

Entrepreneurial Resilience for Survival Using Pivoting Strategies during the COVID-19 Pandemic: The Case of Women Entrepreneurs, Owner – Managers of Small –Medium Enterprises (SMEs) in Khartoum State – Sudan

Widad Ali A/Rahman

Associate Professor, School of Management Studies
Ahfad University for Women,
Omdurman: P.O. Box 167, Sudan

Abstract

Small-Medium Enterprises (SMEs) are vulnerable to crisis, however little is known about how resilient they are during COVID-19 pandemic. This paper explores behaviors of women-led SMEs in Khartoum State, addressing a knowledge gap regarding resilience by SMEs to survive the pandemic and thrive. It adheres to the interpretive grounded theory perspective, and targets SMEs, in diverse business lines, to identify their response to the crisis. Focus is on how they develop alternative strategies, namely pivoting of business models, marketing mix and adopting innovative tactics in financial management and mobilization of resources. The findings ascertain that the surviving strategies adopted by women-led SMEs have demonstrated high levels of resilience by seizing opportunities and mobilizing resources to adapt to changes in the environment due to COVID-19. A commonly shared pivoting strategy is shifting to digitalized operations, by utilizing social media, digital platforms and ITC, which have facilitated pivoting for survival.

Keywords: COVID-19 pandemic, Women entrepreneurs, SMEs, resilience, pivoting strategies, Venture survival

1. Introduction

COVID-19 is unique in the severity of its impact as a humanitarian disaster that has affected every corner of the world. The economic shock unleashed by the crisis caused both a supply and demand shock to the global economic system (HBR,2020). However, it does not affect everyone in the same way, especially for entrepreneurs and micro-small and medium-sized enterprises (MSMEs) that have suffered significant consequences. Very few SMEs have had any experience with such a global pandemic before COVID-19. During the best of times the business environment is unpredictable, but entrepreneurs have learned to manage and adjust to its “normal” variations (HBR,2020). During an economic crisis, SMEs tend to be vulnerable in part, because they have fewer resources with which to adapt to a changing context. Thus they will be disproportionately affected by such an overwhelming crisis, especially in Africa and least developed countries.

The ITC COVID-19 Business Impact Survey gathered evidence on how the pandemic affected 4,467 companies in 132 countries. Analysis of this data, collected from 21 April–2 June 2020, shows that nearly two-thirds of micro and small firms reported that the crisis strongly affected their business operations, compared with about 40% of large companies. In the worst scenario, one-fifth of SMEs reported that permanent closing- down is a high probability risk facing their businesses (ITC Survey, 2020). In Africa, two out of three businesses said they had been strongly affected by COVID-19; mostly involving reduced sales (75%) coupled by difficulty accessing inputs (54%). Companies within the service sector have been the hardest hit around the world. In accommodation and food services, for instance, 76% of surveyed firms said partial and full lockdowns strongly affected their business operations (ITC Survey, 2020).

Women-led firms operate in sectors that are most immediately affected by the crisis, such as hospitality and food as well as retail and wholesale. When the distribution by gender across sectors is taken into account, the differences persist, with 64% of women-led firms declaring that their business operations are strongly affected, compared with 52% of men-led companies (ITC Survey, 2020).

In their commentary article, Manoloya and colleagues (2020) inform that COVID-19 pandemic has created specific challenges threatening women entrepreneurs, to highlight the most apparent; (1) the industries where most women operate are disproportionately, adversely affected by economic disruptions; (2) women are more likely to run many of the youngest, smallest, least resourceful and most vulnerable businesses; and (3) gender roles and responsibilities burden women with primary care-giving and homemaking for schoolchildren and the elderly and at the same time of taking care of their businesses health at critical times (Manoloya, et al. 2020; OCED, 2020).

On the other hand, their greater dependence on (fewer) customers and suppliers and markets may lead to increased difficulties in maintaining their activity in the face of the crisis. Other research findings inform of additional challenges faced by women-owned SMEs, pertinent to their limited levels of competencies and capabilities (A/Rahman, 2020). When women opt to entrepreneurship and start business (of any size) they are more likely to be disadvantaged in their access to various entrepreneurial capitals, given their personal backgrounds, employment experiences and the socio-economic and cultural context in which their businesses operate (A/Rahman, 2006; Carter and Shaw, 2006). As such, the survival of SMEs is perceived to be highly dependent on the competence endowments, unique managerial tactics, capabilities and skills of the female owners-managers, and the resources at their disposal (A/Rahman, 2020).

Despite all the adversities and complexities identified around SMEs due to the pandemic crisis, some SMEs challenge a dominant narrative in entrepreneurship research, which categorizes crisis response into a stereotypical gendered dichotomy: women seeking to reduce risks and men seeking to seize opportunities (Maxfield et al., 2010). Specific current research ascertains that resilience has emerged as an entrepreneurial skill that allows enterprises to adapt and grow stronger in the face of challenges (Manoloya, et al. 2020; Wishart, 2018). Many women-led SMEs have proved to be resilient and innovatively adaptive to crisis adversities.

This paper intends to shed light on how women entrepreneurs are pivoting their business models as a coping strategy in response to the COVID-19 pandemic. It builds on evidence from a stream of studies that have examined women entrepreneurs' response to the pandemic, to maintain their business survival. On another realm, exploring the phenomenon using an interpretive approach, the paper offers several directions for further research into business model pivoting in response to complex exogenous shocks.

2. Theoretical underpinnings

2.1. Entrepreneurship and the Covid-19 Pandemic

Entrepreneurship is acknowledged as an accelerator of economic and social development, as entrepreneurs and the ventures they nurture are the backbone of the global economy. Small and medium-sized enterprises (SMEs), including the self-employed, account for 90% of businesses globally and provide 70% of employment worldwide (Stephan, et al. 2021).

Entrepreneurship research assumes that entrepreneurs are a main force of disruption (e.g., Schumpeter, 1950). In the current case, it is a virus that caused the disruption (Shepherd, 2020 ci ITC Survey,2020), and entrepreneurs (either as independent or corporate ventures) play a role in response to the disruption's impact. Very few SMEs have had any experience with a global pandemic before COVID-19. During the best of times the business environment is unpredictable, but entrepreneurs have learned to manage and adjust to its "normal" variations. COVID-19, however, has exposed critical cracks in the foundation of many businesses of all sizes. Most of these cracks may never have become apparent in a normal business environment, but the COVID-19 exposed them (ITC Survey,2020).

2.2. Resilience in the business context: Brief overview

Different perspectives have been adopted when defining resilience in a business context, some with focus on the individuals within an organization, others with focus on the organization itself and its characteristics.

Sutcliffe and Vogus (2003) note that, in all cases, the concept of resilience, is generally founded on the notion of performing well, combined with the idea of difficult circumstances threatening to jeopardize such performance. Resilience, is often said to involve the 'maintenance of positive adjustments under challenging conditions' (Sutcliffe and Vogus, 2003:95). This is often articulated as bouncing back from adversity but also as having the ability to '...anticipate, avoid, and adjust to shocks in their environment' (Ortiz de Mandojana and Bansal, 2015). In their research, Ortiz and Bansal (2015) highlight the need to consider long-term outcomes of a resilient behaviour, that adopts responsible social and environmental practices, by assessing improved financial volatility, sales growth, and survival rates, underpinned by a notion of adaptive resilience (Martin, 2012) and thus focuses on the responses during and after disruptions. Adaptive resilience involves a process of continuous transformation and learning in the aftermath of disruptions. This view of resilience indicates that, "resilience is a dynamic process, not just a characteristic or property, and it resonates closely with the Schumpeterian notion of 'gales of creative destruction'" (Martin, 2012; p11). A crisis may change unproductive activities, the removal of which opens up opportunities and a new phase of growth (Martin.2012).

2.3 SMEs Resilience at times of Crisis: The COVID-19 pandemic

Literature to date contemplates a range of situations that may test the resilience of SMEs. These include economic recession (Bullough and Renko, 2013), environmental events including short and long term weather-related events (Bullough and Renko, 2013; Battisti and Deakins, 2017; Korber and McNaughton, 2017) and supply-chain disruptions (e.g., Craighead et al, 2007).

Such distant external events can apparently cause adverse situations for businesses, such as a sudden drop in sales or resources (Linnenluecke, 2017). Clearly the nature of adversity is highly variable, and this variability is likely to influence the ways in which an SME responds to the diversity (Wishart,2018).

Penrose (2000) notes that a crisis, regardless of its type or scope, can be perceived both as a threat and as an opportunity, therefore, the way decision makers, e.g. entrepreneurs as decision makers within their ventures, perceive the crisis directly affects the way they will respond to it. Furthermore, perceptions of adversity are dependent upon the context and the wider social structures that influence their responses. The wider institutional context and the interaction with stakeholders such as investors, government, and competitors all contribute to the formation of perceptions of a crisis (Shama, 1993; Kitching et al. 2009). In a broad yet similar vein, Hall and Silva (2005) focus on the effects of national culture on existing empirical evidence regarding entrepreneurs' resilience. A variation among ventures, in their levels of resilience and response to crisis is revealed in the literature, mostly influenced by the type of venture, the scope of crisis and the capabilities or resources possessed by entrepreneurs and their ventures (Korber and McNaughton 2017). Simón-Moya et al.'s (2016) research on new firm survival, for example, revealed that greater training, experience and resources made opportunity-driven entrepreneurs more likely to manage during periods of crisis and resilient than their counterparts, necessity entrepreneurs. Firms often contemplate business model pivoting where they change product or service offerings to capitalize on emerging opportunities (Morgan et al.2020). It thus appears that committing resources to pursue crisis-induced opportunities may entail some risks, entrepreneurs mostly opt to opportunities that do not necessitate a large strategic commitment of resources (Morgan et al.2020).

2.4 COVID -19 adversity, and SMEs' actions

Due to COVID-19 one striking characteristic is that SMEs across the globe face a common threat more than ever before. The lockdown has led to major revenue drops for most and the survival of many is at stake. The future of the global economy will very much depend on SMEs' resilience and how they emerge from COVID-19 crisis (ITC Survey, 2020).

SMEs are particularly threatened by the pandemic as they typically have fewer resources than larger firms. In the first days of the pandemic, SMEs across the world responded in similar ways. However, beyond common immediate tasks, businesses diverged in their responses. Some adopted retreating strategies, drawing down their assets to get through the day. Many firms laid off employees, sold off assets or took on new debt. To cope with COVID-19, most SMEs owner/managers were obliged to weight the benefits and costs of short-term crisis reactions (Rhodes and Stelter, 2009) which might damage the long-term growth potential and against the health of the firm as key stakeholder relations may be irreversibly harmed.

The most agile firms transformed themselves to fit the new situation, creating novel products such as designer masks or rapid testing technologies. When lockdowns prevented their businesses from opening, they loaned their workers to other active businesses in essential industries (ITC Survey,2020). The ITC (2020) survey reveals that smaller firms were significantly more likely to adopt agile resilient responses. However, African SMEs, are characterized by low productivity, limited access to financial resources, lack of market space to grow, compete and thrive (A/Rahman,2006; ITC Survey, 2020). They also face gender inequality which deprive them from access to resources such as finance, knowledge and capabilities, in addition to burdens of the care services they offer to their families (A/Rahman,2006; A/Rahman et al. 2019). Thus to face the disruption created by COVID-19 pandemic, entrepreneurs, owners of SMEs, need to act creatively, with high levels of agility and innovativeness. Businesses report the direct negative effects of the pandemic, such as the fall in demand and the need to pause business operations, being the main drag on activity. In addition, indirect impacts such as supply chain disruption and the cost of complying with COVID-19 restrictions presented further challenges for many SMEs. However, a minority of businesses noted the pandemic had created opportunities and got inspired to start new ventures, while others had taken advantage of a smooth transition to new working arrangements (ERC Survey,2020).

2.5 Business model pivoting in response to COVID-19 pandemic

2.5.1 Understanding Business Models

Business models have been integral to enterprise performance and behavior since pre-classical times (Teece, 2010), however, the business model concept became prevalent with the advent of the Internet in the mid-1990s. While researchers offer different definitions for business model, there is a strong consensus that the business model encompasses customer-focused value creation, a profit formula, key resources and key processes (Casadesus-Masanell and Ricart, 2011; Teece, 2010 in Zott et al.2010).

Johnson et al. (2008) add other crucial elements in the entrepreneurial context when they inform that business models “consist of four interlocking elements, that, taken together, create and deliver value” (p. 52). These are: customer value proposition, profit formula, key resources, and key processes. Adding key resources as an element of business model is very crucial for the role business model plays in venture performance, especially in resource-tight contexts.

Teece (2010) propose the business model as a unifying construct for explaining competitive advantage and firm performance and define it as “the method by which a firm builds and uses its resources to offer its customer better value and to make money in doing so” (2010:3). Business models are often subject to change due to a number of forces that trigger business model adjustments (Saebi et al. 2017). The process of business model changes most commonly involve adaptation to changing conditions are also known as pivoting of business models (Osterwalder and Pigneur, 2010).

Considering the variation in the definitions provided in the literature, it is deemed that the presented ones are most appropriate for the specific topic of this paper; that is business model pivoting as a coping strategy by women entrepreneurs, to survive the COVID-19 crisis.

2.5.2 Business Model Pivoting

Once a business model is determined, it is not static or everlasting, rather it is subject to change. A number of forces trigger business model adjustments, including technology advancements, external stakeholders, performance, regulatory forces, market forces or exogenous shocks (Saebi et al., 2017). The effects of business model changes most commonly involve innovation in resources, offerings, change in customers’ preferences and finances, while the process involves adaptation or pivoting (Osterwalder and Pigneur, 2010;).

Business model pivoting is conducive to short-term survival along with long-term resilience and growth (Harvard Business Review, 2020). McGrath and McMillan (2009) emphasize that to adopt a business model pivoting strategy attention must be directed to some important considerations; (1) the economic, social and cultural structures within which businesses operate and (2) that successful business model pivots, must simultaneously reduce risk and seize opportunities, particularly in response to multi-dimensional shocks (McGrath and Macmillan, 2009), such as those inflicted by COVID-19. As a multi-faceted, disruptive global crisis, “COVID-19 pandemic has presented a natural experiment to examine successful business model pivots” (Manoloya, et al. 2003).

McGrath (2010) proposed that in highly uncertain, complex and fast-moving environments, businesses should adopt a discovery-driven approach to business model pivoting implies reducing risks, while simultaneously seizing opportunities. This dual focus challenges traditional gendered conceptions of crisis response (McGrath, 2010). This view of business model pivoting suggests business models to be a source of innovation and competitive advantage (Christensen, 2001; Zott and Amit, 2008 ci McGrath, 2010). In the GT approach consultation of the literature is an iterative process that continues as long as new concepts emerge from field data, rather the fixing a solid theoretical/conceptual framework.

3. Methodology

Due to the exploratory nature of this study, it adheres to the Grounded Theory (GT) methodology adopting an epistemological interpretive position, seeking to explain the phenomenon under scrutiny according to the perspectives of the participants, without imposing external viewpoints formulated a priori (Strauss and Corbin, 1990).

The study is conducted in Khartoum State, which constitutes the biggest business center in the country with the highest number of female entrepreneurs operating in the different sectors, many in non-traditional types of activities.

A non-probability, purposive sampling technique, based on theoretical saturation rather than a predetermined number of sample elements (Glaser, 2002), has been utilized, to guarantee maximum variability. Research units of analysis (SMEs) are selected to achieve a diverse sample that provides many possibilities that allow comparison and yield richer data (Glaser and Strauss, 1967; Strauss and Corbin, 1990; Palys, 2008). Focus has been on women-owned SMEs in traditional and non-traditional lines of business. This allowed to represent a heterogeneous group of SMEs concerning age, size, location, customer base, type of activity and adoption of technology, since these underlying factors may consequently influence the level of resilience and actions taken by these entrepreneurs, since the main research question is; to what extent have female entrepreneurs opted to business model pivoting in response to the COVID-19 pandemic as a strategy for resilience and survival?

In-depth face-to-face interviews have been utilized for gathering data about the experiences of the recruited participants, as this tool allows the interviewees to report their experiences freely and flexibly (Strauss & Corbin, 1990; Glaser, 2002; Charmaz, 2006). Due to the mobility restrictions imposed by the COVID-19 pandemic, most interviews were conducted using ITC supported interactive sessions, via ‘what’s up video calls’ in addition to recorded What’s up voice messages, and in few cases reaching the participants by normal telephone calls.

After getting the consent of the participants, the interviews started as video voice messages, with full interaction between the researcher and the participants. However, when the interviews were interrupted by poor internet connectivity, it has continued by recorded voice messages that followed later on. Each interview extended around one hour, and some participants have been reached twice to fill some data gaps till theoretical saturation has been reached where no newer concepts emerged. The number of cases (SMEs) reached and recruited is (18), covering diverse sectors and activity lines; traditional and non-traditional, opportunity and necessity-driven, in the three cities constituting Khartoum State. Since the interviews were conducted in Arabic (the local language), interview notes have been translated and transcribed soon after each round of interviews. This allowed the process of theoretical sampling to occur. Data analysis followed the paradigm model technique (Strauss and Corbin,1990). A three-stage coding process and memo writing progressed hand-in-hand identifying categories, and their dimensions (Strauss and Corbin,1990). The findings encompassed many categories which were reflective of what have emerged from the field data. The line of reasoning and interpretations guided the findings towards the study objective of understanding how female entrepreneurs adopt pivoting strategies for resilience and survival during COVID-19 pandemic.

4. Study Findings and Interpretations

“COVID-19 pandemic will change the way of doing business in Sudan. Online platforms will enable those who see the opportunities availed by this pandemic...people needs won't just vanish, so online platforms will be a main stream of service/product creation and delivery...a new online business sector will boom, and a huge part of micro-small traditional businesses will gradually subside, especially if this pandemic stood for a long time. My own business is harshly affected since the business mainly focuses on real-time experience and events targeting public gatherings, but we changed to deal with new needs” (Event Management Business Owner).

As a major exogenous shock, COVID-19 pandemic has unsettled the flow of economic processes and disrupted business functions. Almost all businesses of all sizes and types have faced the adversity caused by the pandemic. This study explores women entrepreneurs' resilience, to face this adversity, and the strategies they have adopted to sustain their ventures within a business model pivoting framework. The results of this study are organized in themes that emerged from three levels of the data coding process (Straus and Corbin 1990), interpreted and conceptualized using theoretical sensitivity gained from consultation of the literature.

Three core elements of the business model for SMEs, are brought to focus by this study, to depict the extent pivoting has been adopted as a strategy for business survival at the time of COVID-19 pandemic. These elements comprise; 1) Business model development, 2) The Marketing Mix (MM), and 3) Managing financial resources. The focus on these specific elements stems from results of studies on women entrepreneurship that highlight capability concerns around these elements in normal conditions (Michelmore and Rowley,2013; A/Rahman, 2020a; A/Rahman, 2020b). In addition, some literature informs that women entrepreneurs are disproportionately affected by COVID-19 (Morgan, et al. 2020), and are facing some major gender-ascribed challenges;1) the industries where most women operate are disproportionately affected by the adversity and recession; (2) women are more likely to run many of the youngest, smallest, most vulnerable businesses; and (3) with schools closed and elderly family members under threat, women are more likely to be juggling primary care-giving and homemaking, while they are scrambling to save their businesses (Morgan, et al. 2020). It seems like these entrepreneurs are facing a gendered impact where prospects are daunting, and their options are limited. However, pivoting business models offers means to capture emerging business opportunities presented by the pandemic, as new start-ups or established businesses.

4.1. Perception of the impacts of COVID-19

The world of work is being profoundly affected by the global COVID-19 Pandemic. The crisis has already transformed into an economic shock, impacting all businesses regardless of their size (ILO Report 2020). The spread of the pandemic and the associated harms on communities vary, but no matter what scope, the implications have been devastating to many. The perceptions of the pandemic impact by community members in general and entrepreneurs in particular, influence the resilience of individuals and businesses in these communities. As decision makers in SMEs entrepreneurs' actions occur as a result of the perceptions that entrepreneurs hold about the context, the existing difficulties due to the pandemic, and possible opportunities for growth (Shama,1993; Penrose, 2000). On the basis of those perceptions, opportunities have been identified and strategies re-shaped (Kitching et al. 2009; Ionescu-Somers,2019), by women entrepreneurs in SMEs, in response to COVID-19. Business model pivoting is one approach used by resilient women entrepreneurs to sustain their SME ventures.

Considering the wide spectrum of SMEs targeted by this study, and the contextual/ecosystem factors surrounding these ventures, the implications posed by the pandemic are diverse.

Divergence of ventures' response to adversity and their degree of resilience are found to be mostly influenced by the type of venture, the sector's dynamics, entrepreneurs' capabilities and the resources available, a result in line with a number of studies e.g. (Simón-Moya et al. 2016; Korber and McNaughton 2017; GEM, 2021/22).

Dealing with the pandemic from a business perspective, is to a great extent a connotation of the behavioral schema of the entrepreneur leading the business, and the customer who interacts within a customer-business relationship. An important element that shape the behavior of entrepreneurs towards a crisis such as COVID-19, is the perception held by the stakeholders and their actions; as customers, suppliers, investors and colleague entrepreneurs who are acting on the same stage of social reality; dealing with the pandemic.

The results of this study show that the majority of the participants are aware of the impact of the pandemic; on the one hand almost all of them mention some negative aspects such as finance and liquidity constraints, severe decline in access to production inputs, great decline in customer demand for their products and services, disrupted marketing strategies, decreased sales and revenues, and issues related to labor and staff obligations. Some anecdotes from participants express their views;

"The lockdown influences us as ordinary people, by being stressed and worried about our families, at the same time it made our customers equally confined to their homes.....doing business without customers who reach our products and services is not possible...", Beauty Therapist.

Another participant considers the impact on the supply chains and the difficulty in securing the needed supplies for business operations as a main negative feature;

"COVID-19 has a massive effect on our supply chains. They have been hit hard. It is a main issue to solve", Retailer.

The most common affirmative response by the entrepreneurs, reflects awareness of the direct negative consequences, on businesses, from the pandemic is, quote;

"Everything has collapsed. The first week of the lockdown businesses became on a halt....no sales, no revenues... no customer contacts...just dead". "temporary closure was inevitable for many.....uncertainty is daunting; it is like going through a dark tunnel", Event Bakery Owner

Other perceived impacts of the pandemic transcend the direct loss of sales and temporary closures to spill over to other external barriers that usually hinder SMEs' business operations. These include access to finance, limited customer base and market share, balancing work and home obligations. This is added to new challenges of employee absenteeism, supply chains disruptions, requirements to comply with COVID-19 protection and provision of health safety supplies to customers and employees, quote;

"COVID-19 pandemic as an unthought-of risk has hit every level of business everywhere. To deal with it goes beyond individual business capacity...it is a holistic threat.... but people need to think of ways to survive, as people and as businesses", Agribusiness Consultant.

Perception of the possibility that the pandemic may provide opportunities for businesses and motivate many to take advantage of the availed market demand, some in pandemic-related offerings, has prevailed. A highlighted perspective on this, ascertains the inevitability to solve customers' problems and satisfy their needs, quote;

"People have pressing needs to be met, at least to survive the pandemic.... these needs will fuel businesses with energy to work on themand survive as well!!", Trader.

"Peoples' needs cannot just vanish due to COVID-19..... some remain the same, however it is how we serve and meet these needs which should change.... businesses will have to think of new ways, means and tools to do things", Solar Energy Installment Co. Owner.

Most actions of these entrepreneurs – observed and described – indicate positive perception that;

"Businesses can adapt in different ways to survive, and some might even flourish due to the pandemic" "...however it depends on many factors", Solar Energy Installment CO. Owner.

In the literature, it is confirmed that at times of exogenous shocks taking advantage of the newly created opportunities can be a winning strategy that should be encouraged (Said and Enslin, 2020). Indeed, information asymmetries created by the shock provide ample room for profiteering for an alert entrepreneur (Said and Enslin, 2020).

Public perception of the pandemic has caused least compliance with COVID-19 restrictions that shape the behaviors of the public at large. Many individuals and families remained in a state of 'denial' of the level of spread and the health risks of the virus, causing a state of 'resistance' not 'resilience', where more often people have led a semi-normal pattern of living. Social events and ceremonies have been conducted with little customization to match the new situation, leading most ventures to adopt a 'business as usual' behavior, while a less proportion changed their business processes.

In a similar vein, Hall and Silva (2005) focus on the effects of national perceptions and culture on entrepreneurship, claiming that cultural factors should be taken into account and empirical results should be contextualized.

The COVID-19 pandemic has impacts on a wider range of economic activities, yet policymakers have failed to take effective action to stimulate entrepreneurship ecosystems. In general, the government's policy steps have fallen short in mitigating the public risks that have hit entrepreneurs and businesses (Ionesco-Somers and Tarnawa,2020). Public policy has been blind of the huge harm posed on businesses due to the pandemic, and no support, of any type, is offered to these businesses. This has triggered sufficient resilience, aspiration and agility by entrepreneurs to take action independently. However, resilience requires robustness in policymaking by adopting a multi-dimensional approach to make the ecosystem supportive to resilient entrepreneurs (Forrest et al. 2021). Most participants painted this picture;

"..... the government did not have any consideration for who lose or gain.....no support for businesses to face risks ...you stand alone, and act independently to survive...", Entertainment Planner.

"... few business owners got support from family, friends and colleagues ... however, you see that everybody is equally suffering....", Game Developer.

In contrast, fear of failure forced pessimistic entrepreneurs, being less resilient, to shut down their ventures, at least on temporary bases, to avoid the inherent risks. This study however, has not focused on those who discontinued business due to the pandemic. Some studies e.g. (Herbert et al. 2008) inform that gender risk aversion decisions are a function of age, income, wealth, marital status, race/ethnicity and number of children under 18 in the household. Such businesses mostly fall in the non-traditional service sector which implies high levels of human interaction, maximizing the risks of reaching out for these services at business premise. This explains that the majority of ventures in this sector are hit badly by the crisis and opted to gender risk aversion decisions, which explain higher percentage of women entrepreneurs who discontinue business due to fear of failure (A/Rahman et al. 2019).

4.2 Strategies adopted by SMEs in response to Covid-19

4.2.1 Business Model (BM) pivoting

There is plethora of business model (BM) possibilities; some are much better adapted to customer needs and business environments than others. Selecting, adjusting and/or improving business models is a complex art (Morgan et al.2020). Good designs are likely to be highly situational, and the design process is likely to involve iterative processes. The speed of such action is highly contextual, and dependent on the entrepreneur's set of personality traits, capabilities and resources. Thus it would be wise to ventures, especially SMEs, not rush into pivoting unless the opportunity in question is demonstrably superior to the previous one they dealt with, and it fits with their competence and resource base (Morgan et al.2020).

The pandemic showed that some entrepreneurs have the competences and resources to be resilient and thrive, while others have seen their existing challenges and barriers exacerbated, further restricting their chances of success. Those who have perceived emerging opportunities amidst crisis, re-visited their BMs to decide priority area(s) for adaptive change. One entrepreneur narrated;

"My business concept is to bring 'joy from a hobby'. Despite the harsh conditions imposed by COVID-19, families search for joy and entertainment in events limited to family and household boundaries.... This has created a change of my target customers to focus on those with long standing relations to serve them with the normal offerings, and at the same time target the public with pandemic, health-related new products", Event Bakery Owner, and Food Point Owner.

Non-traditional ventures have been hardly hit especially those who deal with non-necessity products, such as a Game Developer who mentions;

"From learning we improve our work, and from experience we change some processes. In the current environment we need to change our product offerings, promotion and distribution. To do that we invite specialized experts in many aspects such as prototype design (games and awareness raising materials) compatible with the pandemic. Now we target clients of some NGOs and CBOs who engage in promoting community protection from the virus by using games and cards....", Game Developer.

This itself has been challenged by a shadow of uncertainty of the pandemic prevalence, and insufficiency of information necessary to design new action plans pertinent for BM adaptation/pivoting. In addition to the elements of the BM identified by this study, an important component has pervasively emerged influencing the way almost all business processes have been dealt with.

Digitalization, stands as the most commonly applied adaptive/pivot strategy, including design of platforms and the utilization of ICT, and social media. Despite the diversity in venture type, size and line of activity, use of technology-supported solutions have been the safety valve for the majority of SMEs.

The strategies adopted by the SMEs in this study, to cope with the disruption during the pandemic, reflect the capacity of women entrepreneurs to pivot their business models by finding new ways of doing business. Adding new offerings, adopting new distribution options such as offering home delivery services and online distant training and consultation services, utilizing IT supported communication for promotional purposes, to mention a few, are strategies to expand the value-adding activities compatible with a 'new' lifestyle dictated by the pandemic. These strategies have similarly been highlighted by a number of studies (Bourletidis, and Triantafyllopoulos, 2014; Manlloya et al. (2020); ITC Survey,2020; A/Rahman,2020b; HBR Survey,2020, GEM Report 2021; Davidson, 2020). Some strategies reflect the innovative schemes to survive the pandemic, which are in line with Schumpeter's creative destructive concept of innovation, including product development or improvement, entering new markets, use of new resources and adopting new business processes (Shumpeter,1934 cited in A/Rahman ,2006). One participant narrated;

"We do understand the needs and sometimes from customers' feedback, requests and orders we develop our ideas into new products/services that solve customer' problems, namely those created by COVID. Utilizing IT supported communications facilitated our reach to customers to offer our service", Training Centre Manager.

Most of the participants claimed that they feel comfortable with their business model for the long-term operations, accordingly they have centered their alternative plans around 'adding' new elements that suit the customers' new demands imposed by the pandemic. It is evident that some of the adopted strategies in the product /service offerings are only short-term solutions, and the entrepreneurs' focus is on keeping the wheel running at the least scope sufficient to sustain day-by-day operations. The sacrifices they make in revenues and profits are justified with long –term customers' retention.

The most common shift in the BMs of the interviewed SME female business owner/managers in this study confirm the view stated by an Event Management Business Owner;

"Business Model pivoting wouldn't be meaningful without IT and social media support almost every entrepreneur running an SME or even an MSE has benefited from IT and social media during the pandemic", Event Management Business Owner.

A view shared by the majority of the participants; (e.g. Retailer, Owner of a Training Center, Agribusiness Consultant, Game Developer, Pharmaceutical Care, Food service, Logistics Co. etc.).

A number of SMEs have implemented COVID-19 protocols in their business premises, to ensure the safety of their employees and customers to consequently maintain sales. Compliance with health precautions adds financial burdens on these ventures; directly by payments to avail the necessary supplies, and in some cases, to pay for redesigning the premise for social distance maintenance. Indirect costs are in the loss of sales when limiting numbers of customers are allowed into stores to maintain social distancing, and employee loss especially those who have been trained by the SMEs (Hopely,2021), in addition to spending on ITC devices and developing technological capabilities. To some extent COVID-19 may be acting as an external enabler (EE),especially when technological advancements are applied (Davidsson,2020), however, it is an EE of limited temporal scope, since many of these opportunities are of short duration. It may thus be a good idea "not to get stuck with large inventories and too many fixed assets in pursuing them" as mentioned by (Bourletidis and Triantafyllopoulos, 2014). As short term actions they are adding costs and reducing profits, however, these entrepreneurs consider customers' retention as a trade-off for the long-term anticipated value and growth.

Some entrepreneurs have shown rightful concerns to the wellbeing of their communities' safety and comfort, a perspective of social integrity and prosperity has been mentioned by many who conceptualized 'social gains' as a motive for socially responsible pivoting frameworks. They confirm that solving social problems can be a strong motive to seizing market opportunities and starting business (GEM Report 2021/22). They believe this will give an example for 'doing good' and help their community and fellow businesses to be more resilient in face of COVID-19.

".....Many small businesses shifted their business model towards their community health protection. In line with this they have shifted to the production of health care supplies and awareness raising materials relevant to the pandemic. This type of work adopts a social perspective", Fitness Center Owner.

However, this perspective is highly risky due to the temporal short-term scope of the pandemic and the uncertainties associated with it, exacerbated by the misperceptions of the risks of COVID-19 by the public, leading to least compliance to health protection products.

The good side is that a considerable number of NGOs and CBOs are working on community protection; in some cases, holding direct contracting status with SMEs, which make this line of offerings viable and worth entering despite the temporality and limited demand size.

To deal with supply chain disruption due to the pandemic, some SMEs have reached more resourceful suppliers to make up for suppliers' unreliability. This is in line with the findings by Bourletidis and Triantafyllopoulos (2014) who studied the survival of SMEs at the financial crises in 2008. In such adverse conditions and limited supplies in disposal to businesses, this strategy needs high levels of negotiating capability, which might be challenged by gender norms in such contexts. These SMEs follow a relational marketing approach with suppliers and distributors within the vicinity of the business to ensure an easy switch in situations of hardships.

Business dealings with customers, suppliers and 'co-preneurs' are based on trust, which underlines the interactions between the owners and business main stakeholders. An example of support is mentioned where some ventures that have closed temporarily, directed their employees to offer their services to those who lost employees to the pandemic (ITC Survey,2020). Such trust is most needed at times of complexity and adversity. Trust and support represents a precondition of social capital further defined as the sum of the actual and potential resources embedded within, and derived from the network of relationships possessed by the women entrepreneurs leading these SMEs.

All SMEs have implemented adaptive resilient strategies and used more than two strategies to survive, similar to the findings by (Martin,2012; Bourletidis and Triantafyllopoulos, 2014). Adaptive resilience involves a process, and resonates closely with the Schumpeterian notion of 'gales of creative destruction'" (Martin, 2012; p11). A crisis may change unproductive activities, the removal of which opens up opportunities and a new phase of growth (Martin.2012). The level of turbulence in the environment is paramount, thus sticking to one strategy is not sufficient to offer the best chance for survival and growth. This has been exemplified by adopting pivoting of the marketing mix(MM).

4.2.2 Marketing Mix (MM) pivoting

Marketing is considered the most crucial function that entrepreneurs assume as part of the day-to-day operations. Marketing strategies are usually included in the business model which is to some extent generic, however, highlighting the marketing mix (MM) approach informs better about actions taken due to the pragmatic.

The study results show that a product diversification strategy has been followed where building a prototype is highly dependent on the identification of what suits customers' credentials at the new conditions, especially the purchasing power, since the pandemic has hit household incomes (GEM Report, 2021/22). Others seem to innovatively modify available products and services to meet market demand and perceived opportunities. Since the pandemic has differently shaped customers' and market needs, new approach to product development has been adopted with some agility and 'fit' with the resources available to the businesses. Shifting to cheaper products' substitute, with focus on necessity products, deterring from luxury goods and services are common strategies at such times when peoples' income is depreciating. Some anecdotal statements by the participants inform that;

"When developing / improving our services we need to follow the rapid change in fashion, taste and customers' preference, however, with the pandemic we need to read the shifts in the needs priority and act immediately. With this pandemic, I believe the priority is peoples' food security, health and safety", Pharmacist.

As discussed on the business model part, it is apparent that a common shift in strategy is to add new health products and services to the original items in the normal BM, which have been convincing, for re-directing resources.

Promotion strategies have also been adapted in response to the pandemic, some anecdotes provided by the participants included;

"A key change for my business, is fully shifting to new technologies, I rely on social media and word-of-mouth for advertising and promotion", Trader, Home accessories and Gifting, Hand Made Leather Products Venture.

" Since we mainly deal in B2B transactions, we used to follow face-to-face promotional techniques, but at times of restrictions of mobility due to COVID, we communicated via ITC and social media to promote our offerings", Solar Energy Installment Co.

However, an inherent cost was associated with the need to adopt a home- delivery strategy by some ventures due to the inconvenience to collect the orders for a wide segment of customers avoiding public transportation for social distance precautions.

Pricing strategies are crucial for business success, yet for SMEs, it is an area of differentiation.; 'flexible' pricing and payment strategies help maintain customers' loyalty and business viability especially at times of shaken performance. The participants in traditional service ventures seem to be more customer-centric when setting prices, while those in non-traditional ventures focus more on competitors' prices, cost and return analysis and profitability when setting price strategies.

From the results, it is commonly agreed that these ventures follow a strategy of pricing that enable them to reap modest revenues that help maintain a level of persistent operations, more than focus on optimum profits. Some highlight the impact of supply chain disruptions and their impact on the pricing strategy and consequently its implications on venture survival, quote:

“The disruption of the supply chain created some scarcity of production inputs causing price increase, consequently scaled cost of production, leading to profit minimization. Sometimes we work just at break-even point... we consider customers’ retention as more important for long –term success than higher profit margins at the disrupted situation”, Event Bakery Owner.

It is very evident that a sense of consideration to consumers’ purchasing capabilities is prevailing among the entrepreneurs in SMEs, and a trade-off approach is guiding the pricing strategies adopted during the time of the pandemic. This can be understood within a customer retention perspective, giving much consideration for long-term stability and growth.

Great variation is reflected by the study results regarding the distribution strategies adopted at the crisis time, mostly governed by the type of the products/services offered and the scope of transactions. A commonly mentioned change of approach of physical distribution by SMEs, is opting to online platforms, social media and ITC, where appropriate to the nature of the business activity. Using Online order systems, direct home delivery and distant interactive instruction and learning services have replaced service provision at business premises such as retailing, food service, training and consultancy services. Some expressed by the following statements;

“Orders are placed through telephone, or other social media channels. Customers collection policy has been changed to home delivery, with some cost implications, yet, it was necessary especially at the times of lockdown”, Traditional Perfumes Producer.

“Online platforms, social media and mobile phones are key in the promotion and distribution processes of almost all SME operation, we have all resorted to online platform programming and digitalization for remote interactive sessions”, Training Center.

This is similar to findings of most studies on SMEs practices at the time of COVID-19 pandemic (Teece, 2007; BHR Conerence,2020, GEM Sudan Survey, 2021; ITC Survey,2020, Morgan et al. 2020). The most important two determinants for MM pivoting by SMEs are;1) the entrepreneurs’ attributes, especially age and level of education since they feed into the competency levels in terms of knowledge and skills to make decisions and take actions, and 2) the potentiality of resource acquisition and mobilization and the level of embeddedness in the socio-cultural institutions and networks. Most business practices within the traditional customer service sectors, where the majority of women entrepreneurs are concentrated (Badawi et al.2008; GEM Sudan Report 2018/19; A/Rahman 2020a) are embedded within the dynamics of these institutions such as moral economy, trust and reciprocity, relational marketing (A/Rahman, 2008) and social entrepreneurship.

4.2.3 Managing financial resources

Two patterns of financial management have emerged, depending on the type of venture (traditional/non-traditional), the entrepreneur’s motive (opportunity-driven vs. necessity-driven) and the scope of the business operations.

For traditional, necessity-driven SMEs, the disruption of the pandemic has shaken the finances and created serious challenges for the entrepreneurs. Suddenly these women entrepreneurs were faced by critical financial obligations, exacerbated by limited financial management capabilities and meagre financial resources mostly as implications of gender discrimination. Reliance on social networks to resolve some financial issues, is a common practice, since it is highly unlikely to reach formal financial institutions; being gendered entities de-favoring women, coupled by the state of overall uncertainty. One of the participants, expressed that,

“Dealing with financial elements of the business have always been a dilemma to me, (she gives a deep sigh), at the time of the pandemic, it became a ‘nightmare’.... we used to employ our relational networks of suppliers in getting some production inputs and materials in easy terms of credit purchases, but the pandemic has hit them as well!! so I have fully depended on family savings for the first time”, Retailer, Food Point Owner.

In case of non-traditional SMEs, the entrepreneurs seem to have better financial management competencies, thus became capable to assume more sophisticated financial functions. The adversities posed by the pandemic have forced most SMEs to shrink the scope of business operations, accordingly simplified the financial transactions to a minimum scope. In case of critical financial obligations, most have been tackled by negotiations and some price reconciliations, the following statements reflect some participants’ responses;

“What eased the tension over financial elements is that due to the lockdown and the supply chain disruptions the scope of work itself became very limited, and many contracts became on hold, leading to postponement of some financial obligations”, Solar Energy Installment Co.

“It helped that we follow advance payment policy for our training programs.... however, with applying on line delivery strategy we need to budget differently for future intake “, Training Center owner.

Absence of a government policy to support SMEs during the pandemic has exacerbated the financial risks they face especially that some entrepreneurs are committed to loan repayments to banks and microfinance institutions. This highlights some public policy concerns that defeat the aspirations and motivations of the public to engage in entrepreneurial activities and contribute to the economic growth of their communities. SMEs always act as tax-payers, consequently they are eligible for legitimate government support in situations such as COVID-19. This situation may be the reason for cases of business discontinuation (OECD and World Bank Survey, 2020), where the findings show that female-led SMEs were seven percentage points more likely to close compared to male-led SMEs with some regional variations, and a de-motivation factor for many TEAs not to utilize the emerging entrepreneurial opportunities. To compensate the shortfalls of public policy, relational and cultural aspects of business practice have strongly come into play, highlighting concepts of moral economy and other external enablers (Davidsson, 2020). It has been described by one participant as “shared endurance and tolerance”, since all are on the same boat; businesses, suppliers and social networks. This affirms that small scale economic actions are embedded in norms, values and social institutions, granting high levels of social solidarity and cohesion.

The same line of analysis applies to other financial aspects such as pricing and costing as basic components of revenue flows into SMEs at COVID-19 crisis time. Conceptualization of revenues and profits have been framed within social entrepreneurship concepts where ‘social-profit’ and community well-being are significant components when doing cost-benefit analysis. Credit purchases based on trust and social capital are applied, though cash transactions help to close the suppliers’ disruptions gaps. Quote;

“There have been costs related to COVID-19 ...Our revenues are meagre...sales are falling down, however as long as we breakeven, and retaining our customers, this is success....”, Retailer, Event Bakery Owner and a Pharmacist.

5. Conclusions and Implications

This study explores the resilience of women entrepreneurs against the impacts of COVID-19 pandemic on the operations of SMEs in Khartoum State, Sudan. Focus is on the adoption of business model pivoting as a survival strategy in established businesses and on few startups. The research design adheres to an interpretive grounded theory perspective, following theoretical sampling by purposively selecting sample elements to the extent that theoretical saturation is achieved. Data collection has utilized in-depth semi-structured interviews, using IT supported interactive sessions, due to mobility restrictions imposed by COVID-19, at the time of data collection process.

The findings confirm that the pandemic has harshly impacted the SME sector. The empirical evidence has supported that the disruption type, the entrepreneur’s perceptions, characteristics and capabilities, the business environment, the interaction/interplay with other stakeholders, and the cultural dimensions influence the resilience strategies adopted by female owners-managers of SMEs. The findings indicated that the resilience of the SMEs has been fueled by entrepreneurs’ awareness and perception about the challenges imposed by the pandemic as well as the positive aspects such as the emerging opportunities especially in crisis- related market demand.

Following three levels of data coding (Strauss & Corbin 1990), three focus areas of resilience strategies have been identified; 1) Business model pivoting, 2) Marketing mix adaptation (pivoting), 3) Managing financial resources.

In summary, the results which emerged from field data, ascertain that the surviving strategies adopted by women-led SMEs during the pandemic have demonstrated high capabilities of sensing and seizing opportunities and mobilizing resources to adapt to changes in the environment due to COVID-19 pandemic. Women entrepreneurs in the SME sector have been adopting business model and marketing mix pivoting, and managing financial resources in different perspectives to match the constraints imposed by the pandemic. The guiding perspectives for the strategies to cope with the pandemic have revolved around certain aspects; customer-centricity, value propositions that care for both ‘old’ and pandemic-imposed needs, temporal scope of the strategies, community well-being and cultural perspectives, self-reliance and independence and enhancing their entrepreneurial capitals through learning from every incident and experience within their dynamically changing environment. Almost, in all the explored areas of actions triggered by the pandemic, women entrepreneurs in SMEs have intensively relied on different scopes, means and tools of Information Communication Technologies (ICT), as strategies to sustain their ventures and survive the crisis. The main characteristic commonly shared by SMEs in the pivoting of the business model, the marketing mix and managing their scarce financial resources is being ‘technology adaptive’, despite the many challenges associated with utilization of technology; some related to the entrepreneurs, while others are part of the ecosystem shortfalls.

Despite of this, the women entrepreneurs targeted by this study have benefitted from pivoting their business activities, and proved to be resilient and capable to mitigate the risks associated with the pandemic, then further help build resilience in their communities, which resonates with the findings of Iborra et al. (2020) highlighting that; ‘ambidexterity increase SMEs’ resilience’.

The most important implications of this study is the need for public policy to direct more efforts to support the SME sector by introducing policies that enhance critical areas of the ecosystem. This will equip the SME sector to be proactive towards future exogenous shocks. From this study a strong claim is to strengthen entrepreneurial education, enhance entrepreneurial technological capital, and foster women in the SME sector by introducing/enforcing gender transformative policies. Further research may focus on these areas, in addition to exploring the discontinuation of women-owned businesses due to COVID-19 pandemic, and the failure of government public policy to help survive, where possible.

References

- A/Rahman, W. A. (2008). Microfinance (MF) and Micro-Small Enterprises (MSEs): Building human capital of the urban poor in Khartoum State, Sudan. *Ahfad Journal*, 25,2, 3–29. [Online] Available at:Google Scholar.
- A/Rahman W. A., Alshiekh L., Mubashar N., Alsaed M. and Yassin M. (2019). Global Entrepreneurship Monitor: Sudan National Report 2018/2019. Global Entrepreneurship Monitor. [Online]Available at: www.gemconsortium.org
- A/Rahman, W. A. (2020a). Exploring the Marketing Competencies of Women Entrepreneurs in Micro-Small Enterprises (MSEs) in Khartoum State-Sudan. *International Journal of Novel Research in Marketing Management and Economics*, Vol.7, Issue 2, 83-98. [Online]Available at: www.Novelresearchjournal.com. ISSN 2394-7328.
- A/Rahman, W. A. (2020b). Managerial Competencies and Venture Survival: The Case of Women Entrepreneurs Owner – Managers of Micro-Small Enterprises (MSEs) in Khartoum State – Sudan.*Journal of Business& Economic Policy* Vol. 7, No. 4. [Online]Available at: https://jbepnet.com/journals/Vol_7_No_4_December_2020/5.pdf doi:10.30845/jbep.v7n4p5
- A/Rahman, W.A. (2006). The Integration of Women-owned MSMEs in Urban Markets in Khartoum State, Sudan. PhD Thesis, Ahfad University for Women. Verlag. Berlin
- Badawi, S., W. A/Rahman, A. El Jack, G. Lorenzel (2008). Women in Food and Beverages Businesses in Urban Markets of Khartoum State. Working Paper 88, Humboldt University, Berlin. [Online]Available at: <https://www.econstor.eu/bitstream/10419/96465/1/615064582.pdf>. <http://dx.doi.org/10.1177/014920639101700108>
- Battisti, M. and Deakins, R. (2017). The relationship between dynamic capabilities, the firm’s resource base and performance in a post-disaster environment. *International* 35, 1,78-98. DOI:10.1177/0266242615611471
- Bourletidis, K. and Triantafyllopoulos, Y. (2014). SMEs Survival in time of Crisis: Strategies, Tactics and Commercial Success Stories. *Procedia - Social and Behavioral Sciences*, Vol. 148, 639 – 644. [Online] Available at: www.sciencedirect.com
- Bullough, A. and M. Renko (2013). Entrepreneurial resilience during challenging times. [Online] Available at:https://www.researchgate.net/publication/256672705_Entrepreneurial_resilience_during_challenging_times DOI:10.1016/j.bushor.2013.01.001
- Carter S. & Shaw, E. (2006). Women’s Business Ownership: Recent Research and Policy Developments, Report to the Small Business Service. [Online]Available: https://strathprints.strath.ac.uk/8962/1/SBS_2006_Report_for_BIS.pdf
- Charmaz, K. (2006). *Constructing Grounded Theory: A Practical Approach Guide*. Sage Publishing Ltd, London.
- Craighead. W , J. Blackhurst, M. Rungtusanatham, and Handfield, R. (2007). The Severity of Supply Chain Disruptions: Design Characteristics and Mitigation Capabilities. *Decision Sciences* 38(1):131 – 156. [Available on line] at: [https://www.researchgate.net/publication/229462953DOI:10.1111/j.1540-5915.2007.00151.x\(5.3.2021\)](https://www.researchgate.net/publication/229462953DOI:10.1111/j.1540-5915.2007.00151.x(5.3.2021))
- Davidson, P. (2020). The Covid-19 Pandemic as External Enabler of Entrepreneurship. Australian Center for entrepreneurship research. [Online] Available at: <https://research.qut.edu.au/ace/2020/04/30/covid19-pandemic-as-external-enabler-of-entrepreneurship/>
- El Sawy, O.A, F. Pereira (2013). *Business modelling in the dynamic digital space: an ecosystem approach*. Springer, Berlin. [Online] Available at: Google Scholar

- Forrest, W., Ionesco-Somers, A. and A. Elam, A. (2021). Global Entrepreneurship Monitor Research Underscores Resilience of Women Entrepreneurs and Opportunities for Policymakers. [Online] Available at: www.gemconsortium.org
- Glaser, B. and Strauss, A. (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research*. New York: Aldine de Gruyere.
- Glaser, B. (2002). Conceptualization: On Theory and Theorizing Using Grounded Theory. *International Journal of Qualitative Methods*, Vol.1, No. 2. Article3. [Online] Available: [https://www.google.com/search?client=firefox-b-d&q=Glaser%2C+B.++\(2002\)](https://www.google.com/search?client=firefox-b-d&q=Glaser%2C+B.++(2002)).
- Glaser, B., and Strauss, A. (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research*. Mill Valley, CA: Sociology Press.
- Global Entrepreneurship Monitor Report, GERA Consortium (2018). [Online] Available:
- Hall, G., and Silva, A. P. (2005). Factors associated with the performance of UK SMEs: Are they country specific? In A. Fayolle, A., & J. U. Kyrö (Eds.), *Entrepreneurship research in Europe: outcomes and perspectives*. UK: Edwar Elgar Publishing Limited.
- Hampel, C.E., Tracey, P., and Weber, K. (2017). The Art of the Pivot: How New Ventures Manage Identification Relationships with Stakeholders as they Change Direction. *Academy of Management Journal*. [Online] Available at: <https://journals.aom.org/doi/10.5465/amj.2017.0460>
- Harvard Business Review. (2020). Daily Alert newsletter.[Online] Available at: <https://hbr.org/2020/07/how-businesses-have-successfully-pivoted-during-the-pandemic>
- Hibbert, A.; Lawrence, E. and Prakash, A. (2008). Are Women More Risk Averse than Men?[Online] Available at: <https://www.researchgate.net/publication/228434430>
- Hopely, L. (2021). The impact of the COVID-19 pandemic on UK SMEs and their response. ERC Insight Paper. Enterprise Research Centre. www.enterpriseresearchcenter.ac.uk
- Iborra, M., Safón, V. and Dolz, C. (2020). What explains the resilience of SMEs? Ambidexterity capability and strategic consistency. *Long Range Planning*, Volume 53, Issue 6 (Abstract). [Online] Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0024630119300639>. doi.org/10.1016/j.lrp.2019.101947
- ILO Monitor (2020). COVID-19 and the world of work. Fourth edition Updated estimates and analysis. [Online] Available at: <https://www.ilo.org/wcmsp5/groups/public/Jennings> International Trade Centre (ITC) (2020). *SME Competitiveness Outlook 2020: COVID-19: The Great Lockdown and its Impact on Small Business*. Geneva [Online] Available at: <http://www.intracen.org>
- Ionescu-Somers, A. and Tarnawa, A. (2020). Diagnostic COVID-19 Impacts on Entrepreneurship: Exploring Policy Remedies for Recovery. Global Entrepreneurship Research Association, London Business School, UK. [Available on Line at]: <https://gemconsortium.org/file/open?fileId=50521>
- Johnson, G., Scholes, K. and Whittington, R. (2008). *Exploring Corporate Strategy: Text and Cases*. 8th Edition, Prentice Hall, Harlow.
- Kitching, J., Smallbone, D., and Athayde, R. (2009). Ethnic diasporas and business competitiveness: minority-owned enterprises in London. *Journal of Ethnic and Migration Studies*, 35(4), 689–705.
- Korber, S. and B. McNaughton (2017). Resilience and entrepreneurship: a systematic literature review. *International Journal of Entrepreneurial Behavior & Research*, IJEER-10. [Online] Available at: <https://doi.org/10.1108/IJEER-10-2016-0356>
- Linnenlueck, M. (2017). Resilience in Business and Management Research: A Review of Influential Publications and a Research Agenda. *International Journal of Management Reviews*. [online] Available at: <https://www.researchgate.net/publication/279181797> DOI: 10.1111/ijmr.12076
- Manoloya, T.S., Brush, C.G., Edelman, L. F. and Elam, A. (2020). Pivoting to stay the course: How women entrepreneurs take advantage of opportunities created by the COVID-19 Pandemic. *International Small Business Journal: Researching Entrepreneurship*. Vol. 38, 6 ,481491. [Online] Available at: <https://journals.sagepub.com>. (15.2.22).
- Martin, R. (2012). Regional economic resilience, hysteresis and recessionary shocks. *Journal of Economic Geography* 12, 1–32. doi:10.1093/jeg/lbr019. [Online] Available at: <https://www.entrepreneurialecosystemobservatory.nl/wp-content/uploads/2021/04/Martin-2012-7.4.22> Accessed 7.4.22
- Maxfield, M., M. Shapero, V. Gupta and Hass, S. (2010). Gender and risk: Women, risk taking and risk aversion. *Gender in Management* 25,7, 586-604. [Online] Available at: <https://www.researchgate.net/publication/235276744>. DOI:10.1108/17542411011081383

- McGrath, G. and Macmillan, I. (2009a). How to Rethink Your Business During Uncertainty? MIT Sloan Management Review,25. [Online] Available at: <https://www.researchgate.net/profile/Rita-Gunther-Mcgrath/publication/4.3.2022>
- McGrath, R. (2010). Business Models: A discovery driven approach. Long Range Planning 43, 247e261. [Online] Available at:<http://www.elsevier.com/locate/lrp>.
- McGrath, R.G. and Macmillan, I.C. (2009b). Discovery-Driven Growth: A Breakthrough Process to Reduce Risk and Seize Opportunity. Cambridge, MA: Harvard Business Press.
- Mitchelmore, S. and Rowley, J. (2013). Growth and Planning Strategies within Women-led SMEs. Management Decision.Vol.5, No. 1, p. 8396.[Online]Available: <http://genet.csic.es/sites/default/files/documentos/biblioteca/Mitchelmore%20Growth%20and%20planning.pdf>
- Morgan, T., Anokhin, S., Ofstein, L. and W. Friske (2020). SME response to major exogenous shocks: The bright and dark sides of business model pivoting. International Small Business Journal: Researching Entrepreneurship, Vol. 38, 5, 369–379.
- Ortiz-de-Mandujana, N. and T. Bansal (2015). The long-term benefits of organizational resilience through sustainable business practices. Strategic Management Journal, 37,8. [Online]Available at: <https://www.researchgate.net/publication/280972368>¹. DOI:10.1002/smj.2410
- Organization for Economic Cooperation and Development - OECD (2020). An in-depth analysis of one year of SME and entrepreneurship policy responses to COVID-19: Lessons learned for the path to recovery. [Online] Available at:<https://dx.doi.org/10.1787/6407deee->
- Organization for Economic Cooperation and Development - OECD (2008). Annual Report. [Online] Available at: <https://www.oecd.org/newsroom/40556222.pdf>
- Osterwalder, A. and Pigneur, Y. (2010) Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers. Wiley, New Jersey.
- Palys, T. (2008). Purposive sampling. In L. M. Given (Ed.) The Sage Encyclopedia of Qualitative Research Methods. (Vol.2). Sage: Los Angeles, 697-8.
- PayPal survey (2022). More SMEs pivot to digital during pandemic. [Online] Available at: [Venga Subramaniamsvenga@sph.com.sg@VengaBT](mailto:VengaSubramaniamsvenga@sph.com.sg@VengaBT).
- Penrose, M. (2000). The Role of Perception in Crisis Planning. Public Relations Review 26; 2, 155–171.[Online] Available at: https://www.researchgate.net/publication/263215559_The_Role_of_Perception_in_Crisis_PlanningDOI:10.1016/S0363-8111(00)00038-2
- Rhodes, D. and Stelter, D. (2009). Seize Advantage in a Downturn. Harvard Business Review 87, 2. [Online] Available at: https://www.researchgate.net/publication/265150916_Seize_Advantage_in_a_Downturn
- Saebi, T., Lien, L. B., and Foss, N. J. (2017). What Drives Business Model Adaptation? The Impact of Opportunities, Threats and Strategic Orientation. Long Range Planning, 50,5, 567-581. [Online]Available at:<http://wrap.warwick.ac.uk/98519><https://doi.org/10.1016/j.lrp.2016.06.006>
- Sahasranamam, S., A. Lonescu-Somers, Hill,S. (2022). 6 trends in global entrepreneurship. Article based on Global Entrepreneurship Monitor Report, GEM 2021/2022.
- Said, I. and Enslin, C. (2020). Lived Experiences of Females Entrepreneurship in Sudan: Networking, Social Expectations, and Family Support. Entrepreneurship/Small BusinessVolume10 issue: 4. [Online] Available at:<https://doi.org/10.1177/2158244020963131>
- Schumpeter, J. A. (1950). Capitalism, socialism and democracy. New York: Harper & Row.
- Shama, A. (1993). Marketing strategies during recession: a comparison of small and large firms. Journal of Small Business Management, 31(3),62–72.
- Simón-Moya, V., Revuelto-Taboada, M. and Ribeiro-Soriano, D. (2016). Influence of economic crisis on new SME survival: reality or fiction? Entrepreneurship and Regional Development 28(1-2):157-176. [Online] Available at: <https://www.researchgate.net/DOI:10.1080/08985626.2015.1118560>
- Stephan, U., Zbierowski, P. Pérez-Luño, A. and Klausen, A. (2021). A global study of entrepreneurs' challenges, resilience, and well-being. KBS Covid-19 Research Impact Papers,No.4.
- Strauss, A., and Corbin, J. M. (1990). Basics of qualitative research: Grounded theory procedures and techniques.Sage Publications, Inc. (Abstract) [Online]Available at: <https://psycnet.apa.org/record/1990-98829-000>
- Sutcliffe, K.M. and Vogus, J. (2003). Organizing for Resilience.[Online]Available at: https://www.researchgate.net/publication/255853978_Organizing_for_Resilience

- Teece D.J. (2010). Business models, business strategy and innovation. *Long Range Plan* 43, 2,172–194. [Online] Available at:Article Google Scholar
- Wishart, M. (2018). Business resilience in an SME context: A literature review. [Online] Available at:www.enterpriseresearch.ac.uk Accessed at:https://www.researchgate.net/publication/329453683
- Zott, C. and Amit, R. (2010). Business Model Design: An Activity System Perspective. *Long Range Planning* 43, 216-226. [Online] Available at: <http://www.elsevier.com/locate/lrp>