584**	1		
	Sig. (2-tailed)	.000	.000			
	N	102	102	102		
Process Innovations	Pearson Correlation	-.275**	-.106	.276**	1	
	Sig. (2-tailed)	.005	.289	.005		
	N	102	102	102	102	
Resilience	Pearson Correlation	.520**	.668**	.247*	-.331**	1
	Sig. (2-tailed)	.000	.000	.012	.001	
	N	102	102	102	102	102

Source: Primary data, 2022. **. Correlation is significant at the 0.01 level (2-tailed).

Regression analysis between business innovations and resilience amongst SMMEs

The regression results in Table 4-5 shows a positive and significant effect of delivery innovation and product innovations on resilience amongst SMMEs in Kampala, Uganda. The coefficients of the delivery innovations (0.564) and that of product innovations (0.185) are both statistically significant with p=0.000. The other forms of innovation namely financial innovations and process innovations turned out negative and are statistically significant, implying that they have some negative impact on the resilience of SMMEs.

Table 0-5

Regression Analysis Result

		B	Std. Error	Beta	t	
1	(Constant)	3.933	.213		18.442	.000
	Financial Innovations	-.297	.052	-.916	-5.770	.000
	Delivery Innovations	.564	.046	1.517	12.390	.000
	Product Innovations	.185	.033	.565	5.638	.000
	Process Innovations	-.322	.057	-.431	-5.637	.000

a. Dependent Variable: Resilience

Adjusted R-square = .742. F-statistics = 59.238 and p=0.000

Regarding the goodness of fit for the model, the adjusted squared statistics 0.74 and the F-Statistic for the overall model of 59.24 is statistically significant.

The results in Table 4-4 and Table 4-5 above, equally guided in testing the hypothesis as follows: in order to establish whether there is a relationship between financial innovation and resilience of SMMEs in Kampala, Uganda, the study tested the following hypotheses:

Null Hypothesis (Ho): *There is no relationship between financial innovation and resilience of SMMEs in Kampala, Uganda*

Alternate Hypothesis (H1): *There is a positive relationship between financial innovation and resilience of SMMEs in Kampala, Uganda*

The results in Table 4-4 and 4-5 showed a significant relationship between financial innovation and resilience of SMMEs in Kampala, Uganda. This is explained by the relationship (Pearson Correlation Coefficient: r = .520; r=-.297) that was statistically significant at 95% level of confidence as p = 0.000 is p < .05. As a result, the researchers rejected the null hypothesis that: *There is no relationship between financial innovation and resilience of SMMEs in Kampala, Uganda,* and the alternate hypothesis was accepted. This suggests that financial innovations could positively influence resilience amongst SMMEs in Kampala, Uganda.

In order to establish whether there is a relationship between delivery innovation and resilience

of SMMEs in Kampala, Uganda, the study was guided by the following hypotheses:

Null Hypothesis (Ho): *There is no relationship between delivery innovation and resilience of SMMEs in Kampala, Uganda*

Alternate Hypothesis (H1): *There is a positive relationship between delivery innovation and resilience of SMMEs in Kampala, Uganda*

The results in Table 4-4 showed a significant positive relationship between delivery innovation and resilience of SMMEs in Kampala, Uganda. This is explained by the positive relationship (Pearson Correlation Coefficient: r = .668; r=.564) that was statistically significant at 95% level of confidence as p = 0.000 is p < .05. As a result, the researchers rejected the null hypothesis that: *There is no relationship between delivery innovations and resilience of SMMEs in Kampala, Uganda,* and the alternate hypothesis was accepted. This suggests that delivery innovations could positively influence resilience amongst SMMEs in Kampala, Uganda

In order to establish whether there is a relationship product innovation and resilience of SMMEs in Kampala, Uganda, the study was guided by the following hypotheses:
Null Hypothesis (Ho): *There is no relationship between product innovation and resilience of SMMEs in Kampala, Uganda*

Alternate Hypothesis (H1): *There is a positive relationship between product innovation and resilience of SMMEs in Kampala, Uganda*

The results in Table 4-4 showed a significant positive relationship between product innovation and resilience of SMMEs in Kampala, Uganda. This is explained by the positive relationship (Pearson Correlation Coefficient: r = .247; r =.185) that was statistically significant at 95% level of confidence as p = 0.012 is p < .05. As a result, the researchers rejected the null hypothesis that: *There is no relationship between product innovations and resilience of SMMEs in Kampala, Uganda,* and the alternate hypothesis was accepted. This suggests that product innovations could positively influence resilience amongst SMMEs in Kampala, Uganda

In order to establish whether there is a relationship between product innovation and resilience of SMMEs in Kampala, Uganda, the study was guided by the following hypotheses:

Null Hypothesis (Ho): *There is no relationship between process innovation and resilience of SMMEs in Kampala, Uganda*

Alternate Hypothesis (H1): *There is a relationship between process innovation and resilience of SMMEs in Kampala, Uganda*

The results in Table 4-4 showed a significant negative relationship between process innovation and resilience of SMMEs in Kampala, Uganda. This is explained by the negative relationship

(Pearson Correlation Coefficient: r = -.331; r =-.322) that was statistically significant at 95% level of confidence as p = 0.012 is p < .05. As a result, the researcher rejected the alternate hypothesis that: *There is relationship between process innovations and resilience of SMMEs in Kampala, Uganda,* and the null hypothesis was accepted. This suggests that process innovations could negatively influence resilience amongst SMMEs in Kampala, Uganda

Discussion of the findings in relation to the paper objectives

The study intended to analyze the concept of resilience of SMMEs from the business innovation mindset, utilizing the evolutionary perspectives, with a notion that resilient firms will raise from a shock much stronger and this is on the side of both the firm and the people. The study results tend to agree with the following:

In regard to objective 1 on contextualizing the current forms of innovations that SMMEs are subscribing to in Uganda, Dias et al. (2022) emphasize that studies about the effect of innovation on business resilience are just the first step to understanding how SMMEs are influenced by external factors which are independent of the managers' mandate. In order to establish the SMMEs resilience gap from the innovation perspective, there was an inquiry on the various forms that the enterprises had on on-boarding to confirm adoption of business innovations. The findings summary indicated that: organizational innovations, product innovations, delivery innovations, process innovations, marketing innovations, financial innovations, and market innovations were the most popular forms of innovations in SMMEs in Kampala, Uganda. A cross reference in literature by OECD (2018) and OECD (2015) confirmed the same. This was attributed to increased innovation in recent past to changes in the way innovation takes place in the economy. Business innovation is no longer limited to corporate research and development laboratories. It is now the outcome of cooperate engagements in which businesses interact, exchange knowledge and information with other partners, employees, customers as part of broader innovation systems. This trend is more towards an 'open innovation' paradigm which is made possible by the minimal capital subscribed to by the enterprises. This aligns with the study findings since most SMMEs confirmed to organizational, product, delivery, and marketing innovations which in most enterprises is at the heart of agile organizational systems and employees.

Regarding objective 2 that measures resilience of SMMEs in Kampala, Uganda, it was confirmed that SMMEs in Uganda are aware of their resilience crisis. SMMEs confirmed their subscription to the importance of financing capability, operational capacity, business income, taxes remittances and expansion capacity post economic shocks, which depicted understanding of resilience. These findings are equally in agreement with researchers, Adebay and Iweriebor (2018) and Fowowe (2017) that emphasized the vitality of financial stability to meet operational demands in an effort to strengthen resilience of firms. ILO (2021) global covid-19 enterprise survey emphasized the importance of measuring business resilience from the business revenue angle. The report confirmed that, over 69% of businesses across the world reduced on the sales orders that they were receiving before the pandemic. These findings ably confirm what happens in SMMEs in post shock scenarios, which calls for business vigilance in order to mitigate the challenges. The reduced business revenue has an effect on the ability and worth of taxes that businesses remit to the government, which also limits state abilities.

Lastly, on objective 3 which examines whether there exists a relationship between business innovations and resilience in SMMEs in Kampala, Uganda, the results in Tables 4-4 and Table 4-5 reflected that the greater the ability to innovate in SMMEs, specifically in delivery and product innovations, the more resilient the business becomes. This was based on the delivery coefficient of 0.564, statistically significant with p=0.000; and, the product coefficient of 0.185, statistically significant with p=0.000. Therefore, the current resilience crisis experienced by SMMEs in Kampala, is explained by the level of business innovation amongst SMMEs in Kampala, Uganda.

The findings generally agree that, the way SMMEs make their products accessible to the customers strengthens resilience, and is equally a major predictor of business resilience. This finding, to some extent, agrees with a study on SMEs in food supply in Romania by Türkes et al. (2021). The four researchers confirmed the importance of delivery innovations that started during Covid-19 to counteract limited movement by their customers, and have to date shaped business in this sector. However, further emphasis specifies that delivery in isolation won't solve the resilience gap in SMEs, but there is a need to consider increasing and opening of new markets.

These new markets' angles aren't any different from the measures of business resilience inclined to increase and enhance turnover as shown in Table 4-2.

The findings further confirmed that product innovations are a key predictor of resilience amongst SMMEs. This finding resonates with Williams et al. (2017) who confirm that what the market needs today are products that are agile enough to fit the changing demands of the customers. This necessitates enterprises to strive to reduce their product lifecycles in order to meet the customer demands, short of which the enterprises will be out-competed which compromises or weakens their resilience. Furthermore, the increased use of technology enables enterprises to keep aware of customer needs through various constant engagements. A firm that can't collect optimal information and utilise it to produce the best product will equally have compromised resilience, and won't survive the tides of unstoppable economic shocks globally.

The findings on financial and process innovations suggested a negative effect on the resilience of SMMEs. The angle of explanation is such that, while defining resilience, the orientation was more inclined to recovering from shock stronger for the enterprises and the employees. The findings suggest a negative effect tends to intimate that, while measuring resilience, the concentration shouldn't be more on how capitalisation, collections and asset management happen, but on the final product that goes to the market and attracts revenue for the enterprises. Equally, concentration on process innovation is critical, but that isn't sufficient. What matters is how quick a relevant product gets onto the market or to its final customer. Enterprises spending their fortune on developing great processes is important; it's not the end but just a means. Therefore, business innovation will enhance resilience amongst SMMEs only if the concentration is on the end product and not necessarily on the means (Lv et al., 2018). A resilient business is always able to maintain high performance and renew itself, its workers and

its environment over time, and this ought to be the focus of business innovations. On the other hand, if enterprises are to engage deeper in other factors that can boost resilience amongst SMMES, innovation ambidexterity would be a great consideration (Iborra et al., 2019)

Conclusions

The intent of the empirical endeavor was to explain business innovations and resilience, and investigate the relationship between business innovation and resilience of SMMEs in Kampala, Uganda. The analysis results indicated that there is innovation happening in SMMEs and these were organizational innovations, product innovations, delivery innovations, process innovations, marketing innovations, financial innovations, and market innovations. The results also confirmed that resilience is measured through: financing capability, operational capacity, business income, taxes remittances and expansion capacity. The results further reflected that the correlation between the variables of business innovation (financial, product, and delivery innovations) was positive and significantly associate with the resilience of the enterprises. Lastly, the major predictors of resilience amongst the business innovations were delivery and product. It is against this backdrop that we, therefore, conclude that innovative drives in delivery and products should be encouraged in order to enhance the resilience of SMMEs.

In terms of theoretical contribution, the study concludes that, even though there were studies about an existing relationship between the two variables in other economies, nothing was recorded in regard to the fast developing SMMEs in Uganda, especially during the unique times of the Covid-19 shock. The present study presents new knowledge about the conceptualization of resilience from the angle of financing capability, operational capacity, business income, taxes remittances and expansion capacity. It confirms the forms of business innovations adoptable in SMMEs in Kampala, Uganda, with further emphasis on where SMMEs ought to concentrate if they are to strengthen their resilience in order to withstand the unstoppable global shocks that weaken the economy.

Recommendations

In view of the study and the importance of business innovation in achieving resilience, the following recommendations are important for both SMMEs owners, managers, government and academia:

The managers and owners of SMMEs should pursue innovation in line with product and delivery because this will enhance their resiliency in facing turbulences from their business environment; this can be emphasized through the adaptation of open innovation modes. In so doing, the enterprises will not only stand resilient, but their workers and employees will be leveraged.

Managers of SMMEs should pursue models that strengthen financing capability, operational capacity, business income, taxes remittances and expansion capacity as these elements are easily eroded away during economic shocks, thus weakening the resilience of the firms.

SMMEs should create an enabling environment which encourages employee innovative capabilities through the promotion of intellectual rights, as these will enable the survival of enterprises in post-shock periods.

The government of Uganda should support enterprise policies that promote business innovation for SMMEs and these should specifically be around open–innovation models since they promote the strengthening of business resilience - with a notion that a resilient firm will create a resilient economy.

To academia, the population is in due demand of deep studies on which business innovations will work in the post- Covid-19 period. Therefore, it's prudent that the academia prioritizes this cause for the sake of resilience for SMMEs.

References

Adam, N.A., Alarifi, G. (2021). Innovation practices for survival of small and medium enterprises (SMEs) in the COVID-19 times: the role of external support. *J Innov Entrep* **10,** 15 https://doi.org/10.1186/s13731-021-00156-6

Çapoğlu, C. (2009). The Meaning of Innovation and Entrepreneurship in Developing Countries. *International Studies in Entrepreneurship 21*: 85-91

Carayannis, E. G., E. Gonzalez & J. Wetter. (2003). 'The Nature and Dynamics of Discontinuous and Disruptive Innovations from a Learning and Knowledge Management Perspective.' In Shavinia, L. (ed.) *The International Handbook on Innovation*, London: Elsevier Science Ltd

Chaminade, C., B.-Å. Lundvall, J. Vang & K. J. Joseph. (2010). 'Designing Innovation Policies for Development: Towards a Systemic Experimentation Based Approach'. In: Lundvall, B. Å.,

Dias, Á.L.; Cunha, I.;Pereira, L., Costa, R.L. (2022). Gonçalves, R. Revisiting Small- and Medium-Sized Enterprises' Innovation and Resilience during COVID-19: The Tourism Sector. J. Open Innov. Technol. Mark. Complex. 8, 11. https://doi.org/10.3390/joitmc8010011

Iborra, M., Safón, V., & Dolz, C. (2019). What explains resilience of SMEs? Ambidexterity capability and strategic consistency. *Long Range Planning, 53(6),* 101947

Islami, X., Mustafa, N. & Topuzovska Latkovikj. M. (2020). Linking Porter's generic strategies to firm performance. Futur Bus J 6, 3 https://doi.org/10.1186/s43093-020-0009-1

K. J. Joseph, C. Chaminade and J. Vang (eds.) *Handbook of Innovation Systems and Developing Countries*, Cheltenham:Edward Elgar, pp. 360-379

Fagerberg, J., M. Srholec and B. Verspragen. (2010). The Role of Innovation in Development. *Review of Economics and Institutions* 1 (2); Article 2 Freeman, Ch. 1987. *Technology Policy and Economic Performance: Lessons from Japan*. London and New York, NY: Pinter Publishers

Goedhuys, M., K. Janz and P. Mohnen. (2008). "What drives productivity in Tanzanian manufacturing firms: Technology or business environment?" *European Journal of Development Research, 20(2):* 199–218.

Government of Uganda. (2015). Uganda Micro, Small and Medium Enterprise Policy. Sustainable MSMEs for Wealth Creation and Socio-Economic Transformation. Ministry of Trade, Industry and Cooperatives.

Likert, R. (1932). A technique for the measurement of attitudes. Archives of Psychology, 1-55.

Lv, W. D., Tian, D., Wei, Y., & Xi, R. X. (2018). Innovation resilience: A new approach for managing uncertainties concerned with sustainable innovation. Sustainability (Switzerland),

10(10).

Kaplinsky, R., and M. Morris. (2001). *A Handbook for Value Chain Research*. Brighton: Institute of Development Studies (IDS), University of Sussex.

Kotabe, M. and K. S. Swan. (1995). The Role of Strategic Alliances in High Technology New Product Development. *Strategic Management Journal 16(8):* 621-36

Lundvall, B.-Å. (1992). *National Systems of Innovation: Towards a Theory of Innovation and Interactive Learning*. London: Pinter Publishers

OECD. (2017a). Small, Medium, Strong. Trends in SME Performance and Business Conditions, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264275683-en

OECD. (2015a). The Innovation Imperative: Contributing to Productivity, Growth and Well-Being, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264239814-en

Türkes, M.C., St˘ancioiu, A.F., B˘altescu, C.A., Marinescu, R.-C. (2021). Resilience Innovations and the Use of Food Order & Delivery Platforms by the Romanian Restaurants during the COVID-19 Pandemic. J. Theory. Appl. Electron. Commer. Res. 16,3218–3247. ttps://doi.org/10.3390/
jtaer16070175