Understanding SME Financial Resilience and Survivability in Africa

Abstract

The unprecedented economic impact of the COVID-19 pandemic has renewed the debate on SME resilience in dealing with shocks. SME resilience largely depends on the financial capability of the SME as well as the presence of environmental factors serving as coping mechanisms. Financial capability, an integral part of an organisational resilience strategy for survivability, supports SMEs to adapt to both internal and external shocks. However, there is limited evidence that examines the response of financial resilience and survivability mechanisms of SMEs in Africa in the face of COVID-19 pandemic shocks. This is important to enhance the financial resilience of SMEs in Africa beyond COVID-19.

This study follows a deductive research approach coupled with strategic factor market theory. Using a longitudinal research design, the study analysed twelve 12-year data on five (5) predictors of financial resilience, namely *public policy, specific tax policies, SME training, R&D, and accounting and assessment services* for 20 African countries. Multiple linear regression was used to test five hypotheses relating to SME financial resilience in Africa. The findings showed that effective public and tax policies, R&D, and accounting and assessment services promote the financial resilience of SMEs in Africa. However, SME tailored training is statistically insignificant in building financial resilience. Tailored human resource development for strategic decision-making is required to reverse the poor resilience trend during pandemics. Furthermore, the weak institutional and technological environment in African perpetuates poor resilience for SMEs and requires government support to address this. The findings of this study have policy and practice implications for the financial resilience and survivability of SMEs in Africa.

Keywords: Adaptability, Covid-19, Capacity, Institutions, Resilience, Survivability

1. Introduction

Since the outbreak of the Covid, 19 pandemic in Wuhan, China, many Small and Medium Enterprises (SMEs) across the world have been negatively affected, and this unprecedented situation poses a new challenge in the quest to make SMEs resilient in the continuously complex business environment (Thukral, 2021). The Organisation for Economic Co-operation and Development (OECD) (2020) estimates that more than half of all SMEs globally have experienced severe loss of revenues and limited financial resources as a result of the pandemic. The crises have, therefore, renewed the debate on SMEs' resilience in coping with unforeseen events (Brown & Cowling, 2020; Carruthers, 2020). Typically, the capability of an SME depends on its ability to adapt to internal and external shocks, and this is an integral part of an SME's resilience and survivability strategy (Conz et al., 2017). According to Bolt (2019), an SME's financial resilience refers to the capacity to survive in unforeseen or unpredictable events which could have a significant negative impact on their income and assets. Similarly, Caldera-Sanchez et al. (2016) indicate that resilience is the ability to reduce vulnerability and risk within a firm based on its strategic capability to recover quickly.

It is imperative to note that apart from the dwindling financial resources of SMEs, many SMEs have had their supply chains disrupted, leading to several job losses across all sectors (Bartik et al., 2020; Cowling et al., 2020; Juergensen et al., 2020). However, because SMEs operate in a very dynamic environment with undeveloped business structures and strategies, it is incumbent for SMEs to develop the capabilities and skills needed to mitigate any catastrophic events such as COVID-19 (Aidoo et al., 2021). While SMEs have strived to survive uncertain events in the past decade, COVID-19 has caused a substantial threat to SMEs and the entire global economy (Olana, 2020; Chudik et al., 2020). For many SMEs, the pandemic has presented a major challenge whereby, innovation, adaptation and effective use of scarce resources are required for resilience (Habiyaremye, 2021).

The effect of the pandemic on SMEs is more pronounced in Africa due to a lack of government support unlike their counterparts in western countries. As a result of COVId-19, the world has recorded an economic decline, from 2.4% in 2019 to -5.1% in 2020, contributing to recession and poor performance of SMEs in most African countries (World Bank, 2020a). This is compounded by Africa's loss in external trade, between US$37 billion and US$79 billion (World Bank, 2020b) which further constrains the survival of SMEs. Coupled with an already existing lack of access to finance, SMEs in Africa face a financial resilience challenge. The

African economy is dominated by SMEs and they contribute to over 90% of employment. SMEs as the engine of growth in Africa are therefore important contributors that cannot be overlooked especially, areas relating to their coping strategies and financial resilience pre-during and post-COVID-19 pandemic require urgent attention. However, the available evidence suggests studies have failed to examine SME financial resilience to able them to develop survival strategies during pandemics (BFA Global, 2020). But the reality is that African SMEs must be ready and willing to respond to business catastrophes with their financial and operational capacity (Pal et al., 2014). It can be argued that the presence of the pandemic has led to SMEs pursuing a never-ending operational efficiency. But in hindsight, it is an opportunity for SMEs to explore new opportunities for organisational renewal and innovation to develop a resilient capacity. Notable among these strategies is asset and cost retrenchment to improve performance during periods of economic downturn (Morrow et al., 2004). Therefore, the purpose of this chapter is to quantitatively examine the predictors or drivers of financial resilience and their impact on financial resource availability in Africa.

2. Background

2.1 SME financial resilience and survivability in Africa

The study of financial resilience and survivability of SMEs in Africa are fairly new concepts. Resilience is the capacity of an SME to survive, adapt and grow during turbulent times (Kuckertz et al., 2020). Financial resilience is, therefore, defined as the ability to withstand events that impact SME income and assets (Bolt, 2019). Usually, several factors are capable of building SME financial resilience leading to disparate ways to mitigate financial constrictions (Carruthers, 2020; Brown & Cowling, 2021). As a result, different SMEs have had differing measures in dealing with unexpected shocks, such as reducing employee payroll and cutting budgets. But an SME's ability to acquire and manage resources whether tangible or intangible could potentially lead the firm to gain a competitive advantage over its competitors leading to financial resilience capability building (La Rocca et al., 2019). Such resource acquisition and management could accelerate SME financial performance and returns to a stable position after facing a business shock. But the reality is most SMEs in Africa already operate in a volatile environment leading to their early extinction (Bhamra et al., 2011). This implies that the survivability and resilience of SMEs are affected by the capability to adjust their resources and remain effective in a constantly changing environment.

Invariably, African SMEs have faced several catastrophes over the years. First, the 2008/2009 market crash that led to the rise of economic instability globally, African SMEs were similarly exposed to financial risks that resulted in the collapse of several SMEs, loss of jobs and reliance on indemnities from insurance pay-outs (Lyons et al., 2020; Chiloane-Phetla & Mathipa, 2021). Likewise, in 2014, the Ebola virus outbreak in Western and Central African countries led to further shocks for SMEs and currently, the Covid-19 pandemic has continued to hurt their financial resources (Stoop et al., 2021). Equally, SMEs in the agricultural sector adopted financial resilience mechanisms to manage climatic risks during episodes of flooding and drought. For example, in 2015, El Nino caused devastating widespread flooding in the Southern and Eastern parts of Africa (Gannon et al., 2018). This led to most businesses engaging in sustainable adaptation practices such as access to information technology (Crick et al. 2018). As a result, SMEs in the agricultural sector had to protect themselves from future financial risk through insurance uptake, microcredit, or bank loans, engaging in pooled financial resources with other farmers (Bolt, 2019). These shocks initiated valuable lessons on how to foster long-term financial resilience through focusing on key areas of improvement such as management systems, effective resource utilisation, business insurance and operational efficiency (Chakma et al., 2017). These innovative strategies enabled SMEs to increase resilience, flexibility, and the ability to survive (William et al., 2017). More so, it stipulates the importance of a firm's ability to utilise its resources based on its unique characteristics during a crisis. However, as described by Stoop et al. (2021), the impact of Covid-19 strongly exceeds previous events considering the total shutdown of businesses.

This development demonstrates the most significant threat of COVID-19 to SMEs worldwide, particularly in the most vulnerable countries, as they lack access to finances and borrowing capacity. In contrast, developed countries have put measures and emergency funds in place to assist SMEs against the crisis, while African governments have not put much effort into supporting SMEs (Muriithi, 2021). For example, in a study by the BFA Global survey where 1561 participating SMEs across countries such as Kenya, Nigeria and South Africa, it was found that SMEs' cash reserves were only able to take them for four to six months (BFA Global, 2020). This means that the survivability of these SMEs is highly unlikely to exceed six months. In another survey that engaged 17 African business owners, 87% were uncertain of their business survival during the pandemic (Harrison, 2020). In terms of specific losses, African business exporters lost US$2.4 billion from industrial supply chain exports due to factory

shutdowns (ITC, 2020). Furthermore, two out of every three SMEs in Africa experienced a reduction in sales, between 75% and 54% drop in their ability to access inputs (ITC, 2020).

Nevertheless, not all businesses suffered during the pandemic as some had laid sustainable resilience strategies. For example, a study by the Global Accelerator Learning Initiative (GALI) and Aspen Network of Development Entrepreneurs (ANDE) with 488 entrepreneurs (39% from Sub-Saharan Africa, 25% from Latin America and the Caribbean and 8% from Asia) found that 12% businesses in finance, 11% in education and 10% in health sectors had increased revenues in their 2020 projections (ANDE, 2020). This was due to the adaptation of SMEs in introducing digital technologies as a survivability measure (Gregurec et al., 2021). Furthermore, a range of mechanisms, such as fostering access to and usage of financial services (loans, insurance, and investment products), has promoted financial resilience. Lyons et al. (2020) affirmed that financial literacy would cultivate the financial awareness, knowledge, skills, and attitude to effectively access these services (Habiyaremye, 2021).

Therefore, the survivability of SMEs post-Covid-19, requires the combination of contextual factors such as strong leadership, adapting to new technologies and leveraging organisational collective intelligence (Mustafa & Abbas, 2021; Amah, 2022). According to Zutshi (2021), other resilience strategies such as business transformation, financial and crisis management and government support could prove pivotal in organisational resilient capability. This implies that adopting such strategies could help firms maintain a competitive advantage, thereby, achieving sustainability. More so, appropriate policy intervention and response provide a structured approach that will provide revitalisation of SMEs in areas such as innovation, networking and internationalisation (Juergensen et al., 2020). Thus, the potential to maximise firm resources and build upon experiences of the Covid-19 pandemic acts as preparation for post-pandemic success.

3. Understanding SME Resilience from the Resource-Based View (RBV) Perspective

Some pioneering scholars have underlined the significance of RBV as a theoretical pilar in explaining organizational characteristics including management decision-making capability, tangible resources and human capabilities that sustains firm growth (Barney, 1991; Penrose, 1959; Wernerfelt, 1984). Many scholars in the field of strategic management have also long argued that organisational capability depends hugely on a firm's resource stock which

historically determines competitive advantage. Evidence suggests that organisational sustainability could be based on a firm-specific resource that is valuable, rare, inimitable and non-substitutable (Barney, 1991).

This makes an understanding of RBV as a theory in organisational resilience important given that SMEs are perceived to be a panacea for economic growth and development in emerging economies. For example, SMEs are recognised as the quintessence of a country's economy as they serve as the cradle of entrepreneurship, augment the tax base, and exploit niche markets due to their adaptability and innovativeness (Manyani, 2014). This sector also contributes to employment creation and boosts individual wealth, which eventually leads to poverty alleviation and improves the standard of living for many households (Kalogiannidis, 2020; Abisuga-Oyekunle et al., 2020; World Bank, 2020a). Nevertheless, SMEs across the world have currently been confronted with unprecedented challenges resulting from the peculiarities of the COVID-19 pandemic. SMEs that managed to withstand the unprecedented challenges brought by the COVID-19 pandemic would have gone through tremendous overhauling over the previous years by adopting various initiatives that help manage businesses through crises (Hu and Kee, 2021).

RBV is instrumental in organisational management, but the theory is yet to be explored in contexts within highly uncertain and dynamic environments such as COVID-19. This means that it could be extended to explain more dynamic or highly turbulent environments to help SMEs strategize to deal with future pandemics. This is because SMEs' resilience strategy during the pandemic has been exposed due to the lack of resources that further compounded their quest for survivability (Turkson et al., 2021). This is because SME resilience does not only depend on the business itself but also the type of internal resources, particularly from the firm's internal capabilities. Explicitly, resources are critical for the sustenance of an organisation or firm (Pfeffer and Salancik, 1978), and this is more crucial during unprecedented events.

But as argued by Penrose (1959), it is unlikely to attribute the success of a firm to one specific resource. This implies that combining resources could add value particularly if these resources are complementary and can undertake a productive activity such as resilient capability building. This is important as many organisations are operating in an increasingly chaotic business environment (Liu et al., 2019). But the pandemic has made it even more destructive for most SMEs, restricting their operations drastically, particularly for those operating in developing regions such as Africa. To prevent such similar challenging and catastrophic situation as Covid-19, organisations must be more flexible, adaptable, innovative and become more resilient to

survive and flourish (Do et al., 2022). But for SMEs to build their resilient capability, their capacity to effectively manage resources and deal with risk is key (Samuel et al., 2015).
The RBV focuses on internal resources and capabilities to identify the determinants of a firm's competitive advantage and performance (Ramon-Jeronimo et al., 2019). From this background, RBV could be used to advocate for SME resilience through resources such as proper public policy support, an effective tax policy and regulations system, effective SME training programmes and national research and development programmes to help SMEs in their quest for financial resilience. Such resources could be deemed as rare, inimitable, valuable, and nonsubstitutable (Barney, 1991) which will help SMEs put in place resilience capability strategies that could positively influence on different performance dimensions.

As argued by proponents of RBV, it is, therefore important for SMEs to harness both the tangible and intangible resources at their disposal in dealing with catastrophic situations through effective decision-making in reducing vulnerability against adversities, therefore, by having effective public policy support, favourable tax policies, regulations, and access to training programs could favour SMEs in developing their financial resilience.

4. Developing SME Resilience in Africa

4.1 Public Policy Support

To prevent the collapse of most SMEs and the potential rippling consequences on the economy, most governments have deployed critical measures to sustain short-term liquidity (Le et al., 2020). Some countries have focused on more general policies that have the potential to support SME resilience. For example, in the United States, the Coronavirus Aid Relief and Economic Security (CARES) Act was passed to support SMEs with the resources needed to maintain payrolls and cover overhead costs (US Department of the Treasury, 2020). In Africa, some countries adopted similar principles, such as the Coronavirus Alleviation Programme (CAP) in Ghana and the Debt Relief Fund in South Africa, to assist SMEs in paying debts and acquiring resources needed for their survivability (Dlothi & du Plessis, 2020; Aidoo et al., 2021). Even before the Covid-19 pandemic, access to finance has been identified as a major barrier for SMEs (Otman, 202; Rajagopaul et al., 2020). Hence, in Kenya, the Central Bank has stepped in to support through the introduction of favourable monetary conditions and enabling commercial banks to provide affordable credit to SMEs (Zeidy, 2020).

In some developed countries, governments have stepped out from the traditional route of bank lending to provide equity financing through the various stock exchanges to support SMEs' recovery from the pandemic (Tawakol & Ibrahim, 2020). Similar strategies have been adopted in Ghana (Ghana Alternative Market, GAX), Egypt (Nilex) and South Africa (AltX) (Tawakol & Ibrahim, 2020). Invariably, the lack of this kind of support harms entrepreneurship development in any country (Hoque & Awang, 2019).

The above-mentioned policies are unique to each country and could represent valuable, rare, inimitable policies that could help a firm sustain competitive advantage and remain resilient (Barney, 2001). This implies that an effective public policy could support firms explore resources such as new technology and skills that could make SMEs resilient against any future pandemic or any unforeseen events. Such decisive action by Kenya Central Bank, for example, can help SMEs acquire resources to build capability that has the attributes of being valuable, rare, inimitable, and nonsubstitutable (Barney, 1991) and remain resilient. Explicitly, the role of public policy support is paramount during pandemics as well as through the post-pandemic stages due to their impact on building resilience SME sector.

4.2 *Supportive tax policy and regulation*

The environment created by governments in terms of taxation, licensing and infrastructure contribute to either the success or failure of SMEs (Muriithi, 2017). Most public policies and regulatory frameworks act as instruments that create a conducive environment to equip SMEs in dealing with financial barriers and information asymmetry (Doh & Kim, 2014). For example, the government's policies on tax relief and social security regulation could provide some financial security for SMEs and enable them to acquire physical capital, human capital and intellectual capital which are vital for the survivability and resilience of SMEs during any future pandemic. Integration of these resources could lead to capability development in SMEs to exploit opportunities, mitigate threats and outperform their competitors (Barney, 1991; Grant, 1991). This implies supportive tax policy and an effective regulation system could enable SMEs to acquire either tangible or intangible assets that can be productively utilised to implement their value creation strategies (Grant 1991) and be resilient. This is because the structure of the regulatory framework can either crush or promote the small business economy. Therefore, unfavourable tax systems, complicated rules, and regulations can negatively obstruct SME growth. For example, income tax paid by businesses in Kenya is 51%, Ghana, 33%, Nigeria, 30% and in South Africa, it ranges from 7% to 28% depending on the size of the business (Muriithi, 2017). The income tax system in South Africa could favour SMEs to have

some financial reservoir in their quest for financial resilience. Demonstrating the government's commitment to SMEs ' resilience, Botswana initiated a tax deferral of 75% of any quarterly payments between March 2020 and Sept 2020 by SMEs (Price, 2020). Similarly, unionised SMEs, in collaboration with African governments, reduced taxes and postponed the submission of financial returns as a mechanism to cut costs (Ufuo et al., 2020; Thabani & Richard, 2020). Therefore, it is important for policymakers to properly analyse tax policies to have a functional and equitable tax system.

4.3 Tailored SME training programs

Inadequate management skills, poor expertise in critical functional areas, and inadequate financial literacy are noted to be major causes of SME failures in the African continent (Muriithi, 2017). This makes human capital development a rare resource that offers firms an increased opportunity to gain a competitive edge. For example, literacy proficiency and the continuous need for training and development programmes for SMEs could become crucial, particularly in circumstances that require adaptability during volatile and uncertain times. This implies human capital development through specific or tailored training should be valuable, rare, and inimitable so that competitors cannot duplicate them (Barney 1991; Peteraf, 1993). A study of 124 SMEs in Uganda revealed that 60% of the firms had spent less than US $200 per annum on training in the area of digitisation for survivability which is woefully inadequate (Otete, 2021; Bai et al., 2021). The universities in Africa have a role in mitigating and contributing to solving a myriad of challenges encountered by SMEs in delivering training and mentorship programmes (Svenson, 2021). To develop the entrepreneurial capacities and dexterity of SMEs, Zimbabwe, for instance, introduced an improved curriculum on vocational education and training centres are made to focus on problem-solving, value creation, innovation, and responding to the changing labour market (Manyati & Mutsau, 2020). Equally, the Ghana Innovation Hub, i-Code Ghana and Kumasi Hive, under the European Union-funded "Boosting Green Employment and Enterprises opportunities in Ghana", are running online incubation services in assisting entrepreneurs in developing resilience and survival skills (Thukral, 2021). Unarguably, programmes like these provide social networking, develop innovative solutions, and motivate SMEs to deliver on their economic and social mandate. Although the lockdown measures presented an unprecedented challenge for skills development for many SMEs to take place during the pandemic, it is expected that these strategies should be continuously implemented in preparedness to cope with pandemics and other business

shocks (Manyati & Mutsau, 2021). It is, therefore, important to investigate the impact of these training programmes offered to SMEs in developing financial resilience.

4.4 National Research and Development

The paucity of research on the resilience and coping mechanisms of African firms has created a knowledge gap. According to Grant (1991), firms must identify, classify, and decide on their set of resources and capabilities to develop a strategy that fills a market gap to establish a competitive advantage. Such resources could be knowledge acquisition which could only be obtained through an effective national research development agenda that will enable SMEs endowed with a broad set of knowledge resources that lead a firm to a strategic advantage. Given that knowledge-based resources are usually considered hard to distribute, imitate and social complex (Lei et al., 1996), African governments and organisations must take pragmatic steps to invest in research to support SMEs' growth capability and prevent most SMEs from lacking the stability needed to remain productive in the face of pandemics. The conditions and the environment in which some African firms operate are quite unfortunate, particularly in the area of infrastructural gaps and institutional voids. Research into these conditions can help identify some of the challenges and how organisational decision-making can be crafted to support business growth under these extreme conditions (Barnard et al., 2017). However, the difficulties associated with data collection in the African context could be daunting to researchers, thus creating a data gap in African businesses (Kolk & Rivera-Santos, 2018). Again, regular research into these conditions will invigorate innovation and the competitive edge held by strong capacities in efficiency, speed, and quality that help businesses to adapt to challenging circumstances (Hahn et al., 2006).

4.5 Accounting and assessment services

Access to accounting and assessment services provides the opportunity for SMEs to understand their operations and financial challenges in the business. However, if SMEs are left in the dack with no accounting and auditing support, they are likely to be financially fragile (Lee, Choi, & Yoo, 2020). Resource-based view argues that a firm must deliberately develop desirable resources or strategic assets which are relevant in the context of being resilient in challenging times, such as the recent Covid 19 pandemic (Barney and Wright, 1998). The provision of accounting and assessment services leads to access to finance which is a major problem for most SMEs in Africa (Quartey et al., 2017). This implies without external finance, SMEs might not be able to compete in an international market, expand their businesses and promote their

growth agenda (Osano & Languitone, 2016). Explicitly, lenders regard secured titles as a significant step that influences their decision to accept a given landed property as collateral for a business loan application (Domeher et al., 2016). However, most SMEs' lack of property rights in Africa has exacerbated SMEs' financial situation resulting in outright rejection of loan applications, thereby creating an imbalance between the demand and supply of credit (Domeher, Frimpong & Mireku, 2014). This implies that the inability of SMEs to access formal sector finance is primarily a supply-side problem (Daniels et al., 2017). More so, the ability of SMEs to have access to legal services and other supportive institutions to enforce contracts is crucial in dealing with their financial resilience. According to RVB, 'rareness' (R) is seen as the capability of organisations to develop and exploit idiosyncratic traits and dimensions of the firm's human capital to obtain a competitive advantage (Pereira et al., 2020). Access to accounting and assessment services could represent the rare capability for SMEs' human capital to obtain a competitive advantage and remain resilient. This implies that within the RBV argument, these resources will not be as valuable if they can be imitated with ease (Barney, 1991).

Based on the above discussion, we have proposed a conceptual framework and five (5) hypotheses for the development of financial resilience, as shown in Figure 1 below.

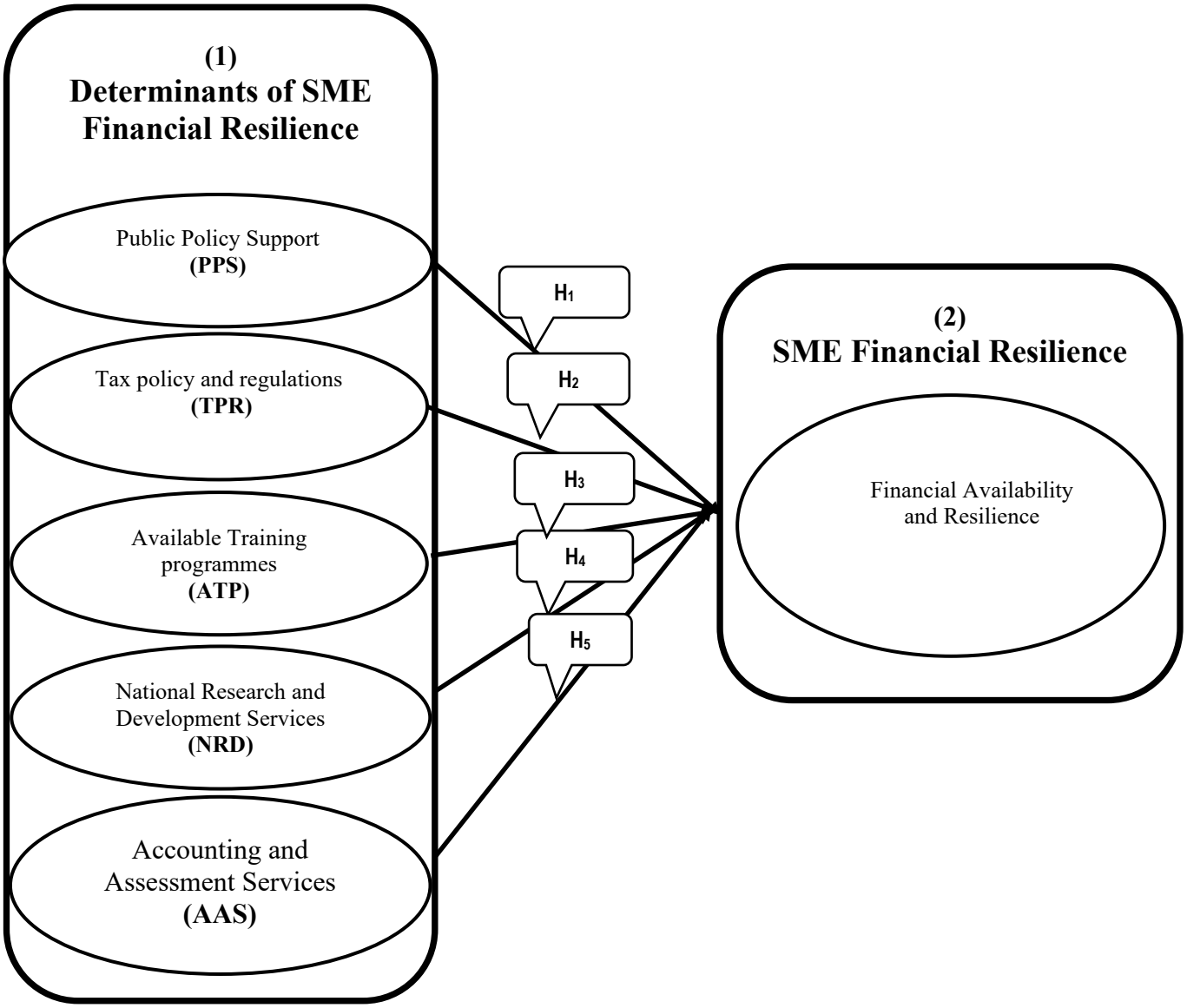

Figure 1: A hypothesised model of SME financial resilience

H1*: *Effective public policy support has a positive relationship with SME resilience

H2*: *Effective tax policy and regulations have a positive relationship with SME resilience

H3*: *Effective SME training programmes have a positive relationship with SME resilience

H4*: *Availability of national research and development programmes has a positive relationship with SME resilience

H5*: *Effective accounting and assessment services have a positive relationship with SME resilience

5. Methodology

This study has used a longitudinal research design with panel data covering a 12-year period (2009 to 2020) for twenty (20) African countries, namely, *Algeria, Botswana, Egypt, Burkina Faso, Cameroon, Ethiopia, Ghana, Libya, Madagascar, Malawi, Morocco, Mozambique, Namibia, Nigeria, Senegal, South Africa, Sudan, Tunisia, Uganda and Zambian* to investigate financial resilience among SMEs in Africa. Using multiple linear regression (MLR), variables relating to predicting financial resilience were analysed using SPSS-version 27. Panel data has been successfully used in numerous studies. For example, Hussain et al. (2019), Kass-Hanna, et al. (2021), Sakyi-Nyarko, et al. (2022), and Sun et al. (2022), among others, have all used panel data to investigate the causality of variables on financial resilience.

Data was collected from the Global Entrepreneurship Monitor (GEM) across the above countries. The GEM data is collected through two complementary tools, namely, the Adult Population Survey (APS) and the National Expert Survey (NES). The former focuses on the life cycle of the entrepreneurial process by exploring business characteristics and the motivation of individuals for starting a business, whereby at least two thousand (2000) adults in each economy are surveyed to ensure national representativeness. The NES tool, on the other hand, assesses nine (9) factors deemed to have a significant impact on entrepreneurship, namely *Entrepreneurial Finance, Government Policy, Government Entrepreneurship Programs, Entrepreneurship Education, R&D Transfer, Commercial and Legal Infrastructure, Entry Regulation, Physical Infrastructure, and Cultural and Social Norms*. The national and regional experts are usually selected using a convenience sample approach technique. Under the NES, at least thirty-six (36) experts in each country are surveyed to express their opinions on these 9 factors on a Likert scale with a rating ranging from completely false to completely true. The standardised methodologies employed by GEM ensure that data is of high quality and can be aggregated or compared across countries and regions. More so, the GEM's data quality is guaranteed by not only having its data experts coordinate closely with national teams and survey vendors but also subjecting the surveys to a range of quality control checks before the actual data collection with further scrutiny exacted on the data before being published.

Table 1: Variable Definition and Model Specification

Variable	Description	Measurement Scale
Financial Availability and Resilience (FAR)	The availability of financial resources-" equity and debt" for small and medium enterprises (SMEs) (including grants and subsidies)	Likert scale: completely false to completely true
Public Policy Support(PPS)	The extent to which public policies support entrepreneurship development	Likert scale: completely false to completely true
Tax Policy and Regulations (TPR)	The extent to which tax policies and regulations encourage SME growth or encourage new SMEs.	Likert scale: completely false to completely true
Available Training Programmes (ATP)	The extent to which training in creating or managing SMEs is incorporated within the education and training system in higher education such as vocational, college, business schools	Likert scale: completely false to completely true
National Research and Development (NRD)	The extent to which national research and development will lead to new commercial opportunities and is available to SMEs	Likert scale: completely false to completely true
Accounting and Assessment Services (AAS)	The presence of property rights, commercial, accounting and other legal and assessment services and institutions that support or promote SMEs	Likert scale: completely false to completely true

6. Results and discussion

6.1 Descriptive statistics

The descriptive statistics in terms of the mean, standard deviations, minimum and maximum values, skewness, and kurtosis of both the dependent and independent variables are presented in Table 2 below. A careful observation of the mean values of the dependent variable (FAR, 2.37987) and all the independent variables (PPS, 2.58329, TPR, 2.32250; ATP, 1.83092; NRD, 2.63763; AAS, 2.00408) all indicate a suitable central tendency looking at the minimum, and maximum values observed. More so, the mean values of all the independent variables show that they have contributed to determining the dependent variable. For instance, NRD has the highest mean (*2.63763*), whilst the lowest mean is ATP (*1.83092*). The skewness for all the values under observation shows that the data is neither positively nor negatively skewed. This shows that the data used in this study is normally distributed (see the histogram in the appendix showing data normality). The kurtosis of the data has also been observed.

Whilst the variable with the highest kurtosis is PPS (4.011), the variable with the lowest kurtosis is ATP (-.589) which are all within normal boundaries indicating that no outliers exist (non-normality) in the distribution (Hair et al., 2017; Sarstedt et al., 2017).

Table 2: Descriptive Statistics

Descriptive Statistics													
	N	**Range**	**Minimum**	**Maximum**	**Sum**	**Mean**		**Std. Deviation**	**Variance**	**Skewness**		**Kurtosis**	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Financial Availability and Resilience	76	2.160	1.260	3.420	180.870	2.37987	.043072	.375494	.141	.228	.276	1.010	.545
Public Policy Support	76	3.290	1.260	4.550	196.330	2.58329	.057606	.502196	.252	1.140	.276	4.011	.545
Tax Policy and Regulations	76	1.820	1.600	3.420	176.510	2.32250	.046664	.406809	.165	.808	.276	.442	.545
Available Training Programmes	76	1.630	1.140	2.770	139.150	1.83092	.046686	.406996	.166	.092	.276	-.589	.545
National Research and Development	76	1.960	1.500	3.460	200.460	2.63763	.048676	.424345	.180	-.272	.276	-.523	.545
Accounting and Assessment Services	76	1.710	1.170	2.880	152.310	2.00408	.035543	.309857	.096	.617	.276	.980	.545
Valid N (listwise)	76												

7. Correlation analysis

The correlation analysis was carried out to determine the relationship among all the variables used in the study, as shown in Table 3 below. The correlation analysis reveals how one variable can be linearly related to one or more other variables with a non-trivial degree of accuracy (Dormann, Elith & Bacher, 2013). Observing the Variance Inflation Factors (VIF), as shown in Table 5, suggests that all the VIF values are below 4, indicating that multicollinearity is not a major concern in this study (Jensen & Ramirez, 2013; Dupuis & Victoria-Feser, 2013). Also, Table 5, which shows the collinearity diagnostics, indicates that multicollinearity is not a concern in this study. Secondly, the results also suggest that the predictor variables (PPS, TPR, ATP, NRD and AAS) are not highly correlated with the dependent variables (FAR).

The results indicate that the dependent variable correlates positively with all the independent variables. For instance, FAR correlate positively with PPS (r = 0.000). Further, FAR correlate positively with TPR (r = 0.093, ATP (r=0.008), NRD (r = 0.054), and AAS (r = 0.000). Regarding the interrelationships among the independent variables, the results showed that they positively correlate with each other. For instance, TPR has a positive correlation with public policy support (r = 0.000), and ATP correlates positively with PPS (r =.012). Similarly, NRD has a positive correlation coefficient (r = 0.001) with TPR.

Table 3: Pearson Correlation Matrix

		Financial Availability and Resilience	Public Policy Support	Tax Policy and Regulations	Available Training Programmes	National Research and Development	Accounting and Assessment Services
Sig. (2-tailed)	Financial Availability and Resilience	1.					
	Public Policy Support	.000***	1.				
	Tax Policy and Regulations	.093*	.000***	1.			
	Available Training Programmes	.008***	.012**	.466	1.		
	National Research and Development	.054**	.000***	.001***	.000***	1.	
	Accounting and Assessment Services	.000***	.000***	.003***	.000***	.000***	1.

***P*<0.1; ****P*<0.05; *****P*<0.01**

Table 4: Collinearity Diagnostics

Collinearity Diagnostics Variance Proportions									
Model	Dimension	Eigenvalue	Condition Index	(Constant)	PPS	TPR	ATP	NRD	ASS
1	1	7.866	1.000	.00	.00	.00	.00	.00	.00
	2	.050	12.587	.00	.04	.05	.15	.00	.00
	3	.043	13.556	.02	.00	.00	.12	.02	.01
	4	.015	23.094	.03	.28	.15	.00	.12	.09
	5	.010	27.405	.04	.05	.08	.55	.14	.32
	6	.006	35.464	.22	.24	.01	.14	.65	.11
	7	.005	38.017	.62	.39	.01	.00	.00	.12
	8	.004	43.344	.07	.00	.70	.03	.06	.36

Table 5 shows the results of the multiple linear regression in testing the five (5) hypotheses as indicated above. Thus, five (5) hypotheses were tested as indicated in the conceptual model above. From the regression results, the R^2 value of the model for FAR is (0.702) while that of the adjusted R^2 is 0.672. This implies that the regression model can explain the variances in FAR by 67.2%. Further, the F-value is used to assess if the independent variables significantly explain the dependent variable. The F-value of the model is 22.917, which is significant at a 1% level (p=0.000). This implies that the model is robust in predicting FAR at a confidence level of 99%.

Table 5: Regression analysis of resilience factors

Coefficients													
		Unstandardised Coefficients		Standardised Coefficients			95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	1.201	.282		4.253	.000	.637	1.764					
	Public Policy Support	.370	.087	.494	4.250	.000	.196	.543	.632	.458	.281	.324	3.091
	Tax Policy and Regulations	.312	.107	.338	2.925	.005	.524	.099	.153	.334	.194	.329	3.043
	Available Training Programmes	.035	.088	.038	.399	.691	-.141	.212	.277	.048	.026	.477	2.097
	National Research and Development	.341	.093	.385	3.652	.001	.527	.155	.186	.405	.242	.394	2.538
	Accounting and Assessment Services	.749	.129	.618	5.783	.000	.490	1.007	.698	.574	.383	.383	2.608
	R^2			0.702									
	Adj. R^2			0.672									
	ANOVA			22.917									
	Sig F			0.000									
	N			76									
a. Dependent Variable: Financial Availability and Resilience													

***P<0.1; **P<0.05; ***P<0.01**

The regression results in Table 5 below indicate that while PPS (β = 0.494, p = 0.000), TPR (β = 0.338, p = 0.005), ATP (β = 0.038, p = 0.691), NRD (β = 0.385, p = 0.001), and AAS (β = 0.618, p = 0.000). Thus, whilst PPS, TPR, NRD and AAS are significant at 1%, with a confidence level of 99% at predicting FAR, ATP is not significant at predicting financial FAR.

Firstly, regarding the relationship between public policy support and financial availability and resilience, the result shows that public policy support is positively correlated with financial availability and resilience and statistically significant at a 1% level in predicting financial availability and resilience. Thus, a unit increase in public policy support will increase financial availability and resilience by 49.4. This finding is consistent with several studies, including that of Aidoo et al. (2021), who argued that an effective public policy supports the growth and development of SMEs in a country, ultimately leading to improved general resilience of SMEs. Unique public policy support with a mixture of institutional, financial, and infrastructural support generally provides a conducive environment in which SMEs operate in harnessing their internal and external resources in developing their capabilities is necessary for coping with pandemic and business shocks. African governments are therefore expected to continuously improve their policy environments whereby policies that are likely to destroy SME growth are avoided. However, it is not surprising that public policies in Africa fail to support SMEs adequately. As noted by Lerner (2009) and Hoque and Awang (2019), government programmes toward SMEs are often poorly designed and hence fail to meet the intended objectives. Our hypothesis regarding the positive impact of public policy support on financial resilience is therefore accepted.

Secondly, in connection with the impact of supportive tax policy and regulations on SME resilience, the result reveals that TPR positively correlates with SME resilience and is statistically significant at 1% in predicting the financial resilience of SMEs in Africa. Therefore, a unit increase in tax-effective policies would increase financial resilience of SMEs by 33.8% (β = 0.338, p = 0.005). This result indeed is not surprising as available research evidence asserts that a supportive tax policy and regulations result in improved financial resource availability for SMEs, which is an important resource in times of pandemics and business shocks (Muriithi, 2017; Habiyaremye, 2021). SMEs in Africa operate in a dynamic and fragile environment which in most cases works against their survival and capability development. Therefore, an environment consisting of effective task policies such as tax rebates, tax protection, and supportive regulations, particularly for new SMEs, would provide

the necessary organisational resilience and capabilities during catastrophic events such as COVID-19 (Doh & Kim, 2014; Aidoo et al., 2021). Other initiatives would include access to information technology, reduction in tax compliance costs and a tax system that is revenue-dependent rather than mandatory payments as observed in Africa (Chakma et al., 2017; Crick et al., 2018). The benefits of such initiatives include the adoption of innovation in business and superior adaptation skills, which are key factors in developing organisational resilience (Habiyaremye, 2021). Our hypothesis regarding the positive impact of a supportive tax policy on financial resilience is therefore accepted.

Thirdly, the result also indicates that, even though available training programmes in Africa correlate positively with financial availability and resilience, it is not statistically significant. Thus, the hypothesis regarding the impact of training programmes on financial resilience in Africa is not supported. This finding is not surprising, especially in the context of developing countries where quality training programmes for developing SME capability are scarce (Thukral, 2021). The general literacy level of SME owners in Africa is low; hence decision-making during pandemics and business shocks is usually hampered. However, as argued by Thukral (2021), consistent and quality entrepreneurial training programmes for SMEs trigger resilience and survival in pandemic situations. Even though many African governments introduced a series of training opportunities for SMEs during the pandemics, these programmes are seen as late in developing the necessary financial resilience since capability development in an SME is rather a process rather than anecdotal and reactive training programmes with no value (Pal et al., 2014; Manyati & Mutsau, 2021). The European Union, for instance, which has introduced several training programmes such as online incubation services in digitalisation, might not have the intended impact since such programmes are rather reactive to the pandemic instead of SME preparedness for such situations (Svenson, 2021).

More so, the impact of national research and development on financial availability and resilience indicates a positive correlation and is significant at 1% in predicting financial availability and resilience ($\beta = 0.385$, $p = 0.001$). Therefore, a unit increase in national research and development will increase financial availability and resilience by 38.5%. The hypothesis regarding the positive impact of national research and the development of financial resilience is therefore supported. Even though African governments themselves lack the necessary research capacity on SMEs, several projects by international organisations such as the European Union, the World Bank and the United Nations have sought over the years to

understand the peculiar needs of SMEs in Africa. This inevitably has had a positive impact on African SMEs. However, indigenous research institutions and universities need to commence research-intensive programmes to support the growth of SMEs since they operate in an erratic and complex environment. This should be a continuous process to offer a reliable diagnosis for SMEs' survival and resilience. This will also have a tremendous impact on new firm creation and job creation capacity development of African SMEs.

Finally, regarding the relationship between accounting and assessment services and financial availability and resilience of SMEs in Africa, the result reveals that accounting and assessment services are positively correlated with financial availability and resilience and are statistically significant at 1%. A unit increase in accounting and assessment services will increase financial availability and resilience by 61.8% ($\beta = 0.618$, $p = 0.000$). This result implies that an increase in accounting and assessment services results in improved financial availability and resilience of SMEs. SMEs exposed to management and accounting services resulting in savings, effective borrowing, and insurance uptakes are likely to be more resilient in pandemics compared to those without these services (Chiloane-Phetla & Mathipa, 2021; Lyons et al., 2020). Effective deployment of assessment services such as tax relief assessments, business planning, cost reduction assessments, resource utilisation and legal services would minimise the moral hazard surrounding SMEs in Africa and maximise the returns on their investments. These support services would also enforce property rights as well as provide a hedge against business failure (Chavis et al., 2009; Xue & Klein, 2010; Klapper & Love, 2011). Since the quality of these accounting services is dependent on the quality and skill level of individual SMEs, it is therefore argued that SMEs that can attract and horn the skills of critical staff to deliver these services would retain a source of competitive advantage, enhance their performance and resilience (García-Morales et al., 2012).

Conclusions and implications

This study sheds new light on our understanding of the survivability of SMEs in Africa and how through RBV SMEs can leverage internal unique resources with public policy support and other external environmental factors to create a competitive advantage and enhance their resilience against shocks. The conceptual model presented in this study is intended to address the research gap in seeking a validated model for SME survivability in Africa. The model thus corroborates the findings of previous studies that public policy support, supportive tax policy

and regulations, availability of training programmes, national research and development, and accounting and assessment services are important factors that are likely to influence the financial resilience of SMEs to engender the anticipated SME survival outcome which results in socio-economic growth and development of African economies (Lyons et al., 2020)

As far as this study is concerned, this is the first time in Africa's SME landscape that panel data of this nature has been used in understanding the financial resilience of SMEs in Africa. This study has addressed this gap by contributing to the financial resilience literature by building a robust theoretical model that postulates that an improvement in financial resilience of SMEs depends on a conducive public policy, a friendly tax environment, SME-tailored training programmes, research and development, accounting, and assessment services. Investing in SME survival has a tremendous benefit for African economies as well as for individuals and their families (Chavis et al., 2009). To this end, increased financial resilience promotes SMEs' survivability which eventually improves the productivity levels of SMEs and their survival (Xue & Klein, 2010). These in turn should lead to an enhanced resource base which SMEs can leverage to be more competent in dealing with the increasingly turbulent market environments to improve their resilience (Barney, 1991).

Research Implications

Firstly, this study has developed an efficient and robust framework that can be adopted in sustaining the operations of SMEs in serious pandemic situations in Africa. Therefore, governments in Africa should ensure that their SMEs are supported with effective policies that aim at strengthening capability and skill development, making research findings available to SMEs, and implementing friendly taxation and regulatory policies coupled with the streamlining of accounting and assessment services.

Limitations of the study

The major limitation, apart from the data availability being limited to only 20 countries in Africa, is the non-availability of data points for some of the years in the 12-year period for some of the countries. The validity and reliability of the study outcomes is, however, not significantly compromised by these limitations.

Future research direction

This study offers further insight into research regarding SME resilience and survivability. Future research can therefore be directed at exploring the nature and effects of available

training programmes only to identify the various ways of improving SME capability for effective decision making. More so, SMEs are found in different sectors of the African economy ranging from retail, production and agriculture to services. Since each SME would have its resilience strategy based on the sector in which it is found, future research could therefore focus on specific sectors rather than putting all the SMEs into a single basket for analysis. The purpose is to compare the resilience and survivability capacities of SMEs within specific sectors of the African economy.

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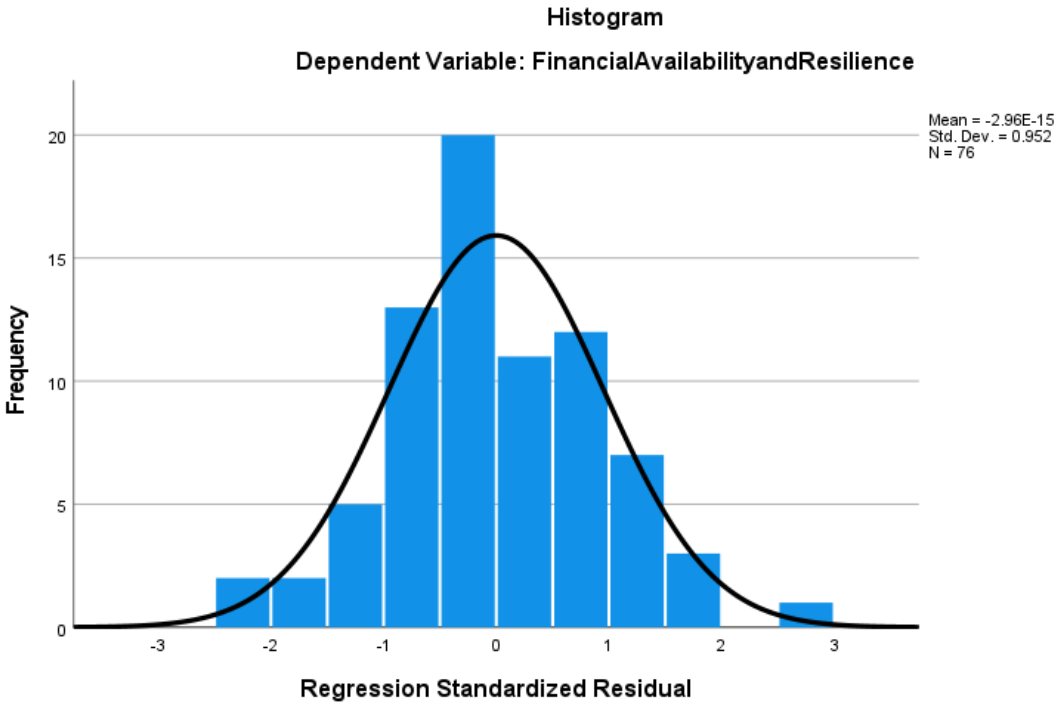
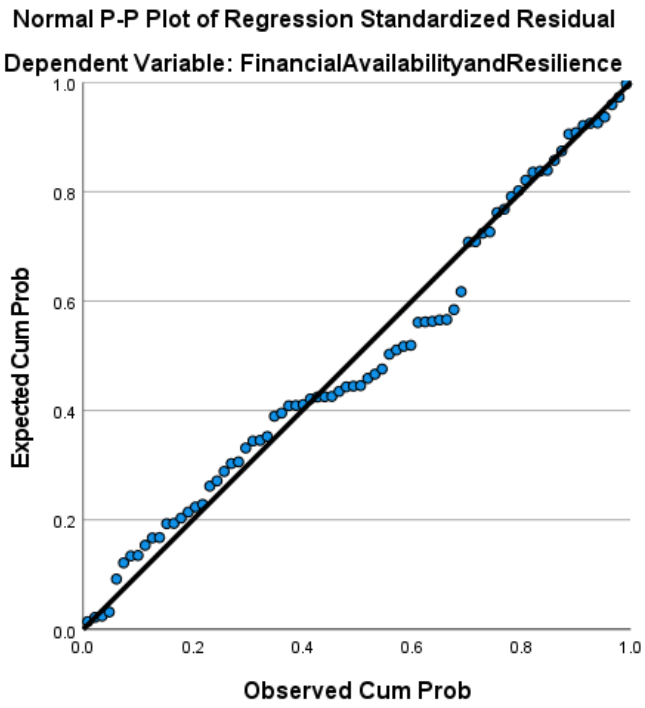
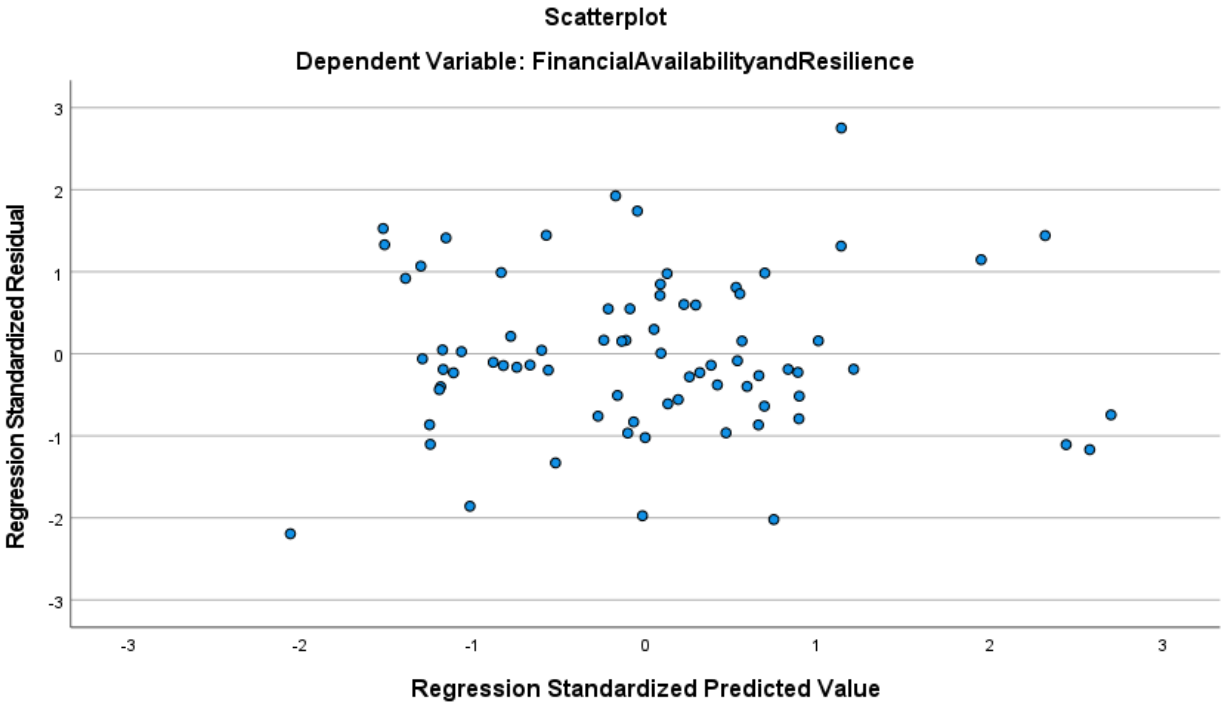
Appendix


Histogram
Dependent Variable: FinancialAvailabilityandResilience
Mean = -2.96E-15
Std. Dev. = 0.952
N = 76
Frequency
20
15
10
5
0
-3
-2
-1
0
1
2
3
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: FinancialAvailabilityandResilience
Expected Cum Prob
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: FinancialAvailabilityandResilience
Regression Standardized Residual
Regression Standardized Predicted Value
3
2
1
0
-1
-2
-3
-3
-2
-1
0
1
2
3