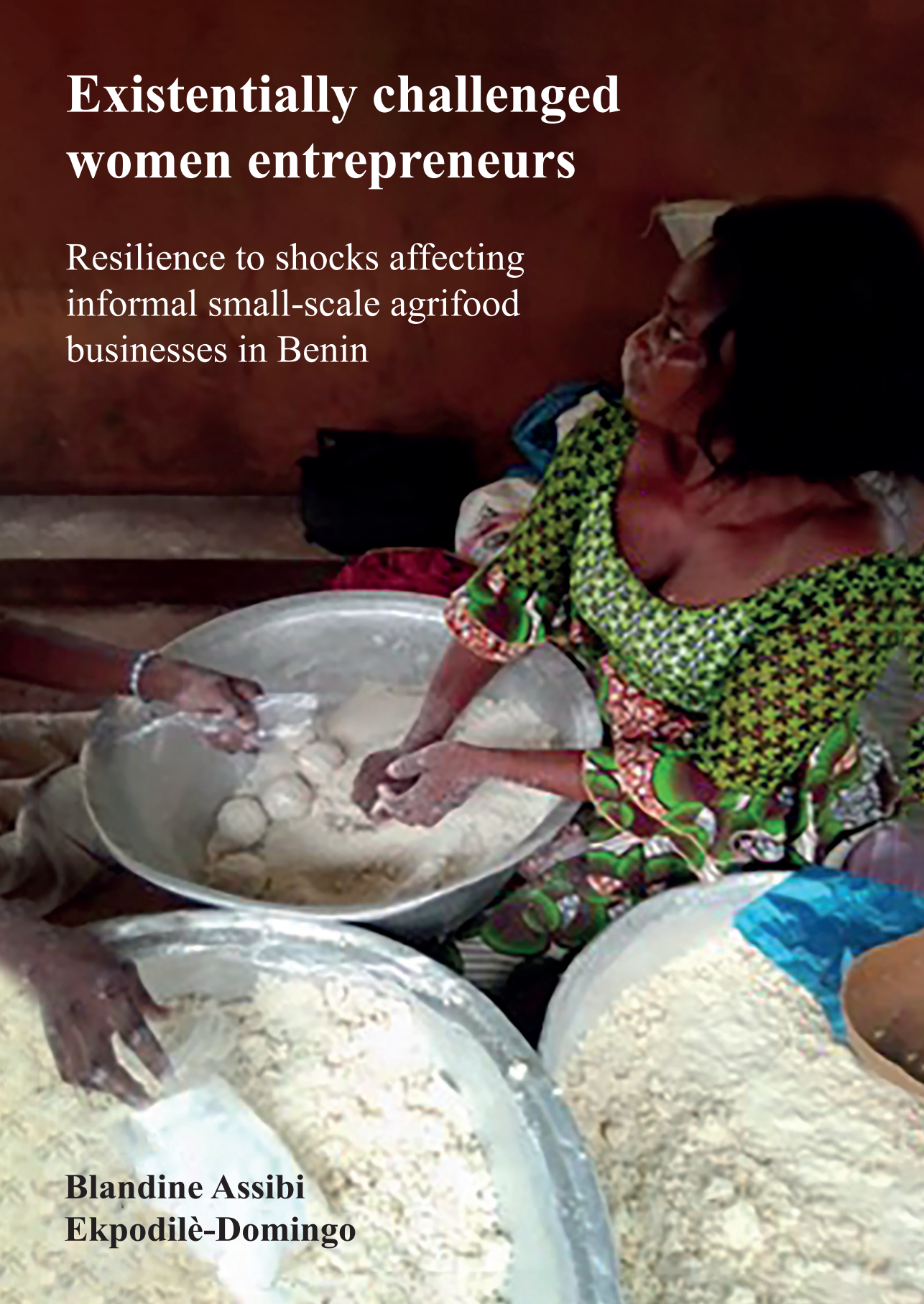
Existentially challenged women entrepreneurs

Resilience to shocks affecting informal small-scale agrifood businesses in Benin



Blandine Assibi Ekpodilè-Domingo

Propositions

1. Shocks that existentially challenged women entrepreneurs experience in the Global South are inevitable.
   (this thesis)

2. Family events are the main cause of shocks as well as source of help to the businesses of existentially challenged women entrepreneurs.
   (this thesis)

3. Multidisciplinary, interdisciplinary and transdisciplinary research are confusing and time-consuming.

4. Managing price inflation problems goes beyond governments' political decisions.

5. The children of resilient women in small food businesses will never die of hunger.

6. Women entrepreneurs in the Global South need to start leading their businesses.

Propositions belonging to the thesis, entitled:

Existentially challenged women entrepreneurs

Resilience to shocks affecting informal small-scale agrifood businesses in Benin

Blandine Assibi Ekpodilè-Domingo
Wageningen, 1 November 2024

Existentially challenged women entrepreneurs

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Blandine Assibi Ekpodilè-Domingo

Thesis committee

Promotors
Prof. Dr W. A. Dolfsma
Professor of Business Management & Organisation
Wageningen University & Research

Dr S. E. Schoustra
Associate Professor, Laboratory of Genetics
Wageningen University & Research

Co-promotors
Dr V.C. Materia
Associate Professor, Business Management & Organisation Group
Wageningen University & Research

Dr A. R. Linnemann
Associate Professor, Food Quality and Design Group
Wageningen University & Research

Other members
Dr SR Vellema, Wageningen University & Research
Prof. Dr W. Naudé, RWTH Aachen University, Germany and University of Johannesburg, South Africa.
Dr G.P.K. Ngorora-Madzimure, Chinhoyi University of Technology, Zimbabwe.
Dr MM van den Berg, Wageningen University & Research

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Existentially challenged women entrepreneurs

Resilience to shocks affecting informal small-scale agrifood businesses in Benin

Blandine Assibi Ekpodilè-Domingo

Thesis

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DEDICACE

I dedicate this thesis to all parents, like mine, who support their children's aspiration and endeavours since their childhood. Your hope for your offsprings can be fulfilled beyond all expectations, even after you have passed away.

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Chapter 1

Chapter 1. Introduction

1.1 Roles and Vulnerability of Women in Agrifood Entrepreneurship

Women play a crucial role in agrifood systems, significantly contributing as workers, entrepreneurs, and consumers (FAO, 2023b; OECD, 2022). Globally, 36% of women are employed in agrifood sectors, with even higher contributions in emerging economies, particularly in sub-Saharan Africa. Here, women's roles in food production are vital, with 66% of women engaged in agrifood activities compared to 60% of men (FAO, 2023b). These figures often underestimate women's full contributions, as they typically exclude non-market-oriented work (IFAD, 2022).

Women are underrepresented in the formal labour force and tend to be concentrated in less lucrative segments of agrifood systems, such as home production and local market activities, roles that often extend their domestic responsibilities into the economic sphere (Carranza et al., 2018). In general, women play a larger role than men in post-primary production activities like food processing, especially in developing countries (FAO, 2023b). For instance, women constitute 41% of workers in global agrifood economic activities, rising to 60% in sub-Saharan Africa (FAO, 2023b). Self-employment and entrepreneurship in agrifood are preferred by many women due to the lower entry barriers compared to other sectors. In West Africa, women make up 83% of workers in food processing and 72% in food marketing (Allen et al., 2018). Most women-led businesses are in the informal sector, including street vendors and food sellers on local markets. Typically, these businesses deal with perishable food products in smaller volumes, while men dominate the more profitable, industrially processed food sector. Consequently, women's businesses tend to have lower sales, earnings, assets, and employee numbers (Carranza et al., 2018; Gonzalez Martinez et al., 2019).

Several barriers contribute to the lower performance and profitability of women-led businesses. Carranza et al. (2018) identify three main types of barriers: inequality of endowments (limited access to assets, education, skills, and networks), external barriers (sociocultural and institutional gender norms), and internal barriers (internalized discriminatory practices, lack of self-confidence, and fewer role models) (Korinek et al., 2021). These barriers result in women undertaking less prosperous businesses compared to men, thereby increasing their vulnerability.

Despite the empirical evidence provided for the challenges women face, the literature falls short in providing evidence, contextualization and explanation of the nature of specific events that aggravate their vulnerable status. In emerging economies, women entrepreneurs are exposed to

"unplanned events" that disrupt their activities and exacerbate their challenges and their vulnerabilities. Although these events can be categorized as "shocks" according to the definition provided by the literature, their meaning, nuances and impacts in the turbulent contexts in which these women operate have never been systematically addressed by the literature. These shocks and the way women develop resilience to them are the focus of this thesis. Shocks include environmental, economic, social, and institutional disruptions (Akkermans et al., 2018; Meuwissen et al., 2019). Recent shocks like pandemics, terrorist attacks and unpredictable climate change related events have particularly impacted women-owned businesses globally, often preventing them from continuing their operations. The COVID-19 pandemic, for instance, has intensified existing gender inequalities, disproportionately affecting women entrepreneurs (GEM, 2023).

Currently, the literature on shocks and business resilience lacks a focus on women entrepreneurs in general (GEM, 2023; OECD, 2022) and in developing countries in particular (GEM, 2023; Saad et al., 2021). Therefore, the challenges women entrepreneurs face across food systems are difficult to recognize. This also prevents policymakers from considering the interests and concerns of these women at all stages of policy processes. For example, women-led businesses have been found to receive less public support, despite being more impacted by shocks than male-led businesses (Nieves et al., 2021; The World Bank, 2022). Besides, women entrepreneurs are often active in the food services or retail sectors, which are heavily subjected to shocks, making women's entrepreneurship less resilient to shocks than men's entrepreneurship (GEM, 2023; Nieves et al., 2021).

Awareness of the specific conditions and shocks women face can enhance their resilience and productivity, ultimately supporting food security and nutrition for a growing population (FAO et al., 2022). Such a data-driven approach is essential for reducing hunger, boosting incomes, and strengthening resilience through targeted policies for women's empowerment (FAO, 2023).

This thesis has three separate but interconnected aims: (1) to provide a comprehensive understanding and evidence of what women entrepreneurs in emerging economies encounter as shocks in their businesses; (2) to identify the resources and capabilities women own and use to overcome these shocks; and (3) to analyse the role of social networks in building resilience to the identified shocks. To achieve these goals, we first investigate the events that women identify as

shocks, seriously disturbing their businesses, and their sources (**Chapter 2**). By this, we can unveil the conditions under which women operate, how turbulent the contexts in which they operate are, and inform the literature on whether there is a need for a more contextualized definition of the term "shock" to businesses that takes into account the context and the specific conditions in which women entrepreneurs operate. Subsequently, we investigate the process women follow to build resilience to shocks. To do so, first, we study what and how personal resources and dynamic capabilities of women are used and/or combined as a resilience strategy to achieve a competitive performance during shocks, as a resilience outcome (**Chapter 3**). Finally, we focus on the resources that social networks provide to women entrepreneurs to understand the role they play in enabling the mitigation of shocks when the personal resources and capabilities of women are depleted. In particular, we investigate whether the relationship with peer entrepreneurs, family and relatives, and with local government and business support institutions and organisations can support women entrepreneurs to face specific shocks, i.e. mobilizing what resources and how for what shock (**Chapter 4**).

Understanding what women entrepreneurs in the Global South identify as shocks to their informal businesses and how they develop resilience mobilizing what type of resources is – according to this thesis – conducive to addressing the root causes of their relatively slow marginal growth and their resilience, and to the identification of targeted interventions that aim to empower women in agrifood systems. Such empowerment can yield significant benefits for their countries, such as increased GDP, job creation, improved livelihoods, and enhanced food security (European Parliament, 2019; FAO, 2011; IFAD, 2020; ILO, 2019). Closing the gender productivity gap in agrifood systems could boost global GDP by nearly USD 1 trillion and reduce global food insecurity by 2 percentage points, benefiting 45 million people (FAO, 2023). Indeed, detailed data on women's roles, challenges, and contributions to agribusiness is crucial for policy-making (OECD, 2022). This thesis contributes to addressing the gap in sex-disaggregated data, which hampers efforts to address gender disparities and design effective policies, by providing evidence of the specific conditions and shocks women face and how they can enhance their resilience and productivity, ultimately supporting food security and nutrition for a growing population (FAO et al., 2022).

The remainder of this chapter is organized as follows: section 1.2 briefly describes the literature on resilience as an entrepreneurial strategy, followed by section 1.3 that describes the context of the study. Section 1.4 lays out the research questions addressed in each individual chapter, followed by the conceptual framework (section 1.5) and the methodological approach (section 1.6). Section 1.7 describes the outline of this thesis, and the final section 1.8 presents the research project from which this thesis derives. In Chapters 2 to 4, each particular research question is addressed according to its specific methodological and conceptual needs. Chapter 5 discusses the results provided by each chapter in the broader context of entrepreneurship in the agri-food system and concludes.

1.2 Developing resilience: a theoretical perspective on entrepreneurial strategies

The ability of entrepreneurs to face shocks and continue their activities can be referred to as resilience (Duchek, 2019; Van Breda, 2018). Resilience is crucial for the continuity of a firm's functions (Van Breda, 2018). However, the outcome (result) of resilience depends on the resources and capabilities of the actors and the strategies chosen (Barney, 1991).

Various theoretical perspectives in the business and organization domain highlight strategies that can contribute to the development of resilience. For example, according to the Dynamic Capability approach, during shocks firms might use dynamic capabilities (DCs) to improve the speed, effectiveness and efficiency of their strategies or to develop new strategies that improve their performance (Drnevich & Kriauciunas, 2011). DCs enable firms to sense the need for change, acquire and integrate the necessary knowledge to face shocks and reconfigure the organization's resource base (Eisenhardt & Martin, 2000; Teece, 2007; Teece et al., 1997). As a result, DCs have a direct positive impact on a firm's performance (Lin & Wu, 2014).

Networking is also a strategy frequently studied in the literature as conducive to greater entrepreneurial resilience (Hedner et al., 2011). Through social contacts, networking has an impact on economic outcomes: the more contacts, the more information and resources available, the greater the outcomes and therefore the greater the resilience.

Marketing and food product differentiation are other business strategies deployed by entrepreneurs to face shocks and these have also been shown to have a positive impact on a firm's resilience (Akgün & Keskin, 2014; Gölgeci & Kuivalainen, 2020).

Most studies on resilience of firms were conducted in the Global North, with a focus on large firms and formal small and medium enterprises, while the context of the Global South, where mainly informal small and micro firms contribute to the economy, is seemingly neglected (Saad et al., 2021), although in such contexts, shocks of different nature are very common (Rijkers & Söderbom, 2013; Saad et al. 2019; Sissoko & Dibooglu, 2006). The few studies addressing shocks and resilience in the Global South focus on shock-inducing events commonly identified as such, for example, natural disasters, conflicts and political crises, pandemics, institutional failures, and economic recessions (Dimitriadis, 2021; FAO, 2021, 2023a; Shahriar et al., 2021; Tiwari & Shastri, 2022). In such studies, informal small firms are rarely studied, let alone when led by women, leaving a gap open on what shocks actually are to these (women-led) businesses and what types of resilience they apply to deal with the shocks. For example, what women entrepreneurs perceive as shocks to their business has never been addressed in the literature. Moreover, little is known about the resilience of these women-led firms such as the use of typical (named) resources and capabilities (or the combination of these) for a resilient performance (see Battisti et al., 2019; Conz & Magnani, 2020; Duchek, 2019).

1.3 Context

1.3.1 Case study: Informal women's businesses in fermented foods in Benin

This thesis focuses on a case in Benin, a West African country. The economy of Benin relies largely on agriculture, which is susceptible to weather fluctuations and market volatility. The government of Benin has set the goal of promoting certain agricultural value chains and improving the business environment, focusing on seven key agricultural products: oil palm, pineapple, cashew, vegetables, rice, cassava and maize (Benin, PAG 2021-2026). Maize is the most important and most consumed staple food in Benin. However, climate change poses a major challenge and leads to crop losses and thus to a decline in agricultural production and household income, thereby posing a threat to food security.

The consumption of food derived from cereals such as maize (*Zea mays*), sorghum (*Sorghum bicolor*), pearl millet (*Pennisetum glaucum*) and rice (*Oryza sativa*) is widespread in Benin and around the world, particularly in developing African countries where they constitute a major source of staple food (Gernah et al., 2011). In Africa, products derived from the processing of these cereals are found in the form of porridges, pastes, couscous, beverages and cakes (Nago, 1997; Nago et al., 1998; Nout et al., 2003). These cereal-based products, particularly those resulting from lactic fermentation, have long been known in Africa (Charalampopoulos et al., 2002), especially in contexts where the lack of appropriate preservation techniques necessitates the use of fermentation as a means of maintaining food quality. Indeed, bacteria, yeasts and moulds contribute to the biotransformation of raw materials by degrading organic substrates and thus producing products of interest for food consumption. This is the case for *mawè* in Benin, the food case study of this thesis. *Mawè* is well-known alongside its fermented food counterparts such as mahewu or others, which are widely consumed in Africa (Blandino et al., 2003; Chavan & Kadam, 1989; Oyewole, 1997). *Mawè*, primarily used for the preparation of *akassa* (a common ready-to-eat fermented food in Benin) serves as an intermediate product for the production of various other foods and beverages, including *akpan* in Benin. *Akpan* is a beverage produced from *mawè* or *ogui* (a similar product to *mawè)* (Adande, 1984; Nago, 1989). This intermediate product (*mawè*) is stored at ambient temperature and used over a few days. Since *mawè* continues to ferment during storage and sale, any delay in the processing, storage and selling time can result in the spoiling and loss of the product. Fermented foods are integral to daily consumption and served as staples for breakfast, lunch, dinner, and snacks in Benin. Apart from their cultural significance, fermented foods are nutritionally beneficial, offering enhanced food safety and increased micronutrient availability (Marco et al., 2017), which bolsters food security while fostering economic opportunities for women (Materia et al., 2021). Traditional fermented foods are highly valued in Benin for their distinct flavour, nutritional richness, and cultural embeddedness. However, their production processes are labour-intensive, complex, and time-consuming (Houngbedji et al., 2014). The processing of *mawè* in Benin requires 15 steps to get from maize - the raw material - to *mawè* - the final product (see Figure 1).

Benin shares economic and entrepreneurial challenges with many other developing countries in comparable circumstances. Most of the country's economic activity occurs in the informal sector, where a significant portion of its female workforce is engaged. It is noteworthy that 97.9% of

women in Benin are part of the informal workforce, a trend that is mirrored across sub-Saharan Africa (excluding South Africa), where the figure stands at 92% (Bonnet et al., 2019). Across Africa, informal employment accounts for 76.0% of the workforce, while formal employment constitutes only 5.5% and household employment accounts for 4.3% (ILO, 2018). Benin's GDP is moderate, estimated at 17.4 billion, with a per capita GDP of 4,056 in 2022 (WB, 2023; WB., 2023). Despite these challenges, the country has implemented measures to promote sustainable growth and enhance the business climate. For example, Benin has outlawed gender-based discrimination in financial services (WB: Women, Business and the Law, 2023).

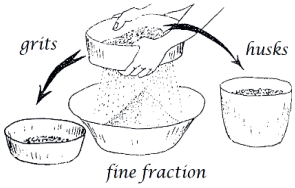
The primary focus of our research is on informal women entrepreneurs in Benin who run their enterprises in producing and selling traditional maize-based fermented foods. These fermented foods represent a prevalent form of informal food commerce managed by women in developing countries. The fermented food business is a locally initiated form of entrepreneurship, a source of income and opportunities for women.

The traditional food processing landscape in Benin is diverse, with maize being a primary raw material. Nago (1989) identified approximately 40 different maize processing methods in Benin. In addition to household processing and consumption, various foods are manufactured and marketed by food processing micro-enterprises, significantly contributing to national food security by processing local products, catering to local culinary preferences, and offering employment opportunities for urban women, who often rely on food processing as their primary income source (Nago et al., 1990). Approximately 83% of all *mawè*, produced in Cotonou, the largest city in Benin, is sourced from food processing micro-enterprises (Hounhouigan, 1994; Hounhouigan et al., 1994). *Mawè* is marketed both as a ready-to-serve product and as a ready-to-cook product. The surge in demand for semi-processed *mawè* is driven by urban consumers seeking high-quality, safe products, which has led to the rise of micro-enterprises specializing in its production (Hounhouigan, 1994). This growing market for semi-processed goods has notably spurred the proliferation of *mawè*-producing micro-enterprises, catering to the evolving demands of urban consumers.

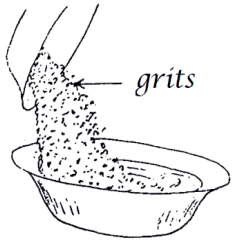
1. Cleaning the maize grains

2. Washing the maize grains

3. Crushing the maize grains

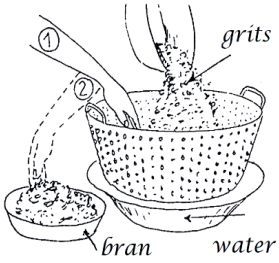


4. Dry sieving of the crushed maize grains to separate the grits, fine fraction and husks

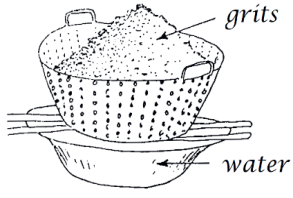


5. Soaking the maize grits

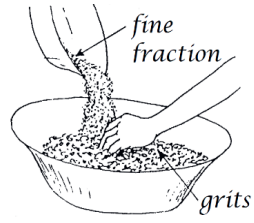
6. Washing the maize grits



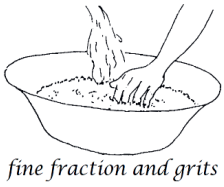
7. Removal of the bran



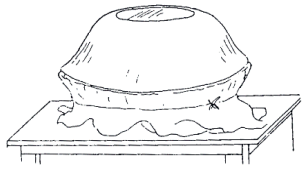
8. Draining the maize grits



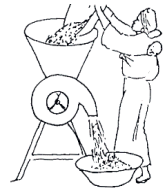
9. Mixing the maize grits with the fine fraction from production step 4 (sieving)



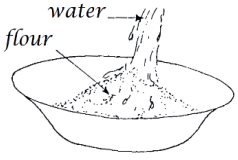
10. Wetting the mixture



11. Letting the mixture rest

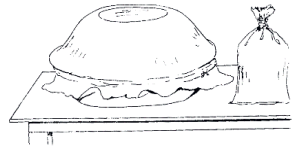


12. Grinding the mixture



13. Adding water to the ground mixture

14. Kneading the ground mixture



15. Fermentation

Figure 1.1 Mawè production flow chart (after Nago and Hounhouigan, 1998)

1.4 Research questions

This thesis aims to extend and enrich the current body of literature on shocks to business and resilience by incorporating the perspective of informal, small women-led businesses in the agri-food industry. Specifically, it contributes to the existing literature by examining the shocks and resilience experienced by women entrepreneurs, with a focus on those involved in the production and sale of traditional fermented foods. The thesis commences with a definition of the shocks to businesses as experienced by women in an informal business environment. Subsequently, it investigates the individual resources and capabilities necessary for women‘s resilience to cope with these shocks. Additionally, it considers the social resources acquired by women to alleviate the shocks they face, and the role of social networks in mitigating specific shocks. Hence, this thesis will discuss what women in the food processing industry perceive as shocks and the personal and social resources they employ to tackle these. This section provides an overview of research questions and the chapters concerned.

Table 1.1 Research questions and overview chapters

Chapter	Research question	Conceptual Approach	Methodology	Results
2	What events seriously disrupt women’s businesses as shocks, and why do women face such shocks?	Shocks as challenging events disturbing businesses and entrepreneurs	Qualitative analysis of eight focus groups and 110 individual interviews	Women entrepreneurs and their businesses are embedded in multiple contexts, all of which are potential sources of shocks. The most substantial shocks to women’s businesses are personal, stemming from families and personal lives, jeopardizing the existence of the women involved and their families.

3	What resources and dynamic capabilities (DCs) enable the resilience and competitive performance of informal women entrepreneurs operating in challenged business environments characterized by shocks, and to what extent do these DCs mediate the relationship between the resources and competitive performance?	Resources-based view and dynamic (business) capabilities approach as a lens of resilience	Quantitative analysis with survey data and Structural Equation Modelling (SEM)	Some resources are more important than others for firm resilience and subsequent performance because they not only allow for higher performance but also for the development and deployment of DCs that permit the adaptation of business models when facing shocks.
4	How are social networks used to mitigate shocks to women's businesses?	Social network and resilience theories in the context of informal small businesses	Qualitative analysis of 21 exploratory interviews, 8 focus group discussions, and 110 individual interviews	Some networks appear to be the cause of shocks to the informal women businesses rather than providing support; in addition, some types of shocks are only mitigated with networks of competitors

Research question 1: What events seriously disrupt women's businesses as shocks, and why do women face such shocks?

Disruptions in the food system frequently have a greater impact on women than men, especially in developing countries, where women are overrepresented in this sector (see sections 1.1 and 1.2). To mitigate vulnerability to shocks, it is crucial to identify the specific types of shocks and their origins. The existing literature on this topic mainly focuses on large firms in the Global North (Doern et al., 2019; Herbane, 2010; Miklian & Hoelscher, 2021). The unique challenges and vulnerabilities faced by small-scale businesses run by women entrepreneurs are rarely addressed (Moreno & Shaw, 2018). Women entrepreneurs, particularly those operating in the informal sector, confront distinct obstacles that can significantly undermine their ability to sustain their businesses and make a living. Moreover, in many instances sociocultural and gender norms prevent women from accessing resources, while internalized discriminatory practices have the effect of women engaging in less profitable jobs. Consequently, women often tend to possess fewer resources than men, making them more susceptible to shocks (Carranza et al., 2018; Moreno & Shaw, 2018).

The effects of specific shocks and the resources mobilized to deal with those shocks depend on the actors and contexts involved (Doern et al., 2019; Meuwissen et al., 2019). Research is needed that examines what small businesses perceive as shocks. For women entrepreneurs running small-scale food businesses in the Global South to support themselves and their families, understanding the shocks that affect their businesses can help devise strategies and measures to better prepare themselves and sustain their livelihoods.

We explore what women in the small informal food business sector perceive as shocks impacting their business by using the definition of a shock as any challenge that disrupts normal ways of doing business (cf Meuwissen, 2019). Our analysis provides a classification of the shocks faced by women entrepreneurs. We have done so by conducting and examining 110 individual interviews and 8 focus group discussions with women in the traditional fermented food business in Benin. From the primary data we collected, we adopted an inductive approach to uncover the nature and origins of the shocks. Our findings reveal that women entrepreneurs and their businesses are embedded in multiple contexts (family, business, society…), all of which are potential sources of shocks. All these contexts influence the behaviour of the entrepreneurs. Notably, we found that the most significant shocks to women's businesses were personal, stemming from families and personal lives, threatening the existence of the women involved and their families. So far, the literature was completely blind to these specific shocks. It is essential to address the challenges women face with their small-scale businesses holistically, taking into account not only their economic and societal circumstances but also their personal and family contexts. Women can be successful as entrepreneurs, but they can also be *existentially challenged*, considering the many shocks they continuously encounter in every sphere of their lives, particularly in the Global South.

Research question 2: What resources and dynamic capabilities (DCs) enable the resilience and competitive performance of informal existentially challenged women entrepreneurs operating in challenged business environments characterized by shocks, and to what extent do these DCs mediate the relationship between the resources and competitive performance?

Investigating the resilience of women entrepreneurs in the food system of the Global South is crucial, as these individuals play a critical role in achieving food security and livelihoods for their

families and community and thus zero hunger, one of the Sustainable Development Goals (SDGs). Despite growing interest in the literature on studying the challenges and shocks affecting food systems (Meuwissen et al., 2019), studies are still needed that provide evidence specifically on the resources and capabilities that women entrepreneurs in turbulent contexts mobilize to support their competitive performance and achieve resilience.

The socioeconomic status of women entrepreneurs can impede their ability to mobilize (their own) resources for business development and growth, particularly when they have a low social status (Lumpkin et al., 2011; Morgan, 2020). Therefore, research is needed to identify resources that can support the competitive performance of existentially challenged women entrepreneurs in the Global South (Lin & Wu, 2014) and to elucidate the relationship between resources and capabilities that enhance resilience and higher performance as a means of thriving in the face of shocks (Conz & Magnani, 2020). Understanding the necessary resources for these women will help open avenues to sustain their informal food businesses and support their family livelihoods.

We propose focusing on the application of resources and dynamic business capabilities to investigate resilience. Specifically, we combine the resource-based view (RBV) theory and the dynamic capabilities (DCs) approach to examine what contributes to resilience for women entrepreneurs. We aim to identify which combination of resources and capabilities enables women entrepreneurs to not only survive but thrive in challenging business environments. Our analysis of data from 355 women entrepreneurs of fermented foods in Benin, West Africa, indicates that both financial and human resources are crucial for firm success. However, our research also indicates that human resources play a particularly important role in allowing women entrepreneurs to adapt their business models when faced with shocks. Our findings emphasize that certain resources are more valuable than others in promoting firm resilience and subsequent performance, as they facilitate the development and implementation of dynamic capabilities. Our study highlights the context-dependent nature of these effects, as our findings differ from previous research conducted in different settings. Therefore, our contribution to the literature on the resource-based view and dynamic capabilities is to suggest how these concepts can be interrelated and to demonstrate the importance of considering the specific context in which these resources and capabilities are employed.

Research question 3: How are social networks used to mitigate shocks to women's businesses?

Entrepreneurs who possess limited resources frequently seek assistance from their social networks, which provide vital social resources for their businesses (Penrose, 2009). Social networks, which connect individuals or organizations and facilitate access to information, business ideas, skills, and resources, serve as a support system for acquiring resources in a vulnerable environment (Biggs, 2011; Nahapiet & Ghoshal, 1997). However, further insights are needed on how social resources promote the development of resilience in businesses (Duchek, 2019). There is a need to explore how entrepreneurs in small informal enterprises use social networks to mitigate the effects of shocks (Boso et al., 2013). For instance, empirical evidence is required to understand how social resources influence the development of resilience (coping) strategies against shocks (Duchek, 2019; Meuwissen et al., 2019). Additionally, it is essential to examine how social resources contribute to the resilience of women-owned small businesses, specifically in turbulent contexts. This is crucial for understanding how women entrepreneurs facing existential challenges address the shocks to their businesses and maintain business continuity. For these women, resources from social networks enable them to continue their operations despite the shocks they encounter, thereby directly benefiting income generation and supporting livelihoods. Recent studies on shocks, social networks, and resilience do not specifically focus on women's entrepreneurship.

The literature emphasizes the significance of social resources, yet there is a scarcity of comprehension concerning the specific resources essential for coping with a variety of shocks, including whom these resources can be obtained from and how they can be utilized for mitigating the impact of shocks, particularly for women entrepreneurs who operate informal small food businesses. We believed that women entrepreneurs may experience gender-specific shocks that necessitate specific resources and strategies from specific networks, as the resources and resilience strategies used may differ based on the type of shocks (Su & Junge, 2023). To bridge this research gap, we qualitatively analysed data from exploratory interviews, focus groups, and semi-structured individual interviews we conducted with women working in the traditional fermented food industry.

Our study's findings indicate that women entrepreneurs make use of both bonding networks (i.e. relationships with family and relatives) and bridging networks (i.e. relationships with peer entrepreneurs and business partners) to cope with any shocks that may arise while linking networks

(i.e. relationships with higher authorities and organizations) appear to primarily cause additional shocks. Notably, our research reveals that bonding networks serve as a valuable source of resources, despite potentially also presenting sources of shocks. Meanwhile, bridging networks play a crucial role in implementing resilience strategies for dealing with any shock, including those caused by linking networks. They appear to be more important than bonding networks. Our study sheds light on how social networks alleviate the vulnerability of women entrepreneurs to shocks. By filling a gap in the existing literature and emphasizing the significance of collaboration within entrepreneurial communities, our research contributes to a more refined understanding of the importance of each social network in mitigating the impact of shocks on women entrepreneurs operating in the informal food sector.

In brief, Chapter 2 of this thesis has the primary goal of delving into the issues that significantly hinder the operations of informal women-owned businesses by defining what shocks are to women's entrepreneurship. Chapter 3 then examines the resources and capabilities women and their businesses possess, and how they are combined to achieve competitive performance as resilience in the face of shocks. Lastly, Chapter 4 investigates the role of social networks in building resilience when the personal resources of entrepreneurs are insufficient to cope with shocks.

1.5. Conceptual framework

The primary objective of this thesis, which is grounded in empirical research, is to enhance the understanding of resilience by incorporating the perspective of informal women entrepreneurship in agrifood in developing economies. To address the diverse range of empirical research questions presented in this thesis, several theoretical frameworks are utilized. Although the rationale behind the choice of these concepts is elaborated upon in each chapter individually, this section offers an overview of the concepts employed and explains their interconnectedness and synergy.

The underlying concept for all chapters is that of *resilience*. Resilience research is concerned with the urgency of examining vulnerable situations in which small and medium-sized enterprises (SMEs) operate (Ates & Bititci, 2011; Burnard & Bhamra, 2011; Kantur & Say, 2015). There is no single definition of resilience (Williams & Vorley, 2017). In the business context, resilience is defined as the ability of a company to survive or grow after a crisis, often measured by increased

sales or profits or by the use of positive and creative strategies, such as expanding the customer base, hiring more employees or making strategic investments (Smallbone et al., 2012) or through business continuity (Iftikhar et al., 2021). The occurrence of crisis events such as natural disasters, conflicts and political crises, institutional failure, economic recessions, etc. has led researchers to look at resilience. Originally theorized in Canada by Hollings with a focus on ecological resilience (Saad et al., 2021), there is currently more abundant research on resilience in other disciplines (e.g. psychology, ecology and resilience engineering) than in business studies. Dahles & Susilowati (2015), as well as Linnenluecke (2017), have suggested contextualizing the concept of resilience to improve our understanding of SMEs. This recommendation urges an exploration of the concept in different settings, including developing countries (Saad et al., 2021) and informal business environments. Most of the studies on SME resilience have been conducted in developed countries (Linnenluecke, 2017; Saad et al., 2021) clearly indicating that little attention has been paid to research on SME resilience in developing countries. More recently, resilience has gained attention in the field of entrepreneurship, with discussions encompassing entrepreneurial teams, start-ups, family businesses and rural businesses, as well as disruptive business model innovations, economic recessions and external shocks (Blatt, 2009; Dewald & Bowen, 2010; Glover, 2012; Smallbone et al., 2012; Williams & Vorley, 2014).

Burnard & Bhamra (2011) and Williams et al. (2017) believe that different perspectives on resilience can lead to an effective response to shocks when they are combined. However, not all organisations have the potential to apply resilience when they face shocks. The choice of the type of resilience will depend on some antecedents such as the resources and/or the capabilities of the firms, and the types of shocks that occur (Meuwissen et al., 2019; Su &Junge, 2023). The ability to deal effectively with adverse events (Duchek, 2019) by small women-owned food enterprises is important to study since these enterprises are known to lack sufficient resources. To understand this, each chapter of this thesis digs into a specific aspect of resilience for a better comprehension of how resilience is built by informal small women-led businesses.

In Chapter 2, the concept of shocks (Meuwissen et al., 2019) and their sources are explored to apprehend the events that are perceived as shocks by the women we studied. The definition of shock varies in the literature depending on the context of the analysis. It is defined differently and ranges from a challenging event (Meuwissen et al., 2019) to a disruptive and extraordinary event

(Akkermans et al., 2018). Shocks can manifest themselves as positive, neutral or negative, expected or unexpected events and can be personal or organizational in nature (Holtom et al., 2005). Researchers use different terms to describe shocks, including adversity, crisis, challenge, uncertainty or disaster. Shocks are classified based on their duration, their point of origin and their impact on life, systems or individuals (Bonanno & Diminich, 2013; FAO, 2023b; Meuwissen et al., 2019). We examine shocks as challenges, adversities, disruptive events, disasters, disturbances, or threats — expected or unexpected, internal or external to the business— that entrepreneurs perceive as a crisis to their organization and that require strategies, resources and capabilities to overcome (Akkermans et al., 2018; Meuwissen et al., 2019). To know what draws shocks to women entrepreneurship, we use an inductive method and interpret the result about shocks relying on the literature on shocks and the type of business run by women.

In Chapter 3, we combine the Resource-based theory and the dynamic capabilities approach (DC). The resource-based view of the firm (RBV) is a managerial framework that focuses on internal assets, capabilities, and competencies that enterprises use to maintain greater competitiveness. Resources for firms are any tangible and intangible assets perceived as their strength (Wernerfelt, 1984). When firms' resources are at least Valuable and Rare, they lead to a competitive advantage (Barney, 1991). The dynamic capabilities (DC) theory is an extension of the RBV. Similarly to the RBV, the DC approach identifies the internal capabilities of firms as factors of competitive advantage. Some organizations display dynamic capabilities, namely the ability to adapt, integrate, and reconfigure resources and competencies to respond to changing environments (Limnios et al., 2014; Teece et al., 1997; Wernerfelt, 1984). These firms can use dynamic capabilities to reinvent or modify strategies in a suddenly changing environment. Indeed, DC emphasises the ability of the firm to organize and use its resources as important to adapt to rapidly unpredictable changing environments and keep its competitive advantage (Teece et al., 1997). We assume that resources and DC may be combined and used as a resilience strategy to face shocks, which can result in a competitive advantage. The competitive advantage is the superior performance above the average in the industry which is posed as a resilience-driven performance in this thesis. In addition, we posit that DC as an ability of firms to organise and utilize resources can mediate the effect of valuable resources on firms' competitive performance.

Finally, Chapter 4 analyses social networks as a stock of resources for resilience. Based on the literature on social capital theory (Bourdieu, 1986; Coleman, 1990), we pose some propositions about different social ties (Carpenter et al., 2012; Woolcock, 2001), and their importance in supporting resilience in diverse types of shocks that women entrepreneurs face.

1.6 Methodology

Research design

This thesis implements a mixed methods approach that integrates qualitative and quantitative methodologies to explore the shocks and resilience among small businesses owned by women in the informal sector. The following table 2 summarizes the methodological approaches for each research question.

Table 1.2 Methodological approaches of the thesis

Chapter	Data	Methods	Approaches
2 Shocks to women's businesses	Eight focus group discussions and 110 individual interviews in the South of Benin	Qualitative analysis	Inductive approach to analyse the data, using Atlas.ti 23 software
3 Resilience as a use of resources and capabilities for competitive advantage	A survey among 355 women	Quantitative analysis	Structural equation modelling (SEM) using AMOS and SPSS
4 Use of social networks in building resilience	Exploratory data collection, 8 focus group discussions and 110 individual interviews with semi-structural interview guides	Qualitative analysis	Narrative analysis method (Polkinghorne, 1995) to collect and synthesize the descriptions of events and happenings into stories using a plot

A mixed approach was implemented because the diversity of methods and data types enhances the insights that can be gained while each individual method has its own advantages and disadvantages (Dahler-Larsen, 2022; Glaser & Strauss, 2017). As a result, each chapter of this thesis has a distinct methodological approach that contributes to the overall approach and is argued to be suitable for its purpose within the separate methodology sections of each chapter. In Chapter 2, inductive qualitative data analysis (Thomas, 2003) based on focus group discussions and semi-structured individual interviews with women is used to gain an understanding of their definition of shocks to

their businesses. In Chapter 3, structural equation modelling (Collier, 2020) is applied to analyze the direct effects of resources and capabilities on performance, as well as the mediating effect of dynamic capabilities between resources and performance. Data were collected through 355 surveys of female producers and sellers of fermented foods. Finally, in Chapter 4, a qualitative approach is used to analyze the narratives collected through exploratory data and individual interviews. The same database is used for Chapters 2 and 4.

Data collection

The data collection process for this thesis was conducted in three stages. Initially, we conducted a comprehensive review of the existing literature on food security challenges, food businesses, and women entrepreneurship, as well as on the impact of shocks on businesses and agricultural systems. To gather further insights, we conducted semi-structured interviews with 21 scientific experts in food technology and social sciences, as well as with women experts in the production and trade of fermented foods in Benin. We chose to focus on fermented foods because of their significance in the business of existentially challenged women.

Next, we selected eight communities in southern Benin for an in-depth study based on the findings from the exploratory phase. In each community, the first author and an assistant conducted focus group discussions with women entrepreneurs who produce fermented foods. The participants were selected in collaboration with the local community and recommended by the women entrepreneurs encountered during the exploratory phase. The discussions aimed to further explore the challenges and shocks faced by women in fermented food businesses. Contextual notes taken during the discussions were recorded, transcribed, and analysed.

Lastly, we conducted individual in-depth interviews with women entrepreneurs who produced *mawè* in both urban and rural areas, included some women from the focus group discussions. The interviews were conducted in June and July 2021 and lasted between 45 minutes and 1.5 hours. The longer interviews allowed entrepreneurs to sell their merchandise during the interview or reflect on their emotions when the interview touched upon painful memories. A total of 120 women were interviewed, yielding 110 complete narratives. The interviews were documented on paper and recorded with the interviewees' consent.

1.7 Thesis outline

The outline of the thesis is presented in Figure 2, with a general introduction (Chapter 1), three research chapters covering the research questions (Chapters 2-4) and a general discussion and conclusion (Chapter 5).

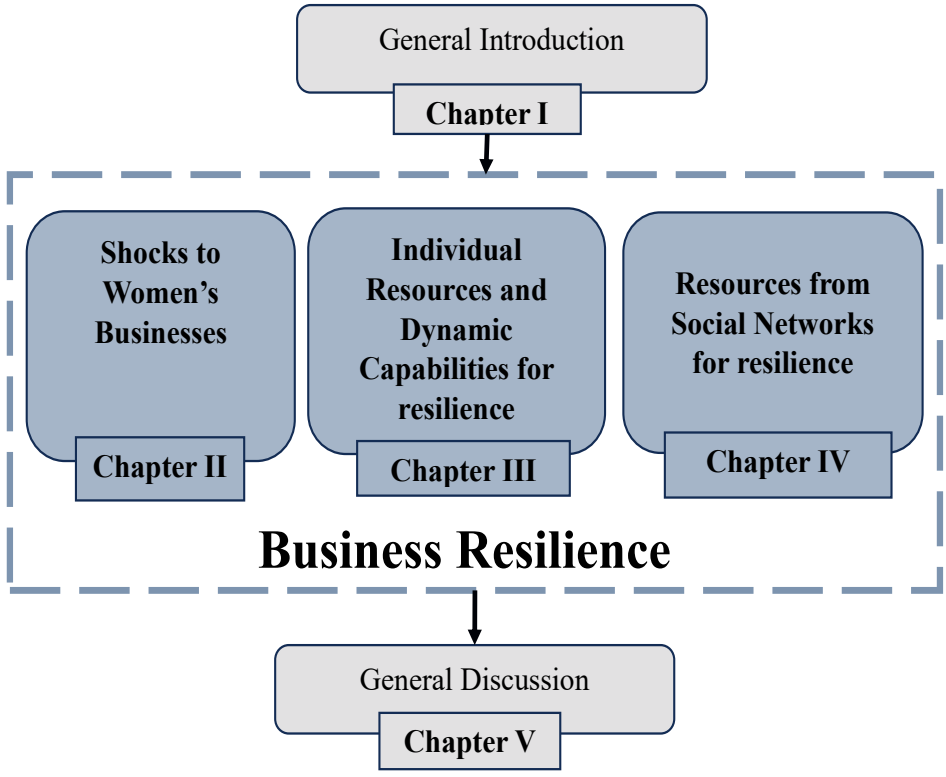


Figure 1.2 Thesis outline

The introductory chapter provides a short overview of the thesis (Chapter 1). The three main chapters 2-4 converge to explain shocks to women businesses and what helps them build resilience. Specifically, Chapter 2 identifies events that seriously affect women businesses and attempts to define shocks to informal women-led small businesses in the context of developing countries. This is done through a qualitative analysis of a large primary qualitative data we collected. Chapter 3 examines the resources and capabilities at the firm and entrepreneur levels, and how these are associated or combined to build competitive performance as a means for

resilience when entrepreneurs experience business- and market-related shocks. A structural equation modelling (SEM) applied to the collected quantitative data was used for that analysis. Chapter 4 looks at how different types of resources are provided by informal social networks to face different shocks. For this part of the research, we used the qualitative database and focus group discussions to analyse how women entrepreneurs use resources from their social networks to build resilience. Finally, Chapter 5 discusses the overall results and insights derived from these three research chapters. This indicates how the three research questions supported the achievement of the main objective. In addition, it reflects theoretical and methodological contributions. Finally, this chapter provides policy and managerial implications, insights for future research, and main conclusions.

1.8 FermFood project

This thesis is one of the outcomes of a Wageningen University transdisciplinary INREF project, entitled 'Traditional fermented foods to promote food and nutrition security in Africa; entrepreneurship, value chains, product development and microbial ecology in Zambia, Zimbabwe and Benin' (acronym: FermFood). The project targeted (a) upgrading food and nutrition security in Africa by (b) ameliorating the quality and use of traditional fermented foods through (c) strengthening the connected local value chains and (4) fostering women's entrepreneurship. Since its start, the project has funded 8 PhD trajectories and 1 postdoc position. The project had three main specific objectives (see Figure 3).

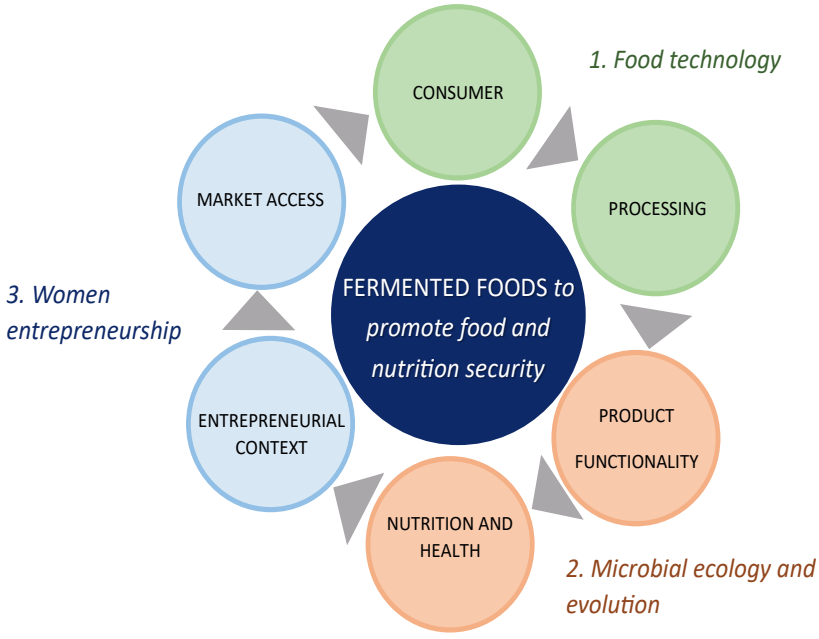


Figure 1.3 Overview of the research activities and linkages in the FermFood project

This thesis aligns with the specific objective 3, which is "women entrepreneurship". It aims to enhance conditions for locally initiated entrepreneurship as a source of income and opportunities for women in local farmer cooperatives and (household level) female producers and develop value chains embedded in the domestic and local economic, legal and social-cultural environment.

Three traditional fermented foods were selected as representative examples in the FermFood project, namely the dairy-based *mabisi* in Zambia, the cereal-based *mahewu* in Zimbabwe and the cereal-based *akpan* in Benin, which is a derived product from *mawè*, the case study of this thesis. Together these products cover different aspects, e.g., rural versus urban, and the current levels of standardization and contribution to diets. Among the eight PhD positions that the project has funded, one looked at the food technological aspects of *mawè* in Benin, one researched the institutions in women entrepreneurship using the fermented food *mabisi* as a case study in Zambia, and a third looked at the livelihood aspects of women entrepreneurship with the fermented food

mahewu as a case study in Zimbabwe. This range maximizes the relevance of our research and helps to expand findings to other traditional fermented foods and African food systems in general. In conclusion, the scientific output of the FermFood project serves as a blueprint of the current reality and presents insights to be widely applied in Africa and beyond.

1.9 References

Abdelnaeim, S. M., & El-Bassiouny, N. (2021). The relationship between entrepreneurial cognitions and sustainability orientation: the case of an emerging market. *Journal of Entrepreneurship in Emerging Economies*, *13*(5), 1033-1056. https://doi.org/10.1108/jeee-03-2020-0069

Adande, S. A. (1984). *Le maïs et ses usages au Bénin méridional,* . L. N. E. Africaines.

Akgün, A. E., & Keskin, H. (2014). Organisational resilience capacity and firm product innovativeness and performance. *International Journal of Production Research*, *52*(23), 6918-6937. https://doi.org/10.1080/00207543.2014.910624

Akkermans, J., Seibert, S. E., & Mol, S. T. (2018). Tales of the unexpected: Integrating career shocks in the contemporary careers literature [Article]. *SA Journal of Industrial Psychology*, *44*, Article a1503. https://doi.org/10.4102/sajip.v44i0.1503

Allen, T., Heinrigs, P., & Heo, I. (2018). *Agriculture, food and jobs in West Africa.* (West African Papers 14, Issue. O. Publishing.

Amuna et al. 2017.strategic environmental sacnning. An approach for crises management.pdf>.

Ates, A., & Bititci, U. (2011). Change process: a key enabler for building resilient SMEs. *International Journal of Production Research*, *49*(18), 5601-5618. https://doi.org/10.1080/00207543.2011.563825

Barney, J. (1991). Firm Resources and Sustained Competitive Advantage *Journal of Management*, *17*(1), 99-120. https://www-proquest-com.ezproxy.library.wur.nl/docview/215258436?accountid=27871

Battisti, M., Beynon, M., Pickernell, D., & Deakins, D. (2019). Surviving or thriving: The role of learning for the resilient performance of small firms. *Journal of Business Research*, *100*, 38-50. https://doi.org/10.1016/j.jbusres.2019.03.006

Benin, Presidence de la republique. (2021-2016). *Programme d'Actions du Gouvernement (PAG 2021 2026)*.

Biggs, D. (2011). Understanding resilience in a vulnerable industry: the case of reef tourism in Australia. *Ecology and Society*, *16*(1).

Blandino, A., Al-Seeri, M. E., Pandiella, S. S., Cantero, D., & Webb, C. (2003). Cereal based fermented foods and beverages. . *Food Research Int.. 36* 527-543.

Blatt, R. (2009). Tough love: How communal schemas and contracting practices build relational capital in entrepreneurial teams. *Academy of Management Review*, *34*(3), 533-551.

Bonanno, G. A., & Diminich, E. D. (2013). Annual Research Review: Positive adjustment to adversity--trajectories of minimal-impact resilience and emergent resilience. *J Child Psychol Psychiatry*, *54*(4), 378-401. https://doi.org/10.1111/jcpp.12021

Bonnet, F., Vanek, J., & Chen, M. (2019). *Women and Men in the Informal Economy – A Statistical Brief.* WIEGO.

Boso, N., Story, V. M., & Cadogan, J. W. (2013). Entrepreneurial orientation, market orientation, network ties, and performance: Study of entrepreneurial firms in a developing economy. *Journal of Business Venturing*, *28*(6), 708-727. https://doi.org/10.1016/j.jbusvent.2013.04.001

Bourdieu, P. (1986). *The forms of capital*.

Burnard, K., & Bhamra, R. (2011). Organisational resilience: Development of a conceptual framework for organisational responses [Article]. *International Journal of Production Research*, *49*(18), 5581-5599. https://doi.org/10.1080/00207543.2011.563827

Carpenter, M. A., Li, M., & Jiang, H. (2012). Social network research in organizational contexts: A systematic review of methodological issues and choices. *Journal of Management*, *38*(4), 1328-1361.

Carranza, E., Dhakal, C., & Love, I. (2018). Female entrepreneurs: How and why are they different?

Charalampopoulos, D., Wang, R., Pandiella, S. S.; , & Webb, C. (2002). Application of cereals and cereal components in functional foods: a review. *Int. J. Food Microbiol., . 79* 131–141.

Chavan, J. K., & Kadam, S. S. (1989). Nutritional improvement of cereals by fermentation. . *Crit. Rev. Food Sci. Nutr., . 28* 349- 400.

Coleman, J. S. (1990). *Foundations of social theory*. Harvard university press.

Collier, J. E. (2020). *Applied structural equation modeling using AMOS : basic to advanced techniques*. Routledge. https://doi.org/10.4324/9781003018414

Conz, E., & Magnani, G. (2020). A dynamic perspective on the resilience of firms: A systematic literature review and a framework for future research. *European Management Journal*, *38*(3), 400-412. https://doi.org/10.1016/j.emj.2019.12.004

Dahler-Larsen, P. (2022). The Practical Utility of Mixed Methods: An Empirical Study. . *Journal of Mixed Methods Research, 155868982110573.*

Dahles, H., & Susilowati, T. P. (2015). Business resilience in times of growth and crisis. *Annals of Tourism Research*, *51*, 34-50.

Dewald, J., & Bowen, F. (2010). Storm clouds and silver linings: Responding to disruptive innovations through cognitive resilience. *Entrepreneurship Theory and Practice*, *34*(1), 197-218.

Dimitriadis, S. (2021). Social capital and entrepreneur resilience: Entrepreneur performance during violent protests in Togo. *Strategic Management Journal*, *42*(11), 1993-2019. https://doi.org/10.1002/smj.3292

Doern, R., Williams, N., & Vorley, T. (2019). Special issue on entrepreneurship and crises: business as usual? An introduction and review of the literature. *Entrepreneurship & Regional Development*, *31*(5-6), 400-412. https://doi.org/10.1080/08985626.2018.1541590

Drnevich, P. L., & Kriauciunas, A. P. (2011). Clarifying the conditions and limits of the contributions of ordinary and dynamic capabilities to relative firm performance. . *Strategic Management Journal*, *32* (3), 254-279.

Duchek, S. (2019). Organizational resilience: a capability-based conceptualization. *Business Research*, *13*(1), 215-246. https://doi.org/10.1007/s40685-019-0085-7

Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: What are they? [Article]. *Strategic Management Journal*, *21*(10-11), 1105-1121. https://doi.org/10.1002/1097-0266(200010/11)21:10/11<1105::AID-SMJ133>3.0.CO;2-E

European, P. (2019). *The professional status of rural women in the EU*.

FAO. (2011). *FAO in the 21st century Ensuring food security in a changing world EXECUTIVE SUMMARY*. https://www.fao.org/4/i2307e/i2307e.pdf

FAO. (2021). *The impact of disasters and crises on agriculture and food security: 2021.*

FAO. (2023a). *The Impact of Disasters on Agriculture and Food Security 2023 – Avoiding and reducing losses through investment in resilience.*

FAO. (2023b). *The status of women in agrifood systems*. https://doi.org/https://doi.org/10.4060/cc5343en

FAO, IFAD, UNICEF, &, W., & WHO. (2022). *The State of Food Security and Nutrition in the World 2022.Repurposing food and agricultural policies to make healthy diets more affordable.*

GEM(Global Entrepreneurship Monitor). (2023). *Women Entrepreneurs in Emerging Economies: Lessons on Segmentation and Care Needs from the 2020-2021 Pandemic*.

Gernah, D., Ariahu, C., & Ingbian, E. (2011). Effect of malting and lactic fermentation on some chemical functional properties of maize. . *American J.Food Technol.*, *6*, 404–412.

Glaser, B. G., & , & Strauss, A. L. (2017). *The Discovery of Grounded Theory.* . Routledge. https://doi.org/https://doi.org/10.4324/9780203793206

Glover, J. (2012). Rural resilience through continued learning and innovation. *Local Economy*, *27*(4), 355-372.

Gölgeci, I., & Kuivalainen, O. (2020). Does social capital matter for supply chain resilience? The role of absorptive capacity and marketing-supply chain management alignment. *Industrial Marketing Management*, *84*, 63-74. https://doi.org/10.1016/j.indmarman.2019.05.006

Gonzalez Martinez, P., Goldstein, M., & Papineni, S. (2019). *Tackling the Global Profitarchy: Gender and the Choice of Business Sector* (Policy Research Working Paper, Issue. http://hdl.handle.net/10986/31747

Hedner, T., Abouzeedan, A., & Klofsten, M. (2011). Entrepreneurial resilience. *2*(1). https://doi.org/https://doi.org/10.3402/aie.v2i1.6002

Herbane, B. (2010). Small business research: Time for a crisis-based view [Article]. *International Small Business Journal*, *28*(1), 43-64. https://doi.org/10.1177/0266242609350804

Holtom, B. C., Mitchell, T. R., Lee, T. W., & Inderrieden, E. J. (2005). Shocks as causes of turnover: What they are and how organizations can manage them. *Human Resource Management*, *44*(3), 337-352. https://doi.org/https://doi-org.ezproxy.library.wur.nl/10.1002/hrm.20074

Houngbedji, M., Padonou, W., & Hounhouigan, J. (2014). *Preserving African Food Microorganisms for Green Growth: Value chain analysis of Mawè in Bénin* (Preserving African Food Microorganisms for Green Growth, Issue.

Hounhouigan, D. J. (1994). *Fermentation of maize (zea mays L.) meal for mawe production in Bénin. Physical, chemical and microbiological aspects* Wageningen University and Research]. Wageningen

Hounhouigan, D. J., Rombouts, F. M., & Nout, M. J. R. (1994). *Fermentation of maize (Zea mays L.) meal for mawè production in Bénin : physical, chemical and microbiological aspects* Wageningen, the Netherlands]. WorldCat.org. https://wur.on.worldcat.org/oclc/905481628

IFAD. (2020). *Securing sustainable food systems hinges on gender equality*. https://www.ifad.org/en/web/latest/-/news/securing-sustainable-food-systems-hinges-on-gender-equality

IFAD. (2022). *Upscaling of traditional fermented foods to build value chains and to promote women entrepreneurship*. IFAD Research

Iftikhar, A., Purvis, L., & Giannoccaro, I. (2021). A meta-analytical review of antecedents and outcomes of firm resilience. *Journal of Business Research*, *135*, 408-425.

ILO. (2018). *Women and Men in the Informal Economy: A Statistical Picture*

(Third ed.). International Labor Office (ILO).

ILO. (2019). *Portfolio of Policy Guidance Notes on the Promotion of Decent Work in the Rural Economy: Empowering Women in the Rural Economy*. https://www.ilo.org/global/topics/economic-and-social-development/rural-development/WCMS_601071/lang--en/index.htm

Kantur, D., & Say, A. I. (2015). Measuring organizational resilience: A scale development. *Journal of Business Economics and Finance*, *4*(3).

Korinek, J., Moïsé, E., & Tange, J. (2021). *Trade and Gender: A Framework Analysis* (OECD Trade Policy Paper,, Issue.

Limnios, E. A. M., Mazzarol, T., Ghadouani, A., & Schilizzi, S. G. M. (2014). The Resilience Architecture Framework: Four organizational archetypes. *European Management Journal*, *32*(1), 104.

Lin, Y., & Wu, L.-Y. (2014). Exploring the role of dynamic capabilities in firm performance under the resource-based view framework. *Journal of Business Research*, *67*(3), 407-413. https://doi.org/10.1016/j.jbusres.2012.12.019

Linnenluecke, M. K. (2017). Resilience in business and management research: A review of influential publications and a research agenda. *International Journal of Management Reviews*, *19*(1), 4-30.

Lumpkin, G. T., Steier, L., & Wright, M. (2011). Strategic entrepreneurship in family business. *Strategic Entrepreneurship Journal*, *5*(4), 285-306. https://doi.org/10.1002/sej.122

Marco, M. L., Heeney, D., Binda, S., Cifelli, C. J., Cotter, P. D., Foligne, B., Ganzle, M., Kort, R., Pasin, G., Pihlanto, A., Smid, E. J., & Hutkins, R. (2017). Health benefits of fermented foods: microbiota and beyond. *Curr Opin Biotechnol*, *44*, 94-102. https://doi.org/10.1016/j.copbio.2016.11.010

Materia, V. C., Linnemann, A. R., Smid, E. J., & Schoustra, S. E. (2021). Contribution of traditional fermented foods to food systems transformation: value addition and inclusive entrepreneurship. *Food Security*, *13*(5), 1163-1177. https://doi.org/10.1007/s12571-021-01185-5

Meuwissen, M. P. M., Feindt, P. H., Spiegel, A., Termeer, C. J. A. M., Mathijs, E., Mey, d. Y., Finger, R., Balmann, A., Wauters, E., Urquhart, J., Vigani, M., Zawalińska, K., Herrera, H., Nicholas-Davies, P., Hansson, H., Paas, W., Slijper, T., Coopmans, I., Vroege, W., . . . Reidsma, P. (2019). A framework to assess the resilience of farming systems. *Agricultural Systems*, *176*. https://doi.org/10.1016/j.agsy.2019.102656

Miklian, J., & Hoelscher, K. (2021). SMEs and exogenous shocks: A conceptual literature review and forward research agenda. *International Small Business Journal: Researching Entrepreneurship*, *40*(2), 178-204. https://doi.org/10.1177/02662426211050796

Moreno, J., & Shaw, D. (2018). Women's empowerment following disaster: a longitudinal study of social change [Article]. *Natural Hazards*, *92*(1), 205-224. https://doi.org/10.1007/s11069-018-3204-4

Morgan, H. M. (2020). Underdog entrepreneurs. *Cham: Palgrave Macmillan*.

Nago, C. (1989). *Technologies traditionnelles et alimentation au Bénin: aspects techniques, biochimiques et nutritionnels. Application à quelques aliments fermentes locaux. 1 -Identification et caractérisation des principales filières et technologies du secteur traditionnel de transformation alimentaire.* Faculté des Sciences Agronomiques. Université Nationale du Bénin.

Nago, C., H., D., & J., M. (1990). Technical resources of food processing micro-enterprises in Bénin. . *Agritrop 14* (3), 7-11.

Nago, C. M. (1989). *Technologies traditionnelles et alimentation au Bénin : aspects techniques, biochimiques et nutritionnelle.* .

Nago, C. M. (1997). *La transformation alimentaire traditionnelle du maïs au Bénin : détermination des caractéristiques physico-chimiques des variétés en usage ; relations avec l"obtention et la qualité des principaux produits dérivés.* [Thès. Doct. es-Sci.]. UFR Bioch.

Nago, M.C., & Hounhouigan, D.J. (1998). La transformation alimentaire traditionnelle des cereales au Bénin. 01 BP 526 Cotonou Bénin. CERNA

Nago, C. M., Hounhouigan, D. J., Akissoé, N. Z., E.; , & Mestres, C. (1998). Characterization of the Beninese traditional ogi, a fermented maize gruel: physico-chemical and microbiological aspects. *Int. J. Food Sci. Technol.* , *33.*, 307 – 315.

Nahapiet, J., & Ghoshal, S. (1997). Social capital, intellectual capital and the creation of value in firms. Academy of Management Proceedings,

Nieves, C. d. P., Gaddis, I., & Muller, M. (2021). *Gender and COVID-19: What have we learnt, one year later?* (Policy Research Working Paper Issue.

Nout, R., Hounhouigan, D. J., & Boeckel., T. V. (2003). *Les aliments: transformation, conservation et qualité* B. Publishers.

OECD. (2022). *Gender and Food Systems: Overcoming Evidence Gaps* (OECD Food, Agriculture and Fisheries, Issue.

Oyewole, O. B. (1997). Lactic fermented foods in Africa and their benefits. . *Food Control,. 8*, 289–297.

Penrose, E. T. (2009). *The Theory of the Growth of the Firm*. Oxford university press.

Rijkers, B., & Söderbom, M. (2013). The Effects of Risk and Shocks on Non-Farm Enterprise Development in Rural Ethiopia. *World Development*, *45*, 119-136. https://doi.org/10.1016/j.worlddev.2012.10.013

Saad, M. H. (2019). *Entrepreneurial orientation as the basis for resource orchestration, business resilience and family livelihood in turbulent, resource-scarce contexts : a study among non-farm entrepreneurs in Ethiopia* Wageningen University]. Wageningen. https://edepot.wur.nl/498297

Saad, M. H., Hagelaar, G., van der Velde, G., Omta, S. W. F., & Foroudi, P. (2021). Conceptualization of SMEs' business resilience: A systematic literature review. *Cogent Business & Management*, *8*(1). https://doi.org/10.1080/23311975.2021.1938347

Shahriar, M. S., Islam, K. M. A., Zayed, N. M., Hasan, K., & Raisa, T. S. (2021). The Impact of COVID-19 on Bangladesh's Economy: A Focus on Graduate Employability. *Journal of Asian Finance Economics and Business*, *8*(3), 1395-1403. https://doi.org/10.13106/jafeb.2021.vol8.no3.1395

Sissoko, Y., & Dibooglu, S. (2006). The exchange rate system and macroeconomic fluctuations in Sub-Saharan Africa. *Economic Systems*, *30*(2), 141-156. https://doi.org/10.1016/j.ecosys.2005.11.002

Smallbone, D., Deakins, D., Battisti, M., & , & Kitching, J. (2012). Small business responses to a major economic downturn: Empirical perspectives from New Zealand and the United Kingdom. . *International Small Business Journal. 30*(7), 754-777.

Su, W., & Junge, S. (2023). Unlocking the recipe for organizational resilience: A review and future research directions. *European Management Journal*, *41*(6), 1086-1105. https://doi.org/10.1016/j.emj.2023.03.002

Teece, D. J. (2007). Explicating Dynamic Capabilities: The Nature and Microfoundations of (Sustainable) Enterprise Performance. *Strategic Management Journal*, *28*(13), 1319-1350.

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, *Vol. 18*(7), 509–533. https://doi.org/https://doi-org.ezproxy.library.wur.nl/10.1002/(SICI)1097-0266(199708)18:7<509::AID-SMJ882>3.0.CO;2-Z

The World Bank. (2022). *Small and Medium Enterprises (SMEs) Finance: Improving SMEs' access to finance and finding innovative solutions to unlock sources of capital* https://www.worldbank.org/en/topic/smefinance

Thomas, D. R. (2003). A general inductive approach for qualitative data analysis.

Tiwari, D., & Shastri, S. (2022). Women entrepreneurs during COVID-19 pandemic: does their social capital matter? *Continuity & Resilience Review*, *5*(1), 36-52. https://doi.org/10.1108/crr-07-2022-0012

Van Breda, A. (2018). A Critical Review of Resilience Theory and Its Relevance for Social Work. *Social Work*, *54*(1). https://doi.org/10.15270/54-1-611

WB. (2023). *World Bank national accounts data, and OECD National Accounts data files.* Retrieved on 17.09.23 from https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?end=2022&locations=BJ&start=1960&view=chart

WB. (2023). *Women, Business and the Law 2023.* https://doi.org/doi:10.1596/978-1-4648-1944-5

Wernerfelt, B. (1984). A Resource-Based View of the Firm. *Strategic Management Journal*, *5*(2), 171-180.

Williams, N., & , & Vorley, T. (2017). Fostering productive entrepreneurship in post-conflict economies: The importance of institutional alignment. . *Entrepreneurship & Regional Development*, *29*((5–6)), 444–466.

Williams, N., & Vorley, T. (2014). Economic resilience and entrepreneurship: lessons from the Sheffield City Region. *Entrepreneurship & Regional Development*, *26*(3-4), 257-281.

Williams, T. A., Gruber, D. A., Sutcliffe, K. M., Shepherd, D. A., & Zhao, E. Y. (2017). Organizational Response to adversity: Fusing Crisis Management and Resilience Research Streams. *Academy of Management Annals*, *11*(2). https://doi.org/10.5465/annals.2015.0134

Woolcock, M. (2001). The place of social capital in understanding social and economic outcomes. *Canadian journal of policy research*, *2*(1), 11-17.

Chapter 2

Chapter 2. Existentially challenged women entrepreneurs: shocks affecting their businesses

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ABSTRACT

We examine what events women entrepreneurs perceive as substantial shocks seriously disturbing their businesses and what the sources of these shocks are. Using an inductive method to analyse data collected in eight focus groups and 110 interviews with women entrepreneurs in the mostly informal fermented food business in Benin, West Africa, we found that women entrepreneurs and their businesses are embedded in multiple contexts, all of which are potential sources of shocks. Significantly, since not recognized in the literature, the most substantial shocks to women's businesses were personal, stemming from families and personal lives, jeopardizing the existence of the women involved and their families. Challenges women face with their small-scale businesses should be addressed holistically: not only their economic and societal circumstances should be considered, but also their personal and family contexts. Women can be successful as entrepreneurs, but can also be existentially challenged, particularly in emerging economies.

KEYWORDS: existential challenges; family contexts; personal shocks; women entrepreneurs; small-scale food businesses; Benin, West Africa.

2.1 Introduction

Every business is confronted with shocks. We define a shock as an expected or unexpected event that affects the ability of an actor or firm to continue to deliver its goods or services (cf. Meuwissen et al. 2019; Rijkers and Söderbom 2013). We do so in the context of female entrepreneurs in the agri-food industry in an emerging economy. Agricultural and food systems are particularly crucial in the livelihoods of women in emerging economies, who -often invisibly- contribute extensively to farming and food production (FAO 2023; IFAD 2022). Therefore, food system disruptions frequently affect women, more than men, as entrepreneurs and also as providers. For example, in sub-Saharan Africa, 66 percent of women's employment is in the agri-food sector, compared to 60 percent for men. In South Asia, women outnumber men in agri-food activities by 71 percent compared to 47 percent. These figures even underestimate the extent of women's activities as they only capture market-oriented employment and exclude non-employment work (IFAD 2022). Thus, women are formally under-represented in the labour force (FAO 2023; IFAD 2022; ILO 2018).

To understand how to reduce vulnerability to shocks, we must know which shocks occur and where they originate. To date, literature on shocks focuses on large firms (Doern, Williams, and Vorley 2019; Herbane 2010) in Global North settings (Miklian and Hoelscher 2021). The specific context of small-scale businesses run by women entrepreneurs is hardly addressed (Moreno and Shaw 2018). Women entrepreneurs, particularly in the informal sector, face unique challenges and vulnerabilities that can significantly impact their ability to continue their businesses and make a living. Women are generally more vulnerable to shocks than men due to the fewer resources they own (Moreno and Shaw 2018).

The impact of specific shocks and the resources mobilized to deal with those shocks depend on the actors and contexts involved (Doern, Williams, and Vorley 2019; Meuwissen et al. 2019). For women-owned small businesses, research is needed that examines what shocks are to them. When it comes to women entrepreneurs running small-scale food businesses in the global South to support themselves and their families, understanding what the shocks are to their businesses can help devise strategies and measures to better prepare for shocks and sustain their livelihoods.

This study examines the shocks to women in the small informal food business sector. To do so, we identify what shocks are to what we define as 'existentially challenged' women entrepreneurs and where the shocks come from. We focus on the ubiquitous fermented food business in Benin, West Africa, to examine and classify the shocks faced by women entrepreneurs. Through extensive

data collection, including eight focus group discussions and 110 individual interviews, we adopt an inductive analysis approach to unravel the nature and origins of shocks. Our findings contribute to the existing literature by showing that shocks affecting women's businesses in the small-scale food industry are not limited to internal, firm-related factors or system-level events. To our knowledge, our study is the first to show that women entrepreneurs' personal lives, families, firm contexts, and economic and social environments jointly contribute to the shocks that women entrepreneurs experience. Specifically, their firms are embedded in their family, economic context and social environments and therefore also experience all the challenges that these contexts manifest. Our findings challenge the prevailing view that personal shocks are of little importance in the entrepreneurial context (cf. Doern, Williams, and Vorley 2019). We also develop a comprehensive framework that delineates the sources of shocks based on the embeddedness of women entrepreneurs and their firms in multiple contexts. In particular, we demonstrate that the most severe shocks occur primarily at the personal level, to the families and personal lives of women entrepreneurs.

This research highlights the importance of taking a holistic view of the challenges faced by women entrepreneurs by considering not only the (internal) business context in which they operate, but also their socio-economic environments and their personal and family circumstances, i.e., the external context. By recognizing the importance of personal shocks and the resources that arise from women's personal lives, policymakers and support organizations can better develop tailored interventions to improve the success of women-owned small businesses in challenging contexts.

In the following sections, we first review the literature on shocks, explain the methodology to collect and analyze data, present and discuss our findings, and propose a framework to visualize the embeddedness of women and their businesses in the contexts in which they simultaneously operate: business, family, economy and societal environment. We conclude with recommendations for policymakers, practitioners and researchers to support women's entrepreneurship in the face of adverse circumstances.

2.2 Shocks in entrepreneurship literature

Shocks and crises are generally defined in similar ways. For many authors, a crisis is an unexpected event that poses a challenge to organizations and actors (Doern, Williams, and Vorley 2019). In entrepreneurship research, a crisis is usually defined as a low-probability, high-impact situation

that critical stakeholders perceive as a threat to organizational viability (Pearson and Clair 1998). However, even expected or predictable or everyday events such as personal problems of employees, accidents, etc., may challenge the continuity of actors' or companies' activities. Therefore, other authors have expanded the definition of a crisis to include any event that disrupts the normal functioning of actors (Williams et al. 2017). Similar to the definition of a crisis, a shock is defined as an adverse, expected or unexpected event that can negatively affect an organization (Rijkers and Söderbom 2013). In the literature, the terms shock and crisis are used interchangeably, as recent literature has broadened the definition of crisis to include everyday events (Doern, Williams, and Vorley 2019). In entrepreneurship, research on shocks usually deals with external and extreme events in business. Limited research addresses internal shocks in the firm and shocks in the personal lives of entrepreneurs (Doern, Williams, and Vorley 2019). Moreover, research on specific shocks related to women entrepreneurs and the contexts in which they are embedded is rare.

Meuwissen et al. (2019) identified four potential groups of shocks in the agricultural system that can also affect the economy: environmental, economic, social, and institutional shocks. Environmental shocks include extreme weather events such as droughts or floods. Economic shocks can be events such as ‘price declines in commodities and price increases in inputs’ and ‘changes in interest rates’. Events such as reduced access to social services or less developed infrastructure can be social shocks, while a sudden change in market access such as an embargo or a ban on the use of a particular input, can be institutional shocks. Slijper et al. (2020) followed Meuwissen et al. (2019) and emphasized that a risk of a shock can be present in input price, market price, supply chain, financial, production, personal and personnel, institutional, and societal domains. In economy, management, and entrepreneurship literature, studies on shocks have focused on events external to firms, such as large-scale financial crises, natural disasters, armed conflicts and political violence, and social insecurity. These shocks have mostly been discussed from the perspective of a firm (Giannacourou, Kantaraki, and Christopoulou 2015; Miklian and Hoelscher 2021). Exploring shocks from other sources, such as from the personal lives of entrepreneurs, their families and employees, will add significantly to the knowledge about the impact of shocks on (women) entrepreneurs.

2.3 Methodology

2.3.1 Context

We conducted this study in Benin, West Africa (Figure 1), an emerging economy that shares similarities with many other developing countries in economic and entrepreneurial terms regarding the challenges in the economy, business landscape, and business environment. Benin's economy depends on agriculture, which is susceptible to weather fluctuations and market volatility. The Beninese economy is predominantly informal with a high proportion of women; 97.9 percent of women in Benin work in the informal sector (Onibon Doubogan 2019), as is the case across sub-Saharan Africa (excluding Southern Africa), where this share is 92 percent (Bonnet, Vanek, and Chen 2019). Across Africa, 76.0 percent of employment is in the informal sector, with small shares in the formal sector (5.5 percent) and households (4.3 percent) (ILO 2018). Benin's GDP is low at 17.4 billion with 4,056.1 GDP per capita in 2022 (WB 2023a), with an economy vulnerable to external factors such as global commodity prices. Efforts are being made for sustainable growth and an improved business environment, such as a ban on gender-based discrimination in financial services (WB 2023b).

We focus on informal women entrepreneurs who produce and sell traditional maize-based fermented foods in Benin. In general, the sale of food is an informal business often operated by women in developing countries. Fermented foods, in particular, are consumed throughout the day, i.e., for breakfast, lunch, dinner and as a snack. Fermented foods have nutritional benefits, such as improved food safety and increased availability of micronutrients (Marco et al. 2017), thereby contributing to food security and providing economic opportunities (Materia et al. 2021). Traditional fermented foods are among the most important foods for the Beninese, who enjoy them for their unique taste, nutritional quality, and cultural embeddedness. However, their production is relatively lengthy, tedious and time-consuming (Houngbedji, Padonou, and Hounhouigan 2014) (see Figure A1 in the Appendices).

Figure 2.1a. Republic of Benin

Figure 2.1b. Africa

2.3.2 Data collection

This paper, building on a previous study, examines the events that Beninese women entrepreneurs consider as shocks to their businesses (author names suppressed, 2023). The women in this qualitative case study with a multi-step data collection approach, are engaged for necessity reasons in the production and sale of fermented maize-based foods, a traditional and widely consumed type of food.

Step 1: Exploratory data collection

First, we reviewed the literature on food security challenges, food business, and women entrepreneurship, as well as on shocks to businesses and agricultural systems. We conducted semi-structured interviews with 21 scientific experts in food technology and social sciences, and women experts in fermented food production and trade in Benin. We chose to focus on fermented foods for their importance in existentially challenged women's businesses. Popular fermented foods sold by the participants were fermented maize porridge *koko* or *aklui*, fermented maize beverage *akpan*, fermented maize food *akassa* or *liwo*, fermented maize dough *mawè*, *ablo* and *com* (see pictures 1a-f)

Picture 2.1a. Aklui with peanuts

Picture 2.1b. Akpan

Picture 2.1c. Akassa

Picture 2.1d. Ablo

Picture 1e. Com with fish

Picture 1f: Mawè

Step 2: Focus group discussions

We selected eight communities in southern Benin for an in-depth study based on the exploratory phase, see their locations in Table 1. In each community, the first author and an assistant conducted focus group discussions with women entrepreneurs producing fermented foods (see pictures 2a and 2b). Participants were selected in collaboration with the local community and relied on the recommendations of the women entrepreneurs encountered in the explanatory phase. The discussions explored the challenges and shocks the women faced in their fermented food businesses. Notes were taken contextually to the discussions, which were also recorded, transcribed and analysed.

Picture 2.2a and 2.2b Focus group discussions (source: the Author)

Step 3: Individual in-depth interviews

Next, we conducted individual in-depth interviews with women entrepreneurs of mawè in urban and rural areas of the focus group discussions for comprehensive accounts of recent events that significantly impacted their businesses (see picture 3). Our question was: '*What was the most serious event (shock) you experienced recently that challenged the growth (sales, profits, etc.) or continuity (ability to continue producing and selling food as usual) of your mawè business?*'. The interviews took place in June and July 2021. The duration of the interviews varied between 45 min and 1.5 hours; in the latter case, the interviews lasted longer to enable the entrepreneur to sell her merchandise during the interview or allow her to reflect on her emotions when the interview touched upon painful memories. In total, 120 women were individually interviewed, resulting in 110 complete narratives, see Table 1 (see the list of markets in Table A1 in the appendices). Tables 2 and 3 show descriptive statistics of the respondents. The interviews were documented on paper and recorded with the consent of the interviewees.

Picture 2.3. Individual in-depth interview with the first author on the left (source: the Author)

Table 2.1 Places visited for data collection

Departments	Communes	Number of persons interviewed in MARKETS	Number of persons interviewed at HOME	Number of persons interviewed near MILLS	Number of persons interviewed on STREETS
ZOU	Abomey	2			
	Bohicon*	4	2		2
MONO	Comè*	2			
	Lokossa*	4			
COUFFO	Aplahoué	5	1		1
PLATEAU	Adja-Ouèrè*	2	3		2
OUEME	Akpro-Missérété	2			
	Porto Novo*	12			
ATLANTIQUE	Abomey-Calavi*	10			3
	Ouidah*	10			6
LITTORAL	Cotonou*	29	3	4	1
	Total	**82**	**9**	**4**	**15**

(*) communes where focus group discussions were conducted

Table 2.2 Descriptive statistics (experiences and ages)

Communes	Mean of years of experience	Mean of ages
Abomey	9.0	37.00
Abomey-Calavi	10.3	50.46
Adja-Ouèrè	15.7	46.43
Akpro-Missérété	5.5	44.00
Aplahoué	22.9	51.00
Bohicon	12.6	43.50
Comè	17.5	38.00
Cotonou	18.2	43.09
Lokossa	25.8	56.50
Ouidah	10.2	47.59
Porto Novo	19.5	43.58
General mean	15.8	**45.86**

Table 2.3 Other statistics regarding experience and age

Percentiles	Years of experience	Age
Minimum	0.04	20
Percentiles (25%)	5	37
Percentiles (50%)	12	44.5
Percentiles (75%)	25	53
Maximum	61	79

Data analysis

We used an inductive approach to analyse the data, using Atlas.ti 23 software. First, we coded the different types of shocks reported by the women entrepreneurs. Next, we deepened our analysis to identify the causes of these shocks. We further coded the data thematically to explore emergent themes (Bryman 2012) related to the origins of shocks. We identified five primary sources of shock in the narratives, so we then classified each woman's story according to the source of shock. To avoid bias and ensure the reliability of our analysis, the grouping of the sources of the shocks was conducted independently by each author of this paper. Any discrepancies were discussed in detail among the authors and resolved.

2.4. Results

The women in the focus group discussions, when asked what occurrences they would consider shocks to their businesses, mentioned events that were environmental and societal (e.g., droughts, COVID-19), economic (financial crises), personal (e.g., illness), and professional/business (e.g., cutthroat competitiveness). While women were more prone to discuss personal shocks during individual interviews, focus groups enhanced their openness to discuss more general challenges. We attribute this to the women feeling more at ease discussing general issues when with other women rather than talking about personal issues. Surprisingly, our analysis revealed numerous events that had not previously been identified as shocks in the literature on shocks in businesses. Moreover, many events considered as shocks were not directly related to the business context, which made us curious about their origins. When we deepened our analysis to identify the causes/origins of the shocks, we got a better understanding of the challenges women face in business. For the individual narratives, we found that personal issues were the most common; they accounted for 49 percent in total: 33 and 16 percent concerning family and relatives, and personal life, respectively. These were followed by 30 percent involving economic events, 13 percent for societal events and a mere 8 percent for business-related shocks. Specifically, more than 90 percent of the shocks were external to the business and came from the societal environment, the economy, family and relatives, and the personal lives of the entrepreneurs. Below, we first present general shocks, which affected many women simultaneously; this group comprises societal, economic, and business-related shocks. Next, we present individual shocks, which relate to the personal lives of the women and their families.

2.4.1 General shocks to small-scale women entrepreneurs

Societal shocks (including institutional and environmental shocks)

Shocks related to infrastructure. Market adjustments, such as a physical shift of a marketplace or a partial (re)construction, affect women's businesses. For example, a market may be rebuilt because the government wants to renew the buildings, perhaps from unsafe materials to durable materials or to make them more attractive. Also, the government may earmark a new space for the market. Some interviewed women said that they were forced to sell their goods elsewhere because of construction work to upgrade the facilities where the market was normally held. In general, the

alternative conditions in which they should sell their products were unfavourable to their business and negatively impacted their efficiency. Construction works generally took long, which reduced their income. For example, in Gbegamey (Cotonou), where many women sell mawè, and in the international market in Glazoué, in central Benin, where many fermented foods are sold, reconstruction of the markets began before our exploratory data collection in 2020, and meanwhile, the women were moved to other locations, not appropriate according to them. So far, three years later, this construction work has not been completed. The women indicated that their reallocation to temporary markets and later to the new markets necessitated a change in the way they were used to work. As formal contracts do not exist between sellers and buyers, and a new market location implies the need to inform regular consumers, clients may be lost due to competition. To illustrate, interviewee D025 commented as follows on her reallocation: *'I lost my consumers. Only the resellers* (who buy in bulk) *remained loyal'*.

Drought. Seasonal changes such as a prolonged drought are environmental shocks: a drought reduces the availability of agricultural products and, consequently, the price of maize increases, which is the raw material for many foods, including traditional maize-based fermented foods. Agriculture in Benin depends on the weather. In many focus group discussions, participants mentioned that lack of rain or a delay in the onset of the rainy season affected their business negatively: '*The high price of maize is a challenge for our business. .... maize has become more expensive this year. It has never been like this before, and it is because of the delay in the rainy season'*. Some complained about the drought that year because it made it difficult not only for entrepreneurs to access raw materials (maize), but also for households. The new season's maize was supposed to be harvested and sold in the markets at the time of the data collection, but this was not the case as the maize plants on the farms had dried up due to the lack of rain. This event affected commodity prices, which will be discussed in more detail later in relation to economic shocks.

Pandemic (COVID-19). Global events other than climate change may also pose a challenge. The women entrepreneurs explained that during the COVID-19 pandemic, the six-week lockdown in Benin hampered the purchase of raw materials from other regions of the country. In addition, the number of trips abroad decreased and so did the purchase of fermented foods by travellers. To illustrate, interviewee Q088 said: '*The recent shock to my business is COVID-19. No more*

foreigners came to buy; it was only local people who bought.' Another respondent, Q108, stated: '*The arrival of COVID-19 was difficult, and sales completely stopped*'.

Technical shocks. The production of mawè requires a mill to crush and grind the maize (see Picture 4). Sometimes power outages occur, or a mill breaks down so that maize cannot be processed into fermented food. Waiting negatively affects the quality of the mawè and may cause overfermentation and the waste of the food. To explain, when the sale of fermented foods has to be postponed due to an emergency, the food continues to ferment and soon spoils because no technological solution is available to the women entrepreneurs to stabilize their products. It may take many hours or days to get electricity back or to repair the mill, which also depends on the location of the mill in the country. In focus group discussions and individual interviews, many women mentioned '*mill failure'* and '*power outage'* as shocks that affected the quality and availability of their product, saying that '*you cannot do anything without electricity and a mill because they are so important*' (D053; FGco).

Picture 2.4 A miller crushing and grinding maize (source: the Author)

Picture 2.5 A woman entrepreneur processing mawè (source: the Author)

Economic shocks

Commodity price fluctuation. Respondents cited fluctuations in the price of maize as a shock to their businesses. For example, during the harvesting period of maize, prices are relatively low, so more women have the financial resources to produce mawè. Respondent D029 said: '*In the period when the raw material is abundant, the price is very low, and there are many who produce and sell mawè; as a result, we do not sell anything anymore. In this period, poor households can easily afford to buy maize and make their own fermented food, so the income of women entrepreneurs decreases because the price of maize falls'. '... When the maize is cheap, everyone makes maize flour and there is a total drop in sales*'. In contrast, a high maize price is a shock to some others

because they cannot run their business at the usual frequency, usually daily. According to respondent D081: '*A high price of the commodity means that there are days in the week when you cannot buy it to process it into mawè*'. Likewise, respondent D067 said: '*The expensive raw material makes that I can no longer process the amount of mawè that I want*'. What emerges about the fluctuation of the input price, i.e. the decrease or increase in the maize price, apparently poses either a challenge or an opportunity for the women entrepreneurs; some complain about the increase in the price of the raw material because it negatively affects their production volume, while others rejoice because it is an opportunity to sell more and make more profit.

*Financial crisis***.** The lack of money that prevents many people in the country from buying food is a challenge to the food business of the necessity-driven, challenged women entrepreneurs. This restricts their sales from selling the quantity they need, as indicated by some women who cite a general financial crisis as a relevant shock. Some women explained that they would sell better if everyone in the country had money to buy food: some people are hungry but cannot buy food. Interviewee D07 said: '*The financial crisis is the shock that is affecting my business at the moment. People do not have jobs, so they do not have the financial means to buy food and live normally'*. As not everyone can afford to buy food, some consumers ask for food from the women entrepreneurs. Instead of selling to make money, some women take it as their responsibility to rather support and sustain those customers in need by donating their food: '*Three days ago, a customer, after buying some "mawè" and "agbeli" from me at home, asked me if I had any maize flour (for my own use) that I could give her so that she could use it to make porridge for her baby because the mixture of "mawè" and "agbeli" she bought is not for infant feeding. I immediately understood that she could not buy maize corn for her baby because even the fermented food she bought might not be enough for herself and her other children. Indeed, the women did not have money to buy more. So, without hesitation, I shared my maize flour with her so she could feed her baby*.' (focus Group Az).

Shocks to business

Cutthroat competition. Some women reported what they perceived as 'competitive attacks'. If a woman who makes and sells mawè is successful with her business, other women may start the same business and sell near her spot. They may lower the price of the product even if they do not

make a profit from the business. This has the goal of attracting the first entrepreneur's customers and discouraging her from continuing her business. Respondent D104 described this as follows: '*I had a competitive attack. There was a woman ... and she decided to also sell "aklui" porridge from mawè in college, so the teachers and students gave up on my food. Since I was not selling anything at all, I had to give up the activity for 1 year and 8 months and went to Nigeria. When I returned from Nigeria, I learned that my competitor owed money to commodity suppliers and fled. The customers sought me out and convinced me to come back and sell them again my porridge that they loved so much. I then came back and resumed the business'.* The attack may come from a new competitor who has direct access to the raw materials needed to produce mawè – reducing her costs by cutting out middlemen. She may thus also cross-subsidize the sustained temporary losses.

False measurement and bad quality of raw material. Standard measuring devices are not used to measure the amount of maize sold to food entrepreneurs. Some sellers use bags of 120 kg, 110 kg or 100 kg. Others use deep dishes of 3.5 kg, 30 kg, 40 kg, etc. Moreover, entrepreneurs who buy maize in large quantities, i.e., in one or more bags, sometimes obtain the raw material from the north of the country, and since they live in the south, they cannot see the quality of their order. In focus group discussions, women reported receiving poor-quality maize or maize with much waste/dust. This is a deliberate act by maize sellers to make more profit and this malicious act is detrimental to the producers of maize foods. This action was more prominent in times of high maize prices and caused many entrepreneurs to go out of business for a moment. For this reason, some women reported that in times of expensive maize, they prefer to buy small quantities of maize in deep dishes so they can see what they are buying.

2.4.2 Personal shocks to small-scale women entrepreneurs

We found that personal shocks have a relevant effect on the businesses of women entrepreneurs. These shocks concern their own lives and those of their family and relatives. Personal shocks were in general more numerous in the narratives as the most serious events affecting women's businesses.

Shocks related to personal lives

Illnesses are the main personal shocks that the women identified as affecting their businesses. Women indicated that their own illness could cause them to have to give up their business for weeks, months, or even a year. Respondent D035 said: *'I was sick for one year. My daughter replaced me for 4 months in the business then she gave up to take care of me'.* Some illnesses are only due to the personal lives of the women entrepreneurs, as in the case of respondent D049: '*I had measles that forced me to stay at home for a week without working',* while others may be the effects of a lack of rest due to the many activities that the women engage in, including business activities: D039 '*I had a high blood pressure condition that affected my business activities'* and D038 '*I had a health problem due to too much activity and lack of personal rest'*. Sometimes women did not associate the illness with their business activities, making it difficult to determine the cause: D105 *'....My health prevented me from running my business for a year and a half. I had completely given up the business'*.

For other women, the difficulties in processing fermented food without access to efficient equipment generated severe shocks to their health. The production of mawè requires a mill to crush and grind the maize (see Picture 4). All other processing steps are carried out manually, often in inadequate working conditions. For example, women sit on small stools (see Picture 5) or the floor with their backs bent to sort the maize, or they stand and bend down for washing, etc. Although some more modern equipment can be found in towns such as Bohicon (in central Benin) and Porto Novo (in the south), this is not accessible to all women. New mills make it possible to execute the crushing and separating of the husks of maize in one step. The high labour input, lack of equipment to facilitate the processing, and inadequate installation of the processing equipment are all challenges that women face in their activities. Many women reported that their business, although it serves to feed people, also seriously affects their health. They experience pain in their knees, hips, back, arms, etc., causing them to abandon production. For example, some reported that they suffered a sudden shock in the middle of mawè production; the exerted effort caused the nerves in

the hip to tear. As respondent D021 reported: '*When my son and daughter-in-law died, everything changed in my life. They left 9 children. The children were small, so I stopped all my activities to take care of them. It was very difficult to feed them; I had to beg to survive. ... Then I started to produce and sell mawè to support our livelihood. But one day, in the middle of mawè production, my hip clicked and gave out. Since that day, I have given up mawè production. Since then, I have been a mawè reseller and I also sell spices.'* Others experience pain during mawè production, which worsens over time. This discomfort is a barrier to continuing the activity, and some women reported that they were forced to take a temporary break, treat themselves with their limited financial resources, and resume their business when they felt better. Some women reported treating themselves with banned medications because of their low prices. To illustrate, respondent D004 said: *'I had hip pain related to mawè production. I stopped working for a week to treat the illness*' and respondent D013: '*I had an illness related to my business activity. It was a foot problem. I spent about a month at home and could not go out to sell*.' Some women even quit their businesses because of a health shock. According to interviewee D001: '*It is an illness that I contracted during mawè production. I had pain all over my body, so I decided to quit the activity and use the financial resources for another commercial activity*.' Respondent D009 said: '*I had an illness related to the activity. It was the pain in my hips that made me give up the mawè business completely*.' Respondents D019 and D073 also mentioned '*hip pain due to mawè activity'* and '*illness related to mawè activity'* as shocks that prevented them from continuing their business.

Pregnancy and the time of childbirth are also periods when some women have to stop or reduce their business activities. Some women stated that they could no longer continue their business and had to bear high hospital costs due to a complicated pregnancy and birth of their child; they ended up looking for alternative resources for expenses and livelihood because they had no maternity leave or health insurance.

Shocks related to family and relatives

Most women's narratives of shocks to their businesses were related to their family and relatives (Figure 2). Some women even experienced several family shocks at the same time. Some respondents indicated that their husbands, children, brothers/sisters, etc. were involved in events such as traffic accidents that affected their business. Due to the accidents of family members and

relatives, some women stopped their businesses for a while, and for others, production decreased because the women did not have the necessary resources (i.e. time, finances, emotional state, etc.) to continue the business as before the shock. Some explained that their husbands were injured in a serious accident and that their cars were damaged. The husbands consequently could not continue their driving service for a long period, and so the women had to meet the family's needs alone in addition to providing the financial resources to support the injuries due to the traffic accident. Moreover, women are sometimes required at home to provide emotional support to the husband and the people injured in the accident. In the words of respondent D002: '*The traffic accident of my husband, who is a taxi driver, was difficult. ...In the accident two of his passengers were seriously injured and the costs fell on him. The car was taken by the police so I could not reach the market and the mawè produced before the accident was too fermented and lost',* and D098: '*My husband is a truck driver. His truck overturned. It was a big loss, with debt and damage. All household expenses were now on my head.'*

One interviewee had to deal with challenges related to an accident and disease of three of her children. In addition, she lost her sister. These events affected her business by reducing the amount of mawè she could produce by half. She explained that in her culture, mourners and women with sick children are not supposed to pursue their normal business activities. They have to focus on the events in their families and offer compassion, care and any support they can give, including financial. Because she needed money, this respondent D046, was forced to carry out her activities discreetly: '*It is about an accident and disease problems. First, my eldest son travelled abroad for work and suddenly corona occurred that affected him and second, he had an accident abroad. After that, two other children fell ill, and their recovery was very difficult. I had done everything possible so that no one knew, and I kept taking my food to the market to sell it, [...] but the quantity I produced had completely decreased, instead of 30 bags of 120 kg of maize I processed before, it decreased to 15 or 10 bags because of the difficulties. Also, the death of my sister on New Year's Eve, knowing that this time of year was a good time to sell well...'* The shocks to another woman's business were a health problem of her sister and a traffic accident with her brother that kept her away from her business for 2 and 3 months, respectively. Even though the women are married and have their own households to take care of, they are challenged by their family's problems: *'My sister was sick, and I was with her for two months without being able to do my business. After I*

returned, about two months later, my brother had an accident, and I also spent three months with him in the hospital, so it was very difficult for me financially.' (D102). They are also involved in the challenges in their in-laws' family: *'The death of my father-in-law and my maternal aunt is a shock to my business'* (D052). However, women are seemingly more affected by events in their own families than in their in-laws' families: only two events in the narratives in our sample relate to the women's in-laws.

Illness problems in the family and among relatives require the women to spend time on care and money on treatment as support. The women stated that they do not have any health insurance, and when their relatives are sick in the hospital, they have to stay with them in the hospital to buy medicines and other necessities. '*My business has seriously collapsed due to my husband's illness for 5 years.* [...] *I was a great seller of food products*.][...] *When this challenge began, it was holiday time, so two of my sisters came to continue my business in my place while I took care of my husband in the hospital. After that, they left, and the business came to a standstill until my husband recovered. After his recovery, my business declined because the capital was almost finished because of the illness '* (D006).

Illness can lead to death. Women said that death usually required ceremonies and/or many meetings with families, which take time depending on the type of relationship they had with the person and the cultural norms in the family. Respondent D109 said: *'The event was the death of my father ... I gave up my business to attend the ceremonies for over a month.'* In one case it took even more than one year (D095): '*The event is the sudden death of my grandson, who was a student in high school and lived with me. I had even talked to him before I went to the market. That sudden death turned everything upside down in my life and got me into trouble. I stayed at home for a year and a half. This was because my daughter was not happy with her husband, who was abusing her, and my daughter had to move in with me. The husband also started abusing the children, and so they fled to join us. The dead boy is one of those children who died suddenly one day...'* Even when women had to give up their businesses because of deaths, they said that the deaths in their families caused costs that they had to bear because of the required ceremonies, the trips to villages and the funeral expenses. All the same, the food business is usually the only source of income for these women entrepreneurs, (D030): *'Since the death of my husband, I no longer go to the market to earn the little I need for my living.'* Most of them use business capital for their expenses. *'The*

death of my uncle who supported me during my studies... Because of his death, I spent a lot of money and could not run my business as I should have during the burial preparation. The amount of food I produce and sell was reduced. After the funeral, it was difficult to continue my business because I spent a large part of the firm's financial capital on the events...' (D016). Even though death, burial, and ceremonies come with an enormous, also financial, cost, some women stated that they do not prepare for such expenses, not even when their parents are old and there is no death insurance. According to them, it is not good to prepare for bad events such as death and sickness because such preparations could attract bad events.

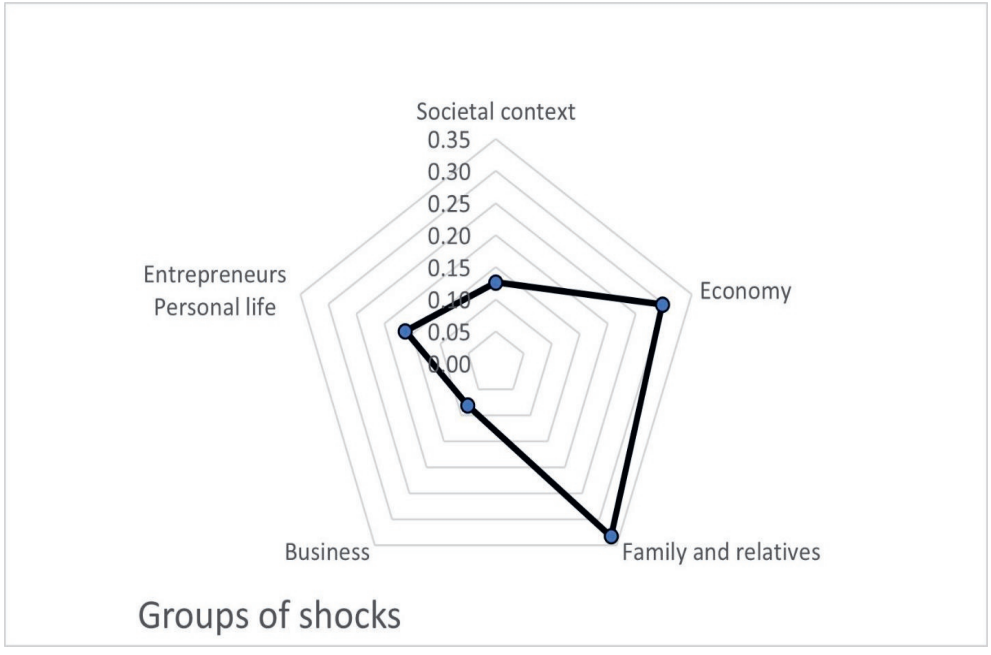


Figure 2.2 proportion of categories of shocks for existentially challenged women engaged in the traditional fermented food business in Benin

2.5 Discussion

2.5.1 Sources of personal shocks

In the narratives we collected and analysed, stories of personal shocks experienced by entrepreneurs and families are far more numerous than shocks originating from the social and economic business environment. This has not been recognized in the literature thus far. These shocks often have severe consequences for women's businesses, yet studies on these shocks are rare in the literature (cf. Doern, Williams, and Vorley 2019). Most research on shocks in entrepreneurship focuses on large-scale external events at the system level and is economically oriented (Cowling, Liu, and Ledger 2012; Parker, Congregado, and Golpe 2012; Smallbone et al. 2012; Williams and Vorley 2015). The lack of understanding in the literature on the personal shocks that particularly small businesses face, made the personal shocks we identified through our interviews and focus groups our main focus. We also examined their sources/origins. We note that challenges coming from the personal life of the entrepreneur, such as illness, pregnancy, the birth of a child, and severe physical pain due to processing activities, can be perceived as significant shocks to their businesses. We recognise that illness is caused by the entrepreneur's own body, while pregnancy and childbirth are related to the life of the entrepreneur within her family.

2.5.2 Why do small-scale women entrepreneurs face shocks?

Small businesses run by existentially challenged women face a variety of shocks, i.e. challenges that affect their ability to deliver their products to their customers. One cause for the vulnerability to shocks is the small size of such businesses, in which the women have to rely on themselves for all activities. Sometimes family members such as children lend a hand in accomplishing some tasks even though they also go to school. As entrepreneurs, executives, and employees, these women are busy with every aspect of their businesses, including tasks such as production, supply chain management, customer relations, marketing, and financial management. If something happens to the women to prevent them from performing their duties, they have no colleagues in the company to replace them even temporarily and therefore their businesses may readily grind to

a halt. Many women who resorted to improvised replacements during a shock, reported that they were not satisfied. Indeed, small businesses lack alternatives to cope with shocks (Herbane 2010).

The nature of the product produced and sold by the women in our study contributes to the vulnerability of their businesses to shocks as their traditionally fermented foods have a short shelf life of about one to three weeks. This contrasts with industrially produced products that have a longer shelf life due to controlled processing and preservation techniques, good packaging, suitable storage and distribution channels, and proper consumer handling (Kilcast and Subramaniam 2000). Many women reported events that prevented them from continuing their businesses for a few days, or more, causing the food they had made before the event to be spoiled, causing a loss of income. The basic food technology available to the women resulted in a lack of control over food quality, limited time to respond to challenges, and a loss of cash in case of food spoilage. Our results show that the basic food technology employed by informal microenterprises leads to the same characteristics as crisis events: lack of control over events, a shortened response time, and loss of money (Billings, Milburn, and Schaalman 1980; Herbane 2010), confirming that in shock events, the losses companies have become high when preparations are not possible, or if contingency measures are not taken (Björck 2016).

The gender of women entrepreneurs makes them, by custom, more than husbands or men entrepreneurs, also responsible for other, potentially conflicting tasks due to their embeddedness in the family (Azmat and Fujimoto 2016) and society, thereby increasing the vulnerability to shocks for their businesses. According to women, they have to play both their roles within the family and as entrepreneurs. On the one hand, their business activities contribute to the family's livelihood. On the other hand, they are active in their family environment, where they are responsible for childcare, elderly care, domestic duties, social support, family needs, etc., thus fulfilling their roles as wives, mothers, grandmothers, granddaughters, wives, sisters, aunts, nieces, in-laws, and so on. In addition, women act in a social context and are, for example, members of women's social associations. This family and social embeddedness of women entrepreneurs may have negative effects on their businesses (Welter and Smallbone 2010); women's social embeddedness affects women's businesses (Azmat and Fujimoto 2016). In developing countries, even if women are entrepreneurs, they are still fully embedded in their families, where they assume gendered roles (Azmat and Fujimoto 2016). Informal institutions require that a ‘good’ woman,

even when busy with her work, performs gendered tasks that must take precedence over her business. Men are not expected to perform the same range of tasks (Carmichael et al. 2022; Hernández-Albújar, Sáez, and Garrido-Macías 2022). Rather, men take or at least demand space to devote themselves fully to their work, while women are expected to do both, in the public opinion. For this reason, women's work in entrepreneurship is affected because they still do most of the housework and childcare (Jennings and McDougald 2007; Langevang et al. 2015). Because family embeddedness and women entrepreneurship are intrinsically linked, entrepreneurial research on women that does not consider the family dimension is incomplete (Aldrich and Cliff 2003; Jennings and McDougald 2007). As a result, much attention has been paid to the family in the context of women's entrepreneurship (Rouse and Kitching 2006; Shivani, Mukherjee, and Sharan 2006). Our research supports these studies on women's embeddedness and goes even further. Indeed, many women interviewed in our study indicated that they gave up their businesses to care for their children and sick parents because that is their primary responsibility as women. This shows how women's gendered roles are potential sources of shocks to their businesses, particularly when the business's financial capital is used for family problems.

Regardless of gender-specific aspects, small-scale women's businesses are also vulnerable due to their strong embeddedness in a family, economy and societal setting. The woman's business is usually part of the family and takes place in the informal economy, mainly to provide for the daily living of the family and to send the children to school. The business place can be located in the family home, the family's resources can be used for the business, and the profits from the business can be used to meet the family's needs. For example, in focus group discussions, many women mentioned that the food they produce is primarily for feeding their children. They also use the financial capital of their business for their family affairs such as to support sick family members and relatives since they have no health insurance. This shows the embeddedness of the business in the woman's family. Previous research has shown how family influences entrepreneurship through the help of identifying opportunities, the decision to start a business, and access to resources (Azmat and Fujimoto 2016; Randerson et al. 2023). However, in our case, we find that the embeddedness of women's businesses in their families not only helps them to have resources but also leads to shocks to the businesses because of family expectations. Indeed, a disruption in the family generates a shock to the business because common resources (e.g., human, financial, etc.)

of the business and the family are affected when a shock occurs in the family. For example, the women mentioned that they are unable to conduct their business for many days, weeks, or months when a loved one of the family, such as a husband or child, is in a serious situation or when they die. Similarly, women's businesses cannot be disconnected from the local economy because businesses and households (families) are exposed to events in the economy -with which businesses are fully integrated- such as financial crises that affect both the ability to have financial resources to operate the business and the ability of households to purchase food.

Throughout the study, we found a link between women's businesses, families, economy and society (Figure 3). Indeed, the economy is part of society, and the family is a unit of society; therefore, women, women's businesses, and women's families can be viewed as thoroughly and necessarily embedded in the economic context, and all in society as a whole, including the institutions that govern society (Dolfsma, Finch, and McMaster 2005; Granovetter 1985; Grube and Storr 2018; Polanyi 1944). Thus, society as a social environment also includes the economic environment and these are other potential sources of shocks. Unpredictable events can emanate from society, economic context, family (and relatives) and the business context, and challenge the survival and performance of women-owned businesses. For example, our data show that an increase in commodity prices due to a prolonged drought affected women's families and business operations. This shock impacted the purchasing power of resource-constrained families and the production and sales capacity of small, women-owned businesses with low financial capacity. To demonstrate, many women complained about the impact of climate change on commodity prices and the financial crisis in Benin during data collection.

Finally, we found that norms and values can alter, help absorb, yet mostly exacerbate shocks to women's businesses. The elements of society facing women entrepreneurs are highly affected by the norms and values of their host environment (cf Dolfsma and de Lanoy 2016). Because of social norms, women sometimes cannot run their businesses when they are in mourning, for instance, even if they find people during that time to replace them. They have to be patient and grieve for some time, depending on the social norms. Azmat and Fujimoto (2016) studied the family embeddedness and entrepreneurial experiences of Indian immigrant women entrepreneurs in Australia. Their results show that migrant women's dual culture, gender, and integration into the new society influence their family embeddedness and entrepreneurship. In our case, we find that

the simultaneous embeddedness of women entrepreneurs in many contexts -what we call 'multiple embeddedness'- causes many shocks because of the institutional forces guiding each of these contexts. In developing countries, entrepreneurship is influenced by complex and sometimes conflicting institutional forces that simultaneously encourage and discourage entrepreneurial activity (Mwasalwiba, Dahles, and Wakkee 2012). Langevang et al. (2015) use mixed embeddedness theory to capture the interplay between the political, economic, social, and cultural contexts of Ghanaian women entrepreneurs and find that regulatory, normative, and cultural-cognitive institutional forces simultaneously promote and hinder women's entrepreneurial activities. We find that some informal institutional forces guiding the contexts of the activities of women are generating and exaggerating shocks to women's businesses (Figure 3). More research on this topic is required.

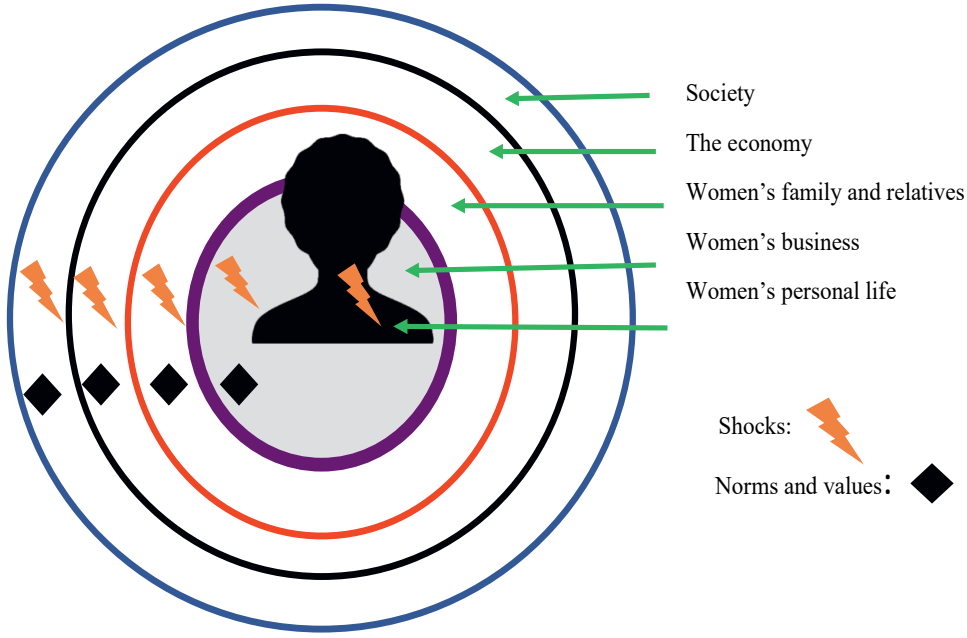


Figure 2.3 The embeddedness of small-scale women's business

2.6 Conclusions, implications and limitations

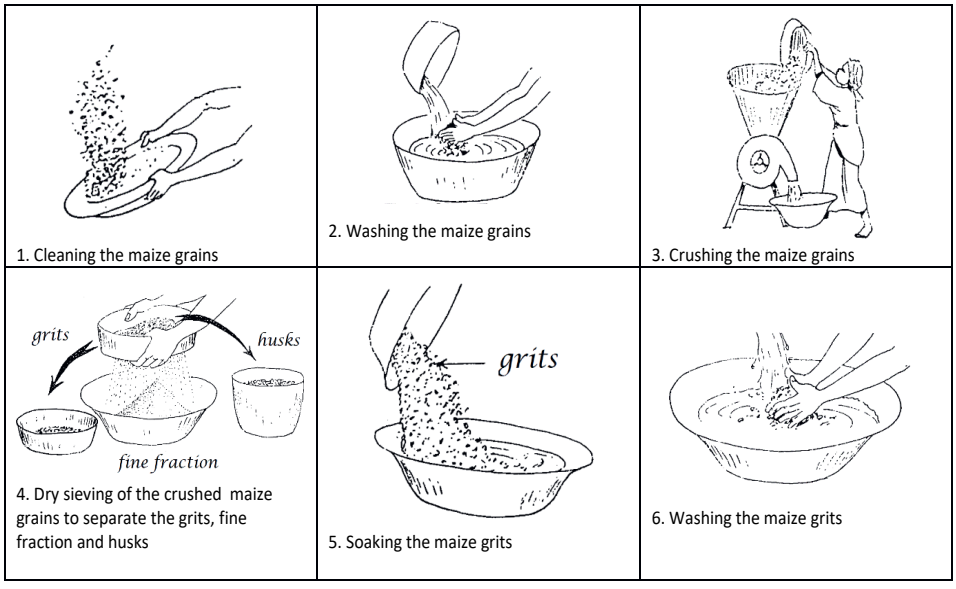
In conclusion, our study has opened a previously unexplored area investigating shocks on informal small businesses run by existentially challenged women entrepreneurs at the base of the pyramid. Unlike previous studies that focused on shocks to formal big firms and SMEs, our study is the first to shed light on the types of shocks faced by existentially challenged women entrepreneurs in informal food businesses. Our results show that these shocks are not only business-related events, but also originate from external contexts, particularly personal issues within the family, and societal challenges. Nearly 50 percent of the shocks experienced by women entrepreneurs are external to the firm, but not societal or sourced in the economy, and affect both their businesses and personal lives. This is due to the embeddedness of their business in their family, local economy and social environment. In addition, the deep embeddedness of women entrepreneurs in multiple life and activity contexts requires expectations from these host contexts that so become different sources of shocks to their businesses. This differs from some typical approaches where firms are independent/separate from families and personal lives. Values and social norms further exacerbate the shocks the existentially challenged women face in business, as these women receive conflicting guidance from these informal institutions in their multiple contexts of operation. As women entrepreneurs navigate their roles in society, family, and businesses, they face unique challenges that require comprehensive solutions. Due to the importance of personal shocks, we can hypothesize that families (and relatives) and personal lives are avenues through which shocks arrive at women's businesses.

Our research contributes to the ongoing discussion on 'gender', 'shocks', and 'women entrepreneurship' through the lens of social embeddedness. The study is at odds with previous research that downplayed the impact of personal events on the business. Instead, it underscores the importance of considering all areas of women's lives and activities –family, personal, business, economy and social– in formulating policies and strategies to help women entrepreneurs cope with and overcome severe shocks. Policymakers and development practitioners can use our findings to better prepare women entrepreneurs in similar contexts to effectively manage shocks and sustain livelihoods to ensure stable food supplies for the population through their businesses. The study highlights specific actions such as the need for policymakers to better confer with women entrepreneurs about the reallocation of marketplaces and the need for technologists to help with

solutions for the short shelf of fermented foods. Future studies should further explore how women can minimize the impact of shocks related to their family embeddedness.

While this empirical study provides valuable insights into the challenges faced by women entrepreneurs in the fermented food business in Benin, we acknowledge its limitation in terms of generalizability to other contexts. Nonetheless, the data collected from a large sample through a multilevel approach are rich and informative. They highlight the need to continue to generate knowledge and understand the intricacies of women's entrepreneurship. The study serves as a springboard for comprehensive support for women entrepreneurs recognizing the interconnectedness of their lives and businesses. By addressing the challenges of women entrepreneurs holistically, we can advance research on women's entrepreneurship and lay the groundwork for further study in this important area.

2.7 Appendices



1. Cleaning the maize grains

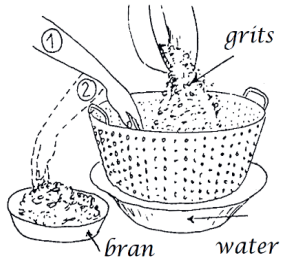
2. Washing the maize grains

3. Crushing the maize grains

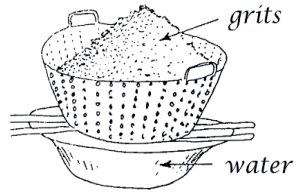
4. Dry sieving of the crushed maize grains to separate the grits, fine fraction and husks

5. Soaking the maize grits

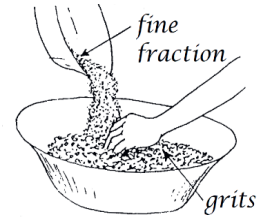
6. Washing the maize grits



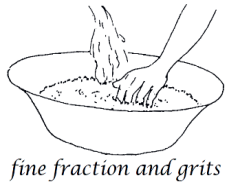
7. Removal of the bran



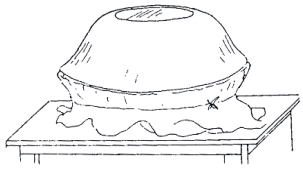
8. Draining the maize grits



9. Mixing the maize grits with the fine fraction from production step 4 (sieving)

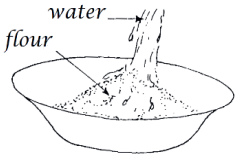


10. Wetting the mixture



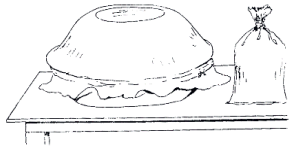
11. Letting the mixture rest

12. Grinding the mixture



13. Adding water to the ground mixture

14. Kneading the ground mixture



15. Fermentation

Figure 2.A1 Mawè production (After Nago & Hounhouigan, 1998)

Table 2.A1 Markets visited for data collection

Commune	Markets
Abomey	Houndjro
Abomey-Calavi	Akassato
	Cococodji
	Cocotomey
	Womey
Adja-Ouèrè	Ikpinlè
Akpro-Missérété	Missérété
Aplahoué	Azovè
Bohicon	Bohicon
Comè	Comé
Cotonou	Adjaha
	Ayidjèdo
	Dantokpa
	Fifadji
	St Rita
	Wologuèdè
	Menontin
Lokossa	Lokossa
Ouidah	Marché Ahouandjigo
	Marché Pahou
	Pahou
Porto Novo	Ahidaho
	Ahouangbo
	Ahougbomey
	Ouando

2.8 References

Aldrich, H. E., and J. E. Cliff. 2003. "The Pervasive Effects of Family on Entrepreneurship: Toward a Family Embeddedness Perspective." *Journal of Business Venturing* 18 (5): 573–596.

(Author names suppressed.) 2023, "Existentially challenged women entrepreneurs: business model transformation for resilience." *under double-blind review*.

Azmat, F., and Y. Fujimoto. 2016. "Family embeddedness and entrepreneurship experience: a study of Indian migrant women entrepreneurs in Australia." *Entrepreneurship & Regional Development* 28 (9-10): 630-656. https://doi.org/10.1080/08985626.2016.1208279.

Billings, R.S., T.W. Milburn, and M.L. Schaalman. 1980. "A model of crisis perception." *Sage* 25 (2): 300-316. https://www.jstor.org/stable/2392456.

Björck, A. 2016 "Crisis typologies revisited: An interdisciplinary approach." *Central European Business Review* 5 (03): 25-37.

Bonnet, F., J. Vanek, and M. Chen. 2019. *Women and Men in the Informal Economy – A Statistical Brief.* Manchester, UK: WIEGO.

Bryman, A. 2012. *Social Research Methods*. 4th ed., edited. Oxford University Press, Oxford.

Carmichael, F., C. Darko, S. Kanji, and N. Vasilakos. 2022. "The Contribution of Girls' Longer Hours in Unpaid Work to Gender Gaps in Early Adult Employment: Evidence from Ethiopia, India, Peru and Vietnam." *Feminist Economics* 29 (1): 1-37. https://doi.org/10.1080/13545701.2022.2084559.

Cowling, M., W. Liu, and A. Ledger. 2012. "Small Business Financing in the UK before and during the Current Financial Crisis." *International Small Business Journal* 30 (7): 778–800. https://doi.org/10.1177/0266242611435516.

Doern, R., N. Williams, and T. Vorley. 2019. "Special issue on entrepreneurship and crises: business as usual? An introduction and review of the literature." *Entrepreneurship & Regional Development* 31 (5-6): 400-412. https://doi.org/10.1080/08985626.2018.1541590.

Dolfsma, W., and F. de Lanoy. 2016. "Outside vs. Inside Entrepreneurs: When Institutions Bind and Favors Blind." *Journal of Economic Issues* 50 (2): 382-389. https://doi.org/10.1080/00213624.2016.1176483.

Dolfsma, W., J. Finch, and R. McMaster. 2005. "Market and Society: How Do They Relate, and How Do They Contribute to Welfare?" *Journal of Economic Issues* XXXIX (02): 347-356.

FAO. 2023. *The status of women in agrifood systems*. Rome: FAO.

Giannacourou, M., M. Kantaraki, and V. Christopoulou. 2015. "The Perception of Crisis by Greek SMEs and its Impact on Managerial Practices." *Procedia - Social and Behavioral Sciences* 175: 546-551. https://doi.org/10.1016/j.sbspro.2015.01.1235.

Granovetter, M. 1985. "Economic action and social structure: The problem of embeddedness." *American Journal of Sociology* 93: 481–510.

Grube, L. E., and V. H. Storr. 2018. "Embedded Entrepreneurs and Post-Disaster Community Recovery." *Entrepreneurship & Regional Development* 30 (1): 7–8. https://doi.org/10.1080/08985626.2018.1457084.

Herbane, B. 2010. "Small business research: Time for a crisis-based view." *International Small Business Journal* 28 (1): 43-64. https://doi.org/10.1177/0266242609350804.

Hernández-Albújar, Y., G. Sáez, and M. Garrido-Macías. 2022. "The Impact of Household Labor Distribution on Domestic Conflicts During Covid-19 Confinement Orders in Spain and Italy." *Feminist Economics* 29 (2): 129-153. https://doi.org/10.1080/13545701.2022.2116070.

Houngbedji, M., W. Padonou, and J. Hounhouigan. 2014. *Preserving African Food Microorganisms for Green Growth: Value chain analysis of Mawè in Bénin.* Université d'Abomey-Calavi & Green Growth 4 Africa (University of Abomey-Calavi).

IFAD. 2022. *Upscaling of traditional fermented foods to build value chains and to promote women entrepreneurship*. IFAD Research Series Issue 76. Rome: IFAD.

ILO. 2018. *Women and Men in the Informal Economy: A Statistical Picture.* Third edition. Geneva: International Labour Office.

Jennings, J. E., and M. S. McDougald. 2007. "Work-family Interface Experiences and Coping Strategies: Implications for Entrepreneurship Research and Practice." *Academy of Management Review* 32: 747–760.

Kilcast, D., and P. Subramaniam. 2000. *The stability and shelf-life of food*. First edition, D. Kilcast and P. Subramaniam (eds). North and South America by CRC Press LLC: Woodhead Publishing Limited.

Langevang, T., K.V. Gough, P. W. K. Yankson, G. Owusu, and R. Osei. 2015. "Bounded Entrepreneurial Vitality: The Mixed Embeddedness of Female Entrepreneurship." *Economic Geography* 91 (4): 449-473. https://doi.org/10.1111/ecge.12092.

Marco, M. L., D. Heeney, S. Binda, C. J. Cifelli, P. D. Cotter, B. Foligne, M. Ganzle, R. Kort, G. Pasin, A. Pihlanto, E. J. Smid, and R. Hutkins. 2017. "Health benefits of fermented foods: microbiota and beyond." *Current Opinion in Biotechnol* 44: 94-102. https://doi.org/10.1016/j.copbio.2016.11.010.

Materia, V. C., A. R. Linnemann, E. J. Smid, and S. E. Schoustra. 2021. "Contribution of traditional fermented foods to food systems transformation: value addition and inclusive entrepreneurship." *Food Security* 13 (5): 1163-1177. https://doi.org/10.1007/s12571-021-01185-5.

Meuwissen, M. P. M., P. H. Feindt, A. Spiegel, C. J. A. M. Termeer, E. Mathijs, Y. de Mey, R. Finger, A. Balmann, E. Wauters, J. Urquhart, M. Vigani, K. Zawalińska, H. Herrera, P. Nicholas-Davies, H.

Hansson, W. Paas, T. Slijper, I. Coopmans, W. Vroege, A. Ciechomska, F. Accatino, B. Kopainsky, P. M. Poortvliet, J. J. L. Candel, D. Maye, S. Severini, S. Senni, B. Soriano, C.-J. Lagerkvist, M. Peneva, C. Gavrilescu, and P. Reidsma. 2019. "A framework to assess the resilience of farming systems." *Agricultural Systems* 176 (2019): 102656. https://doi.org/10.1016/j.agsy.2019.102656.

Miklian, J., and K. Hoelscher. 2021. "SMEs and exogenous shocks: A conceptual literature review and forward research agenda." *International Small Business Journal: Researching Entrepreneurship* 40 (2): 178-204. https://doi.org/10.1177/02662426211050796.

Moreno, J., and D. Shaw. 2018. "Women's empowerment following disaster: a longitudinal study of social change." *Natural Hazards* 92 (1): 205-224. https://doi.org/10.1007/s11069-018-3204-4.

Mwasalwiba, E., H. Dahles, and I. Wakkee. 2012. "Graduate entrepreneurship in Tanzania: Contextual enablers and hindrances." *European Journal of Scientific Research* 76: 386–402.

Nago, M.C., & Hounhouigan, D.J. (1998). La transformation alimentaire traditionnelle des cereales au Bénin. 01 BP 526 Cotonou Bénin. CERNA

Onibon Doubogan, Y. 2019. *Entrepreneuriat féminin et développement au Bénin*. Etudes africaines. Paris: L'Harmattan.

Parker, S. C., E. Congregado, and A. A. Golpe. 2012. "Testing for Hysteresis in Entrepreneurship in 23 OECD Countries." *Applied Economics Letters* 19 (1): 61–66. https://doi.org/10.1080/13504851.2011.566175.

Pearson, C. M., and J. A. Clair. 1998. "Reframing Crisis Management." *Academy of Management Review* 23 (1): 59–76. https://doi.org/10.5465/amr.1998.192960.

Polanyi, K. 1944. *The great transformation. The political and economic origins of our time.* Boston: Beacon Press.

Randerson, K., H. Frank, C. Dibrell, and E. Memili. 2023. *Families in business: the next generation of family evolution*. Abingdon: Routledge.

Rijkers, B. and M. Söderbom. 2013. "The Effects of Risk and Shocks on Non-Farm Enterprise Development in Rural Ethiopia." *World Development* 45: 119-136. https://doi.org/10.1016/j.worlddev.2012.10.013.

Rouse, J., and J. Kitching. 2006. "Do Enterprise Support Programmes Leave Women Holding the Baby?" *Environment and Planning C: Government and Policy* 24(1): 5-19. https://doi.org/10.1068/c0528

Shivani, S., S. K. Mukherjee, and R. Sharan. 2006. "Socio-cultural Influences on Indian Entrepreneurs: The Need for Appropriate Structural Interventions." *Journal of Asian Economics* 17 (1): 5–13.

Slijper, T., Y. de Mey, P.M. Poortvliet, and M.P.M. Meuwissen. 2020. "From risk behavior to perceived farm resilience: a Dutch case study." *Ecology and Society* 25(4): 10.

Smallbone, D., D. Deakins, M. Battisti, and J. Kitching. 2012. "Small business responses to a major economic downturn: Empirical perspectives from New Zealand and the United Kingdom." *International Small Business Journal* 30 (7): 754-777.

WB. 2023a. "World Bank national accounts data, and OECD National Accounts data files.". Accessed 17.09.23. https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?end=2022&locations=BJ&start=1960&view=chart.

WB. 2023b. *Women, Business and the Law 2023.* Washington, DC: World Bank.

Welter, F., and D. Smallbone. 2010. "Women's Entrepreneurship in a Transition Context." In *Women's Entrepreneurship and Growth Influences: An International Perspective.* E. Gatewood, C. Brush, C. Henry, A. de Bruin (eds), 96–117. Cheltenham: Edward Elgar.

Williams, N., and T. Vorley. 2015. "The Impact of Institutional Change on Entrepreneurship in a Crisis-Hit Economy: The Case of Greece." *Entrepreneurship and Regional Development* 27 (1-2): 28-49. https://doi.org/10.1080/08985626.2014.995723.

Williams, T. A., D. A. Gruber, K. M. Sutcliffe, D. A. Shepherd, and E. Y. Zhao. 2017. "Organizational Response to Adversity: Fusing Crisis Management and Resilience Research Streams." *Academy of Management Annals* 11 (2): 733-769. https://doi.org/10.5465/annals.2015.0134.

Chapter 3

Chapter 3. How existentially challenged women entrepreneurs show resilience: Business Model Innovation for performance

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Abstract

Developing economies present a turbulent environment causing shocks to the businesses in those economies. Adequate resources and capabilities are then important to adapt a firm's business model to maintain competitive performance. We draw on the resource-based view (RBV) and the Dynamic Capabilities (DCs) approach to investigate what combination of resources and capabilities creates resilience, allowing women entrepreneurs to survive and even thrive in turbulent business settings. Resources, we find, can allow DCs to be developed and deployed. Our analysis of data for 355 existentially challenged women entrepreneurs of fermented foods in Benin, West Africa, shows that both financial and human resources contribute significantly to superior firm performance. However, particularly human resources allow (women) entrepreneurs to develop and deploy the dynamic capabilities that allow adaptation of their business models when facing shocks. We thus show that some resources are more important than others for firm resilience and subsequent performance because they allow for the development and deployment of DCs. Since our findings differ from findings by others in a different research setting, our contribution to the RBV and DC literature is first to suggest how these interrelate, and additionally how the effect of employing resources and capabilities can be context-dependent.

Keywords: dynamic business model capabilities; competitive performance; human resources; financial resources.

3.1 Introduction

Entrepreneurial firms led by existentially challenged (necessity) women in the Global South operate in highly unstable business, social and environmental contexts characterized by regular political and economic shocks. To respond to shocks, entrepreneurs must be resilient (Conz and Magnani 2020). We conceptualize resilience as the capacity firms have to cope with shocks, sustain their activities, and reinvent their business models to continuously cope with changes that threaten their performance when circumstances change (Moore and Manring 2009; Morais-Storz and Nguyen 2017). Resilience therefore encompasses the resources and capabilities that allow firms to continue to function, maintaining their performance despite the occurrence of a shock (Conz and Magnani 2020; Meuwissen et al. 2019). Maintaining business performance relies on achieving competitive advantages (Oliveira Teixeira and Werther 2013), permitting a firm to use opportunities or withstand threats in both good and adverse times to achieve superior performance (Vargo and Seville 2011). We conceptualize competitive performance as a firm's financial performance that is above the average in the industry in which it operates (Peteraf and Barney 2003; Schilke 2014).

Business model innovation (BMI) enhances the resilience and competitive advantage of a firm: innovating their business model is a means that firms deploy to increase responsiveness and resilience to shocks (Conz and Magnani 2020), and sustain performance (Carayannis et al. 2014). The ability of entrepreneurs to develop their business models is a core Dynamic Capability (DC) (Teece 2007; Teece, Pisano, and Shuen1997). In this study, we argue that resilience emanates from being able to combine resources to sustain Dynamic Capabilities (DCs) to prepare, withstand, or adapt a firm's business model to withstand shocks. Resilient firms know how to respond to shocks to maintain competitive performance.

While there has been abundant literature on the competitive performance of formal large and medium-scale firms in developed and emerging economies (D'Aveni, Dagnino, and Smith 2010; Li and Liu 2014; Lin and Wu 2014; Lu et al. 2010; Wang and Ahmed 2007), far less explored is the competitive performance of informal small-scale firms, in particular those owned by existentially challenged (women) entrepreneurs who often operate in underserved niches of the market, in the absence of significant financial and material resources (Baker and Nelson 2005). Such entrepreneurs often experience negative personal circumstances of an economic, sociocultural, cognitive, physical and emotional nature (Miller and Le Breton-Miller 2017).

Particularly how women entrepreneurs operating in the food system in the Global South develop resilience requires a more thorough understanding, as these are at the forefront of contributing to the Sustainable Development Goals (SDGs). Although challenges and shocks in food systems and in other sectors are receiving the attention of many scholars (Meuwissen et al. 2019), evidence of the resources and capabilities that women entrepreneurs operating in turbulent contexts with their small-scale food enterprises mobilize to achieve resilience in the face of a shock is lacking and at the same time much needed. In particular, it is still unclear what specific (combination of) resources to sustain what capabilities, are needed to support the competitive performance of women entrepreneurs, often providing subsistence and livelihood of their entire families. The socioeconomic status of women entrepreneurs can make it difficult for them to mobilize resources to develop and grow a business, especially when they have a low social status (Lumpkin, Steiner, and Wright 2011; Morgan, 2020). Research is therefore needed that informs on what resources can support the competitive performance of existentially challenged women entrepreneurs in the Global South (Lin and Wu 2014) and on what the relationship is between resources and capabilities that enhances resilience and competitive performance in the context of a shock (Conz and Magnani 2020). Knowing the resources needed by women entrepreneurs will sustain the informal food business of these actors, and so their family livelihood.

We suggest resources and dynamic (business) capabilities as a lens on resilience to address the identified research gaps. In particular, we integrate the resource-based view theory with the DC approach to examine: (i) what type of resources supports the competitive performance of existentially challenged entrepreneurs' small-scale informal firms, (ii) which resources contribute to DCs, and (iii) in what way the dynamic business capabilities these firms deploy help innovate their business models to enhance their performance. In doing this, we verify the adequacy of established theories in enhancing further understanding of how women entrepreneurs develop resilience in turbulent contexts. Specifically, we propose that in a business environment characterized by shocks, valuable and rare (VR) resources will positively affect competitive performance. In addition, we propose that in such a context the use of DCs to innovate business models and maintain performance may play two roles: first, when the women entrepreneurs lack valuable resources, their dynamic business capabilities might exert a positive direct effect on competitive performance; second, when the women entrepreneurs dispose of valuable resources, DCs might be positively affected by these, then recombine and convert such an effect into

competitive performances, namely mediating the relation between the resources deployed by the small firms and their performance (Lin and Wu 2014; Lu et al. 2010). Our research question is therefore: What resources and DCs enable the resilience and competitive performance of informal existentially challenged women entrepreneurs operating in challenged business environments characterized by shocks, and to what extent do these DCs mediate the relationship between the resources and competitive performance?

3.2 Theoretical framework

3.2.1 Shocks and existentially challenged entrepreneurs

A challenge that affects the ability of a system to deliver its goods or services is a shock (Meuwissen et al. 2019). It is an expected or unexpected negative event that can negatively impact an organization or its actors (Rijkers and Söderbom 2013). Even if the occurrence of an event is expected/predictable, its impact may not be expected and then be shocking (Akkermans, Seibert, and Mol 2018). Therefore, we can speak of a positive or negative shock when the impact is either positive or negative. In the literature, the terms shock and crisis are used interchangeably as recent literature has broadened the definition of crisis to include everyday events and not just major events such as natural disasters like floods and storms (Doern, Williams, and Vorley 2019). There are environmental, economic, institutional, and social shocks (Meuwissen et al. 2019). In entrepreneurship, research on shocks usually deals with external and extreme events in a firm. There is limited research on internal shocks and everyday events in the firm (Doern, Williams, and Vorley 2019). Moreover, although shocks for existentially challenged entrepreneurs are common and of a considerable impact considering the already challenging personal conditions they face, research on these entrepreneurs and how they face shocks in the small firm they usually run is still scarce (Miller and Le Breton-Miller 2017). Existentially challenged entrepreneurs experience economic and educational poverty as a challenge (Block et al. 2015); they need to support their families but have few job alternatives and are therefore highly motivated in entrepreneurship (Miller and Le Breton-Miller 2017; Morris et al. 2023; Xu 2022). Unlike opportunity entrepreneurs who operate based on identified opportunities, existentially challenged entrepreneurs engage in small subsistence firms because they lack formal employment opportunities (Morris et al. 2023; Xu 2022). Existentially challenged entrepreneurs are frequent in the Global South (Morris et al. 2023). The shocks they face the most in their entrepreneurial activities are illness, injury, trauma,

or changes in their business conditions, all requiring specific adaptation as a response. Using their ingenuity and originality in starting their firms without significant financial resources or seeking for underserved market often becomes the only way to overcome the adverse conditions they operate in (Miller and Le Breton-Miller 2017). The firms -usually very small and informal- of existentially challenged entrepreneurs are generally more vulnerable than larger and formal firms because they have very limited access to government or institutional support, let alone to (e.g.) human and financial resources. However, their very same challenging conditions allow these small firms to flexibly adapt their strategic direction more quickly to changing conditions than larger well-established firms (Miklian and Hoelscher 2022).

3.2.2 Resilience and business model innovation

The concept of business models was first mentioned by Lang in 1947 (Abdelkafi, Makhotin, and Posselt 2013). Although many studies tried to explain this concept (Carayannis et al. 2014), as yet there is no academic consensus on its definition (Carayannis et al. 2014; Schneider and Spieth 2013). Teece (2010: 172) defines a business model (BM) as '*describing the design or architecture of the value creation, delivery, and capture mechanisms employed by a firm*'. BM is how the firm delivers value to customers, entices customers to pay for value, and converts those payments to profit. Key elements of the BM are the firm's focus (namely, resource allocation to processes and activities), modus (namely, who manages activities and how), and locus (namely, where the activities take place) (Onetti et al. 2012). Resilience of an organization can be achieved through innovating its business model (Carayannis et al. 2014). When disruptive events such as shocks appear, innovating their BMs can allow firms to withstand and adjust by redesigning the key dimensions of the focus, the modus, and the locus and thus responding to the shock (Corvello, Straffalaci, and Filice 2022; Onetti et al. 2012). Entrepreneurs' ability to develop and refine BMs is a core micro foundation of DCs (Teece 2007). Strong DCs enable the creation and implementation of effective BMs (Teece 2018). Research on BM innovation focuses on three core perspectives (Schneider and Spieth 2013), namely its theoretical foundations are (1) the resource-based view of the firm (Barney 1991; Barney, Wright, and Ketchen 2001), (2) the DCs view of the firm (Teece, Pisano, and Shuen 1997), and (3) the strategic entrepreneurship view (Hitt et al. 2001; Kuratko and Audretsch 2009). Below, we focus on the two perspectives (the resource-based view of the firm and the DCs view), which inform our conceptualization and measurement of resilience

and competitive performance of small firms of existentially challenged women entrepreneurs operating in highly dynamic and turbulent business contexts.

3.2.3 The Resource-Based View (RBV) theory

The Resource-Based View theory (RBV) was introduced by Wernerfelt (1984) and further developed by various authors (Barney 1991; Barney, Wright, and Ketchen 2001; Eisenhardt and Martin 2000; Priem and Butler 2001). Resources are defined as '*all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. controlled by a firm that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness*' (Barney 1991: 101). This definition of resources in the RBV has been criticized as confusing and tautological because it associates many other concepts or terminologies such as capabilities, process, and resources (Eisenhardt and Martin 2000; Thomas and Pollock 1999). Because of that tautology, the concepts of resources and capabilities sometimes are used interchangeably (Barney 1991; Olthaar et al. 2019). The concept of 'core capabilities' is sometimes used to name resources and capabilities together; for instance, when it is a bundle of resources and capabilities that are strategically important to competitive advantage (Wang and Ahmed 2007). The RBV theory regards the resources and capabilities of firms as a means to generate greater competitiveness. A firm is said to have a competitive advantage when it enjoys greater success than current or potential rivals in its industry, which suggests superior firm performance as a key indicator of competitive advantage (Schilke 2014). Competing firms perform differently when their resources are heterogeneously distributed among the industry and imperfectly mobile (Barney 1991). The RBV stipulates that firms that possess heterogeneous and immobile resources that are Valuable and Rare, Imperfectly Imitable, and Not substitutable (so-called VRIN attributes) achieve a sustained competitive advantage (Barney 1991; Conner and Prahalad 1996; Nelson 1991; Peteraf 1993; Wernerfelt 1984; Wernerfelt 1995). When the resources are at least Valuable and Rare, they lead to a competitive advantage (Barney 1991). VRIN resources are mostly human and organizational, while non-VRIN resources are mostly financial and physical (Lin and Wu 2014). Heterogenous and immobile resources with VRIN attributes give a sustainable competitive advantage. However, the sustained competitive advantage may be challenged since resources are quickly immitted and diffused within an industry (Brown and Eisenhardt 1998; D'Aveni, Dagnino, and Smith 2010), preventing the achievement of a sustainable competitive advantage. Thus, firms

can aim for a temporal competitive advantage that can be renewed over time (D'Aveni, Dagnino, and Smith 2010) with Valuable and Rare resources, and DCs through the innovations of their business models. Valuable and Rare (VR) resources with the use of DCs in innovating business models will make VR resources non- Imitable, and Not substitutable, and so possess -temporarily?- some VRIN attributes. Therefore, DCs may create a sequence of temporary competitive advantages, as they are not focused on building sustainable advantage (D'Aveni, Dagnino, and Smith 2010). Indeed, to keep the competitive advantage longer, Teece (2018) suggested linking BMs to resources so competitor imitation will be difficult. This will allow entrepreneurs to achieve a higher performance in a changing environment as an outcome of the use of DC in innovating BMs as a resilience strategy.

3.2.4 Dynamic Capabilities (DCs) in business model innovation

In dynamic markets and environmental contingencies, the RBV is criticized as being static and unable to generate on its own the sustainable competitive advantage upon a change in environment (D'Aveni 1994; Eisenhardt and Martin 2000; Sirmon, Hitt, and Ireland 2007). Therefore, the DC theory is suggested as an extension of the RBV to let firms keep competitiveness in markets with changes (Eisenhardt and Martin 2000; Teece, Pisano, and Shuen 1997). DCs are the routines or processes that keep firms alive in dynamic markets when unpredictable or even predictable changes occur when firms do not have enough capacity to prepare for them. DCs are defined as '*the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments'* (Teece, Pisano, and Shuen 1997, p. 516). They are also understood as '*the firm's processes that use resources – specifically the processes to integrate, reconfigure, gain and release resources – to match and even create market change'* and *'the organizational and strategic routines by which firms achieve new resources and configurations as markets emerge, collide, split, evolve, and die'* (Eisenhardt and Martin 2000, p. 1107). DCs are processes to adapt to changes (Wang and Ahmed 2007). Based on the above definitions, DCs are seen in this paper as the abilities of entrepreneurs to use efficient processes to adapt to the changes in their internal and external business environment.

Resilience is the ability of firms to cope with shocks and sustain their activities (Moore and Manring 2009). When circumstances change, entrepreneurs' resilience ability is used to reinvent business models to continuously cope with changes that threaten their business performance

(Morais-Storz and Nguyen 2017). When changes occur, the use of DC to adapt business models to shocks is a means to resilience. Such resilience will help entrepreneurs to continue providing their delivery function and achieve high performance in an adaptive way (Conz and Magnani 2020; Meuwissen et al. 2019). The BM innovation and DCs are interdependent since DCs can help to change the existing BM into a new model (Teece 2018). For example, instead of waiting for customers to come and buy from their firms, street vendors can move from street to street, home to home, promoting their products. Some innovate by shouting and praising the quality of their food to arouse the buying appetite of potential customers. Strong DCs enable the creation and implementation of effective BMs (Teece 2018).

Hypothesis development

In this paper, building on the theories outlined above, we suggest testing the conceptual model as presented in Figure 1. In this section, we will elaborate on the arguments that support the hypotheses we bring forward.

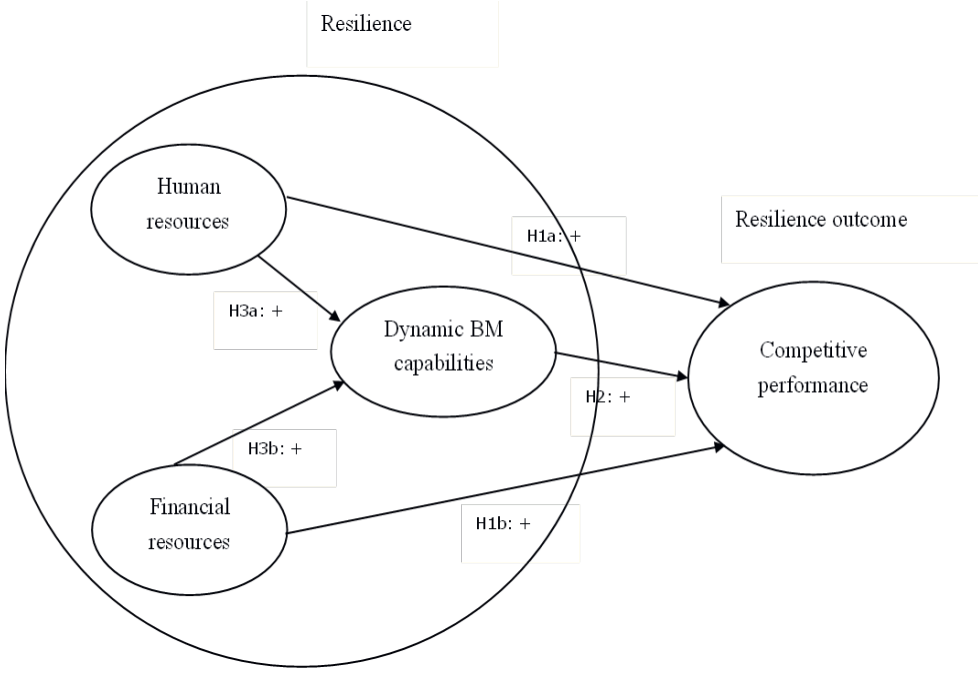

Figure 3.1 The research model

Direct effects: resources. Lin and Wu (2014) demonstrated that the possession of VRIN resources, such as human resources, increases firm performance in developed economies, in contrast to non-VRIN resources such as financial resources, which do not support performance. Only recently the RBV theory has been adapted for medium and small firms in developing economies (Lu et al. 2010; Olthaar et al. 2019). For instance, in their research on strategic resources and smallholder performance at the bottom of the pyramid, Olthaar et al. (2019) used the RBV to show that organizational resources are key resources to explain the outperformance of small-scale entrepreneurs in Ethiopia. Furthermore, based on the RBV and the capability-building perspective, Lu et al. (2010) demonstrated that for Chinese firms to perform well in their international efforts, institutional capital resources and managerial ties are crucial.

Given our focus on small firms that operate in a turbulent environment characterized by fewer resources available to prepare, withstand and respond to the shocks they face, in this paper, we study particularly financial and human resources that have been identified in previous studies as key for women entrepreneurs in the Global South leading small-scale firms (Materia et al. 2021; Mozumdar et al. 2022). In a constrained business environment, financial resources can be argued to be relevant as well as human resources and might positively affect performance: as indicated in Materia et al. (2021), for small and medium-scale women entrepreneurs in Africa, both financial and human resources are resources needed to perform a business (Onibon Doubogan 2019). To the best of our knowledge, no study on existentially challenged women entrepreneurs in Africa empirically demonstrates the effect of human and financial resources on competitive performance. The extant scant quantitative empirical research indicates a positive effect of human and financial resources on women's entrepreneurship performance in the constrained environment of Bangladesh (Mozumdar et al. 2022). However, such evidence is built without considering market and production shocks, but rather focusing on the social and business barriers women entrepreneurs face such as hindrances due to family, norms, customs, traditions and religion, and formal regulations (Mozumdar et al. 2022).

Financial resources are typically needed to start and run a firm. The human resources needed to run a firm are usually acquired by (women) entrepreneurs from their own households. Indeed, traditional food business and household management are functions women entrepreneurs do at the same time (Materia et al. 2021). The human resources they need are mostly in the form of the

knowledge needed to produce, sell or market their produce. Based on the study of Lin and Wu (2014), who used the RBV theory and found that VR resources positively increase competitive performance, we hypothesize:

> **Hypothesis (H1a):** Possession of human resources by a firm directly improves a firm's competitive performance.
> **Hypothesis (H1b):** Possession of financial resources by a firm directly improves a firm's competitive performance.

Direct effects: dynamic capabilities (DCs). DCs are another means that firms can deploy to prepare, withstand and adapt their business models to shocks and thereby develop resilience. Prior research has identified DCs in technological innovation capabilities as fundamental to transforming resources into competitive performance (Shafia et al. 2016) and as sources of competitive advantage (CA) (D'Aveni, Dagnino, and Smith 2010; Wang and Ahmed 2007). DCs can directly create and further shape a firm's performance (Eisenhardt and Martin 2000; Galunic and Eisenhardt 2001), which consequently determines the firm's performance (Zott 2003). However, based on the study of Wang and Ahmed (2007), Shafia et al. (2016) provided empirical evidence that DCs can directly enhance competitiveness as well. They have a direct significant positive impact on firms' competitive advantage (Li and Liu 2014; Shafia et al. 2016): since the deployment of DCs will lead to a better way to position in a market through, for instance, collecting market information, changing products' offering and pricing, determining when and where to procure what type of input, or by adopting a different technology and way in which to produce one's products, they directly positively impact firm performance; these are ways to adapt firms' business models. Therefore, we suggest:

> **Hypothesis (H2)**: The deployment of dynamic BM capabilities directly increases firms' competitive performance.

Mediation: from resources through Dynamic Capabilities (DCs) to performance. It has been argued that resources that firms might possess, help to enhance their DCs, which in turn will positively impact firm performance (Lu et al. 2010). Lu et al. (2010) demonstrated that adaptive

capability acts as a significant intermediate variable between resources and performance. Resources would therefore have an indirect or mediated impact, through enhancing DCs, on firm performance as well. It is, indeed, the combination of resources and DCs that constitutes firm resilience. We elaborate on why this would also be expected for women entrepreneurs of the Global South who need to adapt their business models to market change in the context of a shock.

> Following earlier work, we define DCs as:
>
> '*the firm's* ***processes*** *that use resources – specifically the processes to integrate, reconfigure, gain and release resources – to match and even create market change'* and *'the organizational and strategic routines by which firms achieve new resources and configurations as markets emerge, collide, split, evolve, and die'* (Eisenhardt and Martin, 2000, p. 1107, emphasis added).

This definition suggests that possessing DCs would allow a firm to make better use of its resources. We argue that, when it comes to women entrepreneurs in the Global South, the prevailing argument should be inverted, as the assumption of having even a minimum amount of resources cannot be taken for granted. So we suggest that having resources will allow a firm to deploy DCs to ultimately impact performance.

Mediation: human resources. Human resources in this paper are defined as the knowledge, training, and relationships with customers. Combining the RBV theory and the DC approach, Lin and Wu (2014) suggest that DCs play a mediating role between VR resources and competitive advantage. Their results indicate that VR resources can positively affect the development of DCs. In developed and emerging economies, human resources are considered VR resources, while financial resources are considered non-valuable and non-rare (World Bank 2019). In the context of this study, both resources -human and financial- are fundamental and valuable in entrepreneurship (Mozumdar et al. 2022). Following the logic of Lin and Wu (2014), both resources should positively affect the deployment of DCs. Some initial resources should be available for DCs, both to be developed in the first place, as well as for DCs to be employed. Moreover, we follow Mckelvie and Davidsson (2009), who demonstrated the human resources of entrepreneurs as enhancing the development of DCs. They empirically showed how a firm founder's level of education and business education have significant effects on DC development. These previous studies adopt 'integration, learning and reconfiguration' capabilities (Lin and Wu

2014), and 'new process development, market disruptiveness, idea generation, and new product development' capabilities, to measure DCs with large and medium firms. None of these studies measures DCs in terms of business model innovation in the context of shocks. Moreover, we have not found any empirical studies that clearly support the mediation effects of dynamic BM capabilities between human resources and competitive performance.

When entrepreneurs have human resources at their disposal, they are in a better position to understand the environment they find themselves in and adjust their firm to their understanding of the environment. Training and other ways of acquiring relevant knowledge constitute resources that help entrepreneurs to better understand challenges in their food business environment. Having a better understanding of their environment helps them cope with changes, find solutions for challenges faced, as well as transform opportunities into business. For example, substantial knowledge about their business (in food), will help entrepreneurs to better monitor key elements related to their product production and selling, such as the fluctuation of the input price, and the quality of inputs and outputs. The analytical skills acquired through training provide abilities in transforming challenges into opportunities through problem-solving, and, for instance, quick adaptation of food prices and food technology. Analytical and problem-solving skills, and contact with customer skills that entrepreneurs have, will allow them to also reflectively assess the extent to which the solution formulated based on an analysis performed and intervention implemented has the desired firm competitive performance outcome.

We therefore suggest the following mediation hypothesis:

> **Hypothesis (H3a):** Dynamic BM Capabilities positively mediate the positive effect of human resources on women entrepreneurs' competitive performance.

Mediation: financial resources. Financial resources are not as easily obtained by entrepreneurs in the Global South compared to entrepreneurs in the Global North for several reasons. Consequently, financial resources directly improve the business performance of firms located in turbulent business contexts (Mozumdar et al. 2022). In this paper, we argue that financial resources also have an indirect or mediated effect since, when present, they allow entrepreneurs to improve their DCs. DCs cannot be expected to be present among entrepreneurs in our study to some degree, to begin with. While Mckelvie and Davidsson (2009) demonstrate that financial resources do not

enhance the development of DCs, we argue that for women entrepreneurs in the Global South financial resources are key to developing DCs. In a Northern business context, with financial resources relatively abundantly available, their impact on entrepreneurs' capability to adapt technologies, price, and product quality to cater to customer needs and preferences can be assumed a given. In a business context in the Global South, an entrepreneur needs financial resources in the first place to acquire and process the knowledge needed as input for the changes to be made in how they run their business (Mozumdar et al. 2022; World Bank 2019).

Having more financial resources provides women entrepreneurs with the capability to buy input in the affordable period, at the best place, and sell the output in the desired place and period. With the needed financial resources, women can afford themselves an appropriate place to store such input in good condition, and to make use of this when the input becomes expensive, as they will dynamically adjust the price of their products to get the maximum profit. Having financial resources can help to afford an expensive place for sale at the market or on a street; finance can also help entrepreneurs to travel to another region to purchase inputs in bulk to better adapt to shocks and so gain high performance. Financial resources can help to afford adequate technology for product quality. Financial resources may be what an entrepreneur needs to cope with changes because they can help to prepare for change and make the solution concrete that is required in times of shocks as they facilitate to better monitor the market, adapt price, adapt technology and stay in contact with customers. Financial resources are important to make a difference between entrepreneurs in preparing for and facing change. Following the paper of Lin and Wu (2014), firms' financial resources should increase the use of DCs.

Therefore, we propose the following hypothesis:

> **Hypothesis (H3b):** Dynamic BM Capabilities positively mediate the positive effect of financial resources on women entrepreneurs' competitive performance.

3.3 Method and data

3.3.1 The context of the research

Our paper analyses how women entrepreneurs use their resources and DCs to adapt their business models to achieve competitive and resilient performance in a disruptive business setting. We focus on existentially challenged women entrepreneurs who process and sell traditional fermented foods

in Benin, West Africa, situated in the Global South. Typically run by women who engage in the production of local traditional foods, these firms provide for the entrepreneurs' and their families' livelihoods; yet these women also provide food and nutrition security for the population, unwittingly, perhaps contributing to important Sustainable Development Goals (SDGs). In Benin, women actively participate in economic activities and their entrepreneurship contributes 5.6% to poverty reduction (Onibon Doubogan, 2019). In the food industry, nearly 94% of small companies are run by individual women entrepreneurs (Assouma, 2019), probably because food preparation is culturally considered a women's job in African societies. Despite the great contribution of women to the country's development, this is not visible in the government statistics as women generally do not formally register their firms. To illustrate, 97.9% of women entrepreneurs operate in the informal sectors in Benin (Onibon Doubogan 2019). Firms in the country regularly face shocks, and an estimated 40% of them are vulnerable to shocks (Bénin 2020). This implies that resilient and competitive firms have a stronger position and benefit from sustained income generation to support the livelihoods of their owners. Women entrepreneurs can enhance their firms' performance by effectively employing efficient DCs in business models as resilience strategies, we suggest, if in possession of appropriate human and financial resources.

These women entrepreneurs operate in an open market, as street food vendors, or as traders at home. Hence, producing this type of food is undertaken in a highly competitive environment. Moreover, the business context is susceptible to diverse types of shocks which may pertain both to the private sphere of life of these women as well as their firms. We collected data from 355 women food producers and sellers of *mawè*, a maize-based fermented food in Benin, West Africa. Purchasing the raw material, processing it and the short period in which the product needs to be sold, require particular knowledge, skills, abilities, and dynamism in its production and trade strategy. Because of the negative personal circumstances of mainly an economic and sociocultural nature (for example, they possess no or very low education, have very few job alternatives, and lack financial and healthcare support), women entrepreneurs producing *mawè* can be considered existentially challenged entrepreneurs. They own informal small and micro-scale firms and need to produce and sell *mawè* to support the daily needs of their family. Moreover, they also face a turbulent business environment characterized by high volatility of the price of their main input, namely maize, and high food quality instability due to the spontaneous food fermentation process, which is the process of transformation of raw food by the activity of microorganisms into

processed food with other, more desirable properties. Due to market and production-related uncertainties and the dynamicity of their business environment, women entrepreneurs producing fermented foods in Benin need to constantly adapt their business model to enhance their resilience and achieve competitive advantages.

Individual women entrepreneurs who produce and sell fresh *mawè*, a traditional fermented maize-based food, are at the centre of this research. Fermented foods were chosen because selling such food is one of the most common types of informal entrepreneurship conducted by women in Benin. These daily foods support food and nutrition security by providing economic opportunities for the actors involved (Materia et al. 2021). Selection of such a typical case suggests that results are valid for Benin and potentially other Global South countries in which participation of women in the informal food sector is high. Yet, entrepreneurs must be able to dynamically adapt their business models to all kinds of situations that affect their firms such as shocks, crises, or challenges posed by internal and external factors. For instance, the fermentation process by microorganisms in these foods makes their quality unstable and gives them a short shelf life compared to many industrial foods. This is a challenge for fermented food firms whose actors have to produce the right quantity and sell their foods before they spoil. Moreover, these foods rely on maize as raw material, and the price of this commodity fluctuates. In 2021, climate change caused a severe unanticipated drought, and so impacted the production of maize to such a degree that an appreciable number of maize-based firms collapsed. Consequently, successfully meeting consumer demands over the years may require changes in the business model. As enhancing the affordability, accessibility, and availability of fermented foods contributes to increased food and nutrition security, it is relevant to understand how to strengthen the resilience of women entrepreneurs in the context of the challenges in which they run their businesses.

3.3.2 Data collection

To collect data on the resources, the DCs in business model innovation, and shocks in the traditional fermented food sector, for resilience, we follow Schilke (2014) and Olthaar et al. (2019), and design three stages of data collection: exploratory data collection, focus group discussions, and a survey.

Exploratory data collection and focus group discussions

The exploratory data collection comprised semi-structural interviews with scientific experts in food technology and social sciences, and with women experts in fermented food production and trade in Benin. The goal was to determine whether fermented food actors are facing any shocks or challenges, which fermented foods business our study should focus on, and in which regions of the country to collect the data. Shocks and challenges are not uncommon among fermented food producers and traders. Although there are many fermented foods in Benin, we have identified the fresh maize-based fermented food *mawè* in southern Benin as our research focus. This food, for its characteristics and the settings in which it is processed, provided us with the opportunity to explore interesting resilience strategies related to food production and sales. Being produced by a large number of women in southern Benin, we could access a considerable basin of observations and relevant insights. After the exploratory data collection, the first author of this paper conducted focus group discussions with 8 groups of 4 to 10 women entrepreneurs of fermented foods. Following insights from the literature and the discussion with scientific experts in food technology and social sciences in Benin, 8 municipalities where *mawè* is produced and sold were chosen. A focus group was run in each of these municipalities. Upon arrival to the municipality, the first author started by identifying one woman entrepreneur of the selected fermented food. Next, with the help of the population, and/or this first woman, she identified a panel of women entrepreneurs. Together, they discussed in a group what their shocks were, and what resources, capabilities, and strategies they used to face these challenges and be resilient.

Survey

The last step of the data collection was a survey. We drafted a questionnaire for data collection to analyse the research model and test the hypotheses. After the exploratory research and the focus group discussions, we slightly edited the first draft of the questionnaire to reflect on the insights we derived from the previous steps. The focus was then on the shocks in the fermented foods business, namely the internal shocks to fermented food production/processing, such as the short shelf life of the fermented food due to the ongoing fermentation by the microorganisms, and market shocks such as fluctuations in the input price, the tremendous competition, and the financial crisis preventing selling and buying. We chose the respondents by applying the snowball technique with

a pre-defined plan to avoid bias (Ingenbleek, Tessema, and van Trijp 2013). We asked the entrepreneurs questions about their human and financial resources, the deployment of DCs in their business models, and their weekly financial performances. We used weekly data as market days are commonly on a weekly or five-day basis, even though some women sell every day. This supports accurate data as women entrepreneurs do not regularly take notes. Measurements were with a five-point Likert scale, from very low (1) to very high (5) for the possession of resources and use of DCs. As more than 50% of the respondents were illiterate, we used smiling face emoticons to explain the scales to the respondents (Ingenbleek, Tessema, and van Trijp 2013). The respondents were the managers/entrepreneurs of fermented food called *mawè* who consented to participate after being informed about the study. The characteristics of the respondents are in Table 1.

Table 3.1 Descriptive statistics of the respondents

		Age (yrs.)	Employees (nr.)	Weekly sales (FCFA) 655 FCFA= €1	Education level (yrs.)	Total business experience (yrs.)
Percentiles (%)	25	37	0	20,000	no education	8
	50	42	0	45,000	no education	16
	75	51	1	97,000	6 years	25
Minimum		20	0	3,000	no education	1
Maximum		89	12	1,200,000	16 years	55

Two professional assistants digitally collected the data with tablets, using the software Kobo Collect. We selected these data collectors based on criteria such as understanding of the local language, knowledge of the fermented food business, experience in data collection, and knowledge of the sites/location of the data collection field. A professional statistician was also associated with the data collection. Amongst others, he controlled the data collectors to ensure that they followed the data collection plan, supported in solving some issues on the field, gave field directions, and reported on the weekly progress of the data collectors to keep them motivated and on track. The quantitative data was collected between September and October 2021 for 5 consecutive weeks. This resulted in the survey of 355 entrepreneurs of *mawè* in all six regions in South Benin where fermented foods are commonly consumed (see Maps in Figure 2). The survey was administered in the local languages of the entrepreneurs. The first author supervised the entire process of the data

collection, trained the data collectors, did the pre-test with the data collectors, and did daily field supervision on how the questionnaire was administrated and controlled during the first week of the collection. That author daily checked the quality of the data sent to the Kobo toolbox dashboard and sent daily feedback by phone calls and WhatsApp group messages to the data collection team. During the rest period of the data collection, there were weekly meetings in person with the complete data collection team for information updates and sharing. Meanwhile, the author made several field visits weekly and supervised the way the questionnaire was administrated to the interviewees. At the end of the data collection, the team of data collectors, the data controller, and the supervisor had a debriefing.

From the 355 entrepreneurs surveyed, we removed outliers, missing data, and data from some other actors like millers, processing service providers, and some re-sellers who were not facing the same challenges as the women processors and traders of *mawè* for applying the same resources and DCs. The final sample size consisted of 268 women entrepreneurs.

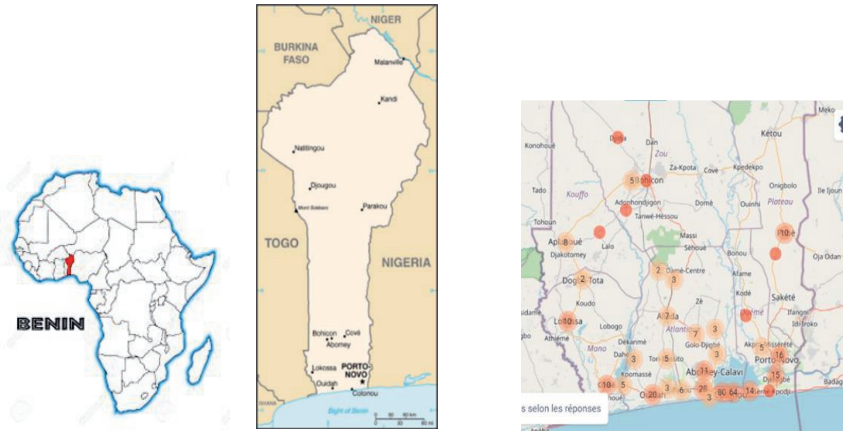

Figure 3.2 Maps of Africa, Benin, and South Benin with data collection sites

Variables and measures

Dependent variable. The dependent variable in this study is the 'firm's competitive performance'. We draw from the definition of competitive advantage (Schilke 2014) to conceptualize competitive performance in this study as the difference between the business performance of the individual women interviewed and the average business performance of the sample. The dependent variable Business Performance is measured by three objective financial performance indicators (Dawes 1999; Dess and Robinson 1984; Etriya et al. 2018; Zulkiffli 2014), namely the weekly quantity of the input, i.e. maize for processing, the price of the weekly input, the weekly sales of the fermented food -*mawè*-, which all indicate the revenue (Dolfsma and van der Eijk 2016). They are all reflective indicators of the performance variable and valid proofs of the revenue and profit, and were used because many women could not give all the details about overall business costs. We base our measurement of a firm's competitive performance on the indicators of the performance variable to compute the competitive performance indicators.

- Competitive sales = Total sales of a particular woman entrepreneur over the last week minus the average sales of the product over the same week by all women entrepreneurs of the sample
- Competitive quantity of food produced = Quantity of raw material processed by a particular women entrepreneur over the last week minus the average quantity processed over the same week by all women entrepreneurs of the sample
- Competitive price of input = Price of raw material processed by a particular women entrepreneur over the last week minus the average price of input used over the same week by all women entrepreneurs of the sample.

Independent variables

Resources: human resources. This study measures the variable human resources based on four reflective indicators relative to the possession of knowledge, the training received, and the relationship with customers (Esparcia 2014; Etriya et al. 2018; Mozumdar et al. 2022; Pindado et al. 2018), namely, the knowledge of the fermented food business, the training received in food business processing and selling, and the ability to keep contact with customers. The degree of possession of these resources is measured with a five-point Likert Scale from a very low extent (1) to a very high extent (5). For a better understanding by the interviewees, we used smileys of a

woman's face with different expressions to explain the scale (Ingenbleek, Tessema, and van Trijp 2013).

Resources: financial resources. The financial resource in this study is the total amount of money that the women dispose of for their fermented food business. In Africa, small firms do not have sufficient finance needed to grow their business; thus, the sufficiency of financial resources would increase their financial performance (Mozumdar et al. 2022; World Bank 2019). In this study, we use a subjective variable of financial resources by inquiring about the extent to which the total amount of money the entrepreneurs have for their business is sufficient for their current business. Women responded to the question by choosing a smiley from a set that ranged from 1 (exuberant frowning face = my total financial resource is very insufficient for my business) to 5 (exuberant smiling face = the total financial resource of my business is very sufficient). As retrieving reliable information about amounts is difficult, using visuals helped to collect such information.

Mediation variable: Dynamic Capabilities (DCs). The mediation variables are DCs in business models; we based on the questions used by Lin and Wu (2014) to conceptualize the indicators of DCs and we adapt them to the context according to the information collected during the focus group on business model innovation in shocks. We developed eight items to measure the DCs and used a five-point Likert scale to capture the extent to which women deploy the items of the DCs. These are dynamic anticipation of raw material price trends, dynamic efficient communication with my raw material providers, dynamic responses strategies to my competitors, Change of food price dynamically / adjust price, Change food technology dynamically, Observe input price trends dynamically, Check the quality of food I sell dynamically, Check the quantity of food I sell dynamically. After performing factor analysis to explore the extent to which the items are loaded to the DCs, we finally have five indicators of DCs. The indicators are *Change food price dynamically/adjust price*, *Change food technology dynamically*, *Observe input price trends dynamically*, *Check food quality dynamically*, *Check food quantity dynamically*. The factor loadings of these items are in the appendix, Table A1.

Control variables

The total years of experience, age of entrepreneurs, level of formal education, and the size of the firm expressed by the number of employees are used as control variables. Some previous studies have used the same indicators as control variables (Dolfsma and van der Eijk 2016; Eikelenboom and de Jong 2019; Etriya et al. 2018, 2019). They might all affect the relationship resources, DCs, and competitive performance. Business experience, age, and education are proxies of human resources while size is a proxy for physical and financial resources (Etriya et al. 2018, 2019; Mozumdar et al. 2018; Mozumdar et al. 2022). For example, an increase in age will increase financial performance but can also decrease performance when entrepreneurs become old and weak. Likewise, a good experience is advantageous for the fermented business and will positively impact financial performance. Higher education can also make entrepreneurs more adaptive to change in their business environment (Etriya et al. 2019).

3.4 Analysis and Results

In the following, we report the strategy adopted for the analyses performed and our results. Specifically, we performed a structural equation model. Before that, we checked the reliability and validity of the measurement model and how the measurement model fits. Descriptive statistics can be found in the appendix (Table A2) together with the correlations.

3.4.1 Measurement model

Reliability and validity of the constructs. Each construct was evaluated based on its reliability and validity. Our constructs are reflective, so we use (1) Cronbach's Alpha (CA), which represents the internal construct consistency, and (2) the composite reliability (CR) to evaluate their reliability (Collier 2020). The results for CA and CR, with their acceptable values are reported in Table A1 in the appendix. We did not perform this check for the financial resources as it is a manifest variable, which is observed and measured directly. The validity of the reflective constructs is determined by the convergent validity and the discriminant validity. The convergent validity is evaluated with the factor loadings of items to construct (which should be higher than 0.6), and the average variance extracted (AVE), which should be higher than 0.50 (Collier 2020). AVE indicates the amount of variance explained by the construct. We tested the convergent validity of the constructs following Anderson and Gerbing (1988). The factor loadings and the AVE are all

greater or equal to 0.62 and 0.57, respectively. All the results are reported in Table A1 in the appendix. Finally, to assess the discriminant validity, we checked the heterotrait-monotrait ratio of correlations (HTMT). The HTMT technique is another method of determining discriminant validity. It examines the correlations within construct indicators and the correlations of indicators across constructs. The result of HTMT should be less than 0.85 (Collier 2020) to show that discriminant validity is established and pairs of constructs are distinctively different from one another. Table A3 in the appendix shows the results of the discriminant validity, highlighting the values of the HTMT of the pairs of constructs. The results support the discriminant validity of each of the constructs, as the HTMTs are far lower than 0.85. Therefore we conclude that each construct of our study was unique and captured phenomena that other measures did not.

Measurement model fit. We also performed Confirmatory Factor Analysis (CFA) with the latent variables (Table A4) and found that all indices meet the respective criteria (Chi-square=137.051, $p<0.001$; DF (degree of freedom)=46; CMIN/DF=2.979; NFI=0.963; CFI=0.975; TLI=0.965; IFI=0.975; RMSEA=0.086, which show that the measurement model fits the data well. The results of the overall fit of the measurement model and the other indicators of the measurement model show that the measurement model is suitable for further examination.

3.4.2 Assessment of common method bias.

We checked whether common method bias is a concern in our study as our data were collected based on self-reported information, so there is the potential for the occurrence of such a bias (Krishnan, Martin, and Noorderhaven 2006). With SPSS, we used Harman's single-factor test, and we found that the total variance explained was 34.9%, indicating that there is no common method bias.

3.4.3 Structural model measurement.

This research tested our study model (Figure 1) in AMOS software, a user-friendly program tied to SPSS that uses a graphical interface for input (Collier 2020). Checking the overall model fit, we got CFI, TLI, NFI, IFI, all greater than 0.95, and CMIN/DF=2.68, which indicate an excellent structural model fit result.

The direct effect of human resources, financial resources, and dynamic capabilities on competitive performance. Table 2 reports the results obtained when analysing the direct effect of financial resources, human resources, and DCs on competitive performance. We found that human resources, financial resources, and DCs each positively affect competitive performance. This supports hypotheses 1a, 1b, and 2. We tested several models, first without control variables (Model A in Table 2), and subsequently each time by adding some control variables until we reached Model E, which contains them all. Model E supports hypotheses 1a, 1b, and 2.

Table 3.2 The direct effect of dynamic capabilities, financial, and human resources on competitive performance of firms run by existentially challenged women entrepreneurs

	Model A: no CV (Control Variable)	**Model B: Experience as CV**	**Model C: Experience and Age as CV**	**Model D: Experience, Age, and Size as CV**	**Model E: Experience, Age, Size, and Education as CV**	
Paths			**Coefficient** (t-value)			**Conclusion**
H1a: Human resources → competitive performance	7.821** (26.269)	73.079* (29.665)	66.789* (29.262)	68.745* (28.822)	65.896* (29.805)	√
H1b: Financial resources →competitive performance	35.916* (15.452)	36.148* (15.487)	37.371* (15.241)	32.204* (14.974)	32.103* (14.968)	√
H2: D. capabilities → competitive Performance	22.614* (9.522)	22.830* (9.53)	21.371* (9.37)	22.186* (9.153)	22.998* (9.157)	√

*Significance at 5% level.

** Significance at 1% level

The indirect effect of human and financial resources on competitive performance through DCs. The results of the indirect effect of human and financial resources on competitive performance with the control variables are in Table 3. We have a stable result with the control variables in the model. Human resources support the deployment of DCs and then affect the competitive performance through DCs. In contrast, financial resources cannot support the development of DCs, and so cannot affect competitive performance through DCs. Based on our results, we argue that

human resources and competitive performance are partially mediated by DCs, showing support for H3a, while DCs do not mediate the positive effect of financial resources on entrepreneurs' competitive performance, which implies rejecting H3b.

Table 3.3 The indirect effect of resources on competitive performance through dynamic capabilities of firms run by existentially challenged women entrepreneurs

Paths	Coefficient	Confidence interval		p-value	Conclusion
		Lower	Upper		
H3a: Human resources →D. capabilities →Competitive Performance	28.651	10.76	57.83	<0.01	√
H3b: Finance →D. capabilities →competitive performance	-3.973	-12.34	0.28	>0.05	x

3.5 Discussion and Conclusion

5.5.1 Discussion

To the best of our knowledge, our research is the first to analyse how informally operating, existentially challenged, women entrepreneurs in the Global South build resilience by being able to innovate their business models (BMs) if and when confronted with a shock. We provide three theoretical contributions, of which especially the third contribution, about the interplay between resources and DCs, is noteworthy. Overall, what is common about our three theoretical contributions is that they underscore the need to contextualize the contribution of both resources as well as dynamic capabilities for business model innovation.

First, related to resources, both human and financial resources allow for business model innovation, enhancing competitive performance for small firms facing a shock. Our qualitative-formative- data and particularly quantitative data show that human and financial resources are both very important for small firms of existentially challenged women entrepreneurs. These VR resources are used by the existentially challenged women entrepreneurs to directly achieve superior performance, contributing to the extant research (Mozumdar et al. 2022). This is contrary to what some studies on formal and large-scale firms operating in developed economies find, in particular, that financial resources are non-Valuable and non-Rare resources (Lin and Wu 2014)

and therefore should not lead to superior performance (Barney 1991; Lin and Wu 2014). Our quantitative analyses show that in particular *human* resources convey competitive performance (cf. Barney 1991): existentially challenged women entrepreneurs in the Global South with human resources perform better. We surmise that what resources exactly are important for firms to perform well is to be determined *empirically* and depends critically on contextual factors. Indeed, theories developed based on research in developed economies may have implied socioeconomic conditions that are not similar (enough) to developing economies (Lin and Germain 2003). Therefore, the mainstream research on formal entrepreneurship is not directly generalizable to informal entrepreneurship in the Global South.

Our second contribution concerns the role of DCs in improving competitive performance. In line with previous research, that focused really on medium and large firms and DCs (Lu et al. 2010), dynamic BM capabilities really improve the performance of very small-scale, informal women enterprises during shocks. While it is thought that small-scale (women) entrepreneurs do *not* have the capabilities to overcome shocks as medium and large firms do, we find that adaptive and proactive (flexible) dynamic capabilities allow these existentially challenged female entrepreneurs to innovate their business models and thus Innovation help women entrepreneurs to create or maintain superior firm performance (Hitt, Keats, and DeMarie 1998; Teece 2018). We suggest that our findings for small-scale entrepreneurs in the food industry in one country in the Global South, a country where food and nutrition security is not a given, are representative of other developing economies and other processing industries that share similar characteristics as this country and industries. Dynamic business model innovation capabilities, such as having the technology, connections and knowledge to gather information about market developments, directly increase the performance of firms as well as their ability to adapt their business model. They allow firms to determine, for instance, when to acquire how much raw material input of what quality (Arinloye et al. 2013). Having the creativity to change the product offering, as another example, can make a difference between feeding and schooling a family, or the hunger and devastation that comes with business failure.

Thirdly, perhaps our most important contribution comes from analysing the mediating role of dynamic BMI capabilities in between human and financial resources on the one hand, and competitive performance on the other hand. With Lin and Wu (2014), who studied large firms in developed economies, we find that DCs can but need not significantly mediate between VRIN

resources on the one hand, and competitive performance on the other hand. Financial resources, notably, valuable and rare for existentially challenged women entrepreneurs in the Global South, only have a direct influence on competitive performance. Financial resources do not contribute to the development of dynamic capabilities in the circumstances that we study. Human resources, also valuable and rare, by contrast, increase firm performance both directly as well as indirectly as they enhance dynamic BM capabilities. We, thus, show that, while valuable and rare, some resources can activate business model innovation, but others may not.

Thus, the combination of resources and DCs, as the RBV and DCs approaches suggest, offer resilience 'ingredients' that allow entrepreneurs to innovate their business model when they face shocks that challenge their performance. Consistent with the viewpoint about resilience as an ability to adjust when faced with a shock to retain competitive performance (Conz and Magnani 2020; Hollnagel 2013; Pal, Torstensson, and Mattila 2014; Smallbone et al. 2012), we suggest conceiving of competitive performance as a result of deploying resilience resource and capabilities 'ingredients' (Conz and Magnani 2020). What resources and capabilities to deploy, and in what combination, as an entrepreneur, to adapt one's BM when faced with shocks, we suggest, is highly context-dependent.

3.5.2 Conclusions and implications

Our study proposes a framework for understanding how women's small firms operating in a turbulent business context characterized by shocks prepare, withstand and resist shocks, gaining competitive performance by relying on the use of resources and dynamic BMI capabilities. The research empirically shows how particularly human and financial resources support the achievement of competitive performance of small-scale firms, as well as how dynamic BM capabilities positively mediate the impact that human resources have on enhancing competitive performance. Our investigation adds value to the existing RBV and DC approach by adapting them to the business model innovation of women's small-scale firms in the challenging context of shocks in the Global South. So far, these RBV and DC theories have mostly been applied to large firms and a few medium-scale firm cases (Barney, Wright, and Ketchen 2001; Lu et al. 2010). Applying these two theoretical perspectives in an integrated manner to the understanding of how small food firms operating in challenged environments sustain their competitiveness and by this develop resilience to shocks points out the efficiency of dynamic BM capabilities, and financial

and human resources in enhancing performance. It also supports the argument that dynamic BM capabilities play a mediation role in enhancing the positive impact that in particular deploying human resources has on achieving competitive performance. Previous studies indicated that financial resources are a non-rare and non-valuable resource, which on its own cannot lead to competitive performance. Our investigation shows that financial resources are important in the Global South, especially for existentially challenged women entrepreneurs, but not sufficient to leverage the enhancement of BM capabilities supportive of competitive performance in a context of shocks. As Benin has many features in common with other countries in the Global South, findings from our study provide important implications for women's small firms in the Global South (Li and Zhou 2010).

This paper provides suggestions for practitioners and policy implications. Our study shows that financial resources, human resources, and business model innovation are important to continue high performance in the face of a shock. However, human and financial resources are not widely available among women entrepreneurs in the Global South. The lack of these resources (finance, business training and experience, food technology training and experience) is an important factor highlighted in the existing literature on existentially challenged women entrepreneurs. Entrepreneurial and traditional food technology courses could be offered formally and informally to women entrepreneurs in disadvantaged areas to help them improve their ability to adapt to shocks and remain competitive. Awareness programs can be conducted by the government, private organizations, and NGOs to educate women entrepreneurs from disadvantaged areas about shocks in business and the adaptation strategies needed to outperform.

3.5.3 Limitations

We would highlight one and suggest future research directions to address this. Our study does not provide insights into the effects of specific shocks on business performance, treating all experienced shocks equally (Meuwissen et al. 2019). Different shocks may, however, impact business in different ways and thus require different (combinations of) resources and capabilities as resilience 'ingredients' to adapt a business model to retain or regain firm performance. Focus on a specific disturbance with the use of a 'before and after' study design may address this shortcoming.

3.6 Appendices

Table 3.A1 Result summary for the measurement model

Latent variables	Indicator	Internal consistency Reliability		Convergent validity	
		Composite Reliability (CR) (0.6-0.9)	Cronbach Alpha (CA) (0.6-0.9)	Loadings (>0.6)	AVE (>0.5)
Human resources		0.84	0.81		0.57
Knowledge in Business	H1			0.72	
Training in production	H2			0.78	
Training in selling	H3			0.89	
Ability to keep contact with customers	H4			0.62	
Dynamic capabilities		0.90	0.89		0.66
Change price dynamically/adjust price	DC1			0.84	
Change technology dynamically	DC2			0.84	
Observe price dynamically	DC3			0.84	
Check quality dynamically	DC4			0.86	
Check quantity dynamically	DC5			0.70	
Performance		0.99	0.61		0.98
Competitive quantity	Perf1			0.99	
Competitive price maize	Perf2			0.99	
Competitive sale	Perf3			1	

Table 3.A2 Descriptive statistics

			Correlations													
	Variables	Mean	Std. deviation	1	2	3	4	5	6	7	8	9	10	11	12	13
	Human resources															
1	H1_ To what extent would you describe your knowledge in the business of your *mawè*?	3.84	0.83	1												
2	H2_ To what extent would you describe the training you have received on the production of *mawè*?	3.79	0.86	0.409	1											
3	H3_ To what extent would you describe the training you have received on the selling of *mawè*?	3.66	0.95	0.628	0.7	1										
4	H4_ To what extent would you describe how you have built / maintained contacts with your customers?	3.81	0.82	0.477	0.42	0.49	1									
	Financial resources															
5	F_To what extent is sufficient the total financial resource amount you have for your business of fermented food	2.19	0.68	-0.097	-0.16	-0.13	-0.08	1								

	Dynamic capabilities														
6	DC1_I bring a rapid change to my food product price in response to the fluctuation of the price of the raw material	3.42	1.4	0.321	0.35	0.32	0.41	-0.21	1						
7	DC2_ I rapidly change my food production technology or the type of my food in response to fermentation to avoid it perishes.	3.34	1.58	0.262	0.31	0.34	0.3	-0.2	0.72	1					
8	DC3_ I actively monitor /follow the raw material (maize) price trends.	3.68	1.31	0.287	0.3	0.25	0.42	-0.05	0.71	0.7	1				
9	DC4_ I regularly check/oversee the quality of my product to insure it stays in good quality and the best (in comparison with my competitors)	3.51	1.19	0.237	0.32	0.34	0.34	-0.08	0.67	0.7	0.71	1			
10	DC5_ I regularly check the quantity per unit of price of my product in comparison with my competitors	3.34	1.46	0.406	0.19	0.34	0.28	-0.15	0.53	0.49	0.47	0.63	1		

	Competitive performance															
11	Perf1_Competitive quantity of maize used	0.0026	2.62	0.18	0.174	0.21	0.21	0.08	0.16	0.11	0.2	0.2	0.24	1		
12	Perf2_Competitive price of maize used	-2E-04	67.37402	0.209	0.196	0.235	0.225	0.06	0.21	0.16	0.23	0.23	0.27	0.98	1	
13	Perf3_Competitive sale (turnover)	0.0013	178.2209	0.196	0.186	0.222	0.216	0.075	0.183	0.133	0.22	0.217	0.259	0.99	0.99	1

Table 3.A3 The heterotrait-monotrait ratio of correlations (HTMT)

Pairs of constructs	**HTMT**
Human resources and Dynamic capabilities	0.294
Human resource and competitive performance	0.166
Dynamic capabilities and performance	0.158

Table 3.A4 CFA results for the model measurement

Measure	**Estimate**	**Threshold**	**Interpretation**
Chi-square	137.051	-	
DF (degree of freedom)	46	-	
CMIN/DF	2.979	Between 1 and 3	Excellent
CFI (Comparative Fit Indice)	0.975	>0.95	Excellent
TLI (Tucker-Lewis index)	0.965	>0.95	Excellent
NFI (Normed Fit Index (NFI)	0.963	>0.95	Excellent
IFI (Incremental Fit Index)	0.975	>0.95	Excellent
(RMSEA) Root Mean Square Error of Approximation	0.086	- If 0.08 or less; - Value >0.1 is a poor fit	Adequate fit

Table 3.A5 Correlations: (Group number 1-Default model)

		Correlations	Estimate
Performance	<-->	Human_R	.261
Performance	<-->	D_Capabilities	.244
Human_R	<-->	D_Capabilities	.488

3.7 References

Abdelkafi, N., S. Makhotin, and T. Posselt. 2013. "Business model innovations for electric mobility—what can be learned from existing business model patterns? " *International Journal of Innovation Management* 17 (1): 1340003.

Akkermans, J., S. E. Seibert, and S. T. Mol. 2018. "Tales of the unexpected: Integrating career shocks in the contemporary careers literature." *SA Journal of Industrial Psychology* 44 (1): 1-10.

Anderson, J. C., and D. W. Gerbing. 1988. "Structural equation modeling in practice: A review and recommended two-step approach." *Psychological Bulletin* 103 (3): 411–423.

Arinloye, D-D. A. A., A. R. Linnemann, G. Hagelaar, O. Coulibaly, and O. S. W. F. Omta. 2013. "Taking Profit from the Growing Use of Mobile Phone in Benin: A Contingent Valuation Approach for Market and Quality Information Access." *Information Technology for Development* 21 (1): 44-66.

Assouma, K. 2019. *Analyse de la dynamique de l'économie informelle au Bénin*. Cotonou: Editions COPEF.

Baker, T., and R. E. Nelson. 2005. "Creating something from nothing: Resource construction through entrepreneurial bricolage." *Administrative Science Quarterly* 50 (3): 329-366.

Barney, J. 1991. "Firm resources and sustained competitive advantage." *Journal of Management* 17 (1): 99-120.

Barney, J., M. Wright, and D. J. Ketchen. 2001. "The resource-based view of the firm: Ten years after 1991." *Journal of Management* 27 (6): 625-641.

Bénin. 2020. *COVID-19 Impacts Socio-économiques au Bénin*. Retrieved from https://insae.bj/actualites/214-enquetes-realisees-par-l-institut-national-de-la-statistique-et-de-l-analyse-economique-dans-le-cadre-de-l-evaluation-des-impacts-socio-economiques-de-la-covid-19-au-benin

Block, J. H., K. Kohn, D. Miller, and K. Ullrich. 2015. "Necessity entrepreneurship and competitive strategy." *Small Business Economics* 44 (1): 37-54.

Brown, S.L., and K. M. Eisenhardt. 1998. *Competing on the edge: Strategy as structured chaos*. Brighton, Massachusetts: Harvard Business Press.

Carayannis, E. G., E. Grigoroudis, S. Sindakis, and C. Walter. 2014. "Business model innovation as antecedent of sustainable enterprise excellence and resilience." *Journal of the Knowledge Economy* 5 (3): 440-463.

Collier, J. 2020. *Applied structural equation modeling using AMOS : basic to advanced techniques.* New York: Routledge.

Conner, K. R., and C. K. Prahalad. 1996. "A resource-based theory of the firm: knowledge versus opportunism." *Organization Science* 7 (5): 477–501.

Conz, E., and C. Magnani. 2020. "A dynamic perspective on the resilience of firms: A systematic literature review and a framework for future research." *European Management Journal* 38 (3): 400-412.

Corvello, V., V. Straffalaci, and L. Filice. 2022. "Small business antifragility: how research and innovation can help survive crises and thrive." *International Journal of Entrepreneurship and Innovation Management* 26 (3-4): 252-268.

D'Aveni, R. A., G. B. Dagnino, and K. G. Smith. 2010. "The age of temporary advantage." *Strategic Management Journal* 31 (13): 1371-1385.

D'Aveni, R. 1994. *Hypercompetition: Managing the Dynamics of Strategic Maneuvering.* New York: Free Press.

Dawes, J. 1999. "The relationship between subjective and objective company performance measures in market orientation research: further empirical evidence." *Marketing Bulletin - Department of Marketing Massey University* 10: 65-75.

Dess, G. G., and R. B. Robinson. 1984. "Measuring organizational performance in the absence of objective measures: the case of the privately-held firm and conglomerate business unit." *Strategic Management Journal* 5 (3): 265-273.

Doern, R., N. Williams, and T. Vorley. 2019. "Special issue on entrepreneurship and crises: business as usual? An introduction and review of the literature." *Entrepreneurship and Regional Development* 31 (5-6): 400-412.

Dolfsma, W., and R. van der Eijk. 2016. "Network position and firm performance – the mediating role of innovation." *Technology Analysis and Strategic Management* 29 (6): 556-568.

Eikelenboom, M., and G. de Jong. 2019. "The impact of dynamic capabilities on the sustainability performance of SMEs." *Journal of Cleaner Production* 235: 1360-1370.

Eisenhardt, K. M., and J. A. Martin. 2000. "Dynamic capabilities: What are they?" *Strategic Management Journal* 21 (10-11): 1105-1121.

Esparcia, J. 2014. "Innovation and networks in rural areas. An analysis from European innovative projects." *Journal of Rural Studies* 34: 1-14.

Etriya, E., V. E. Scholten, E. F. M. Wubben, G. M. Kemp, and S. W. F. Omta. 2018. "The importance of innovation adoption and generation in linking entrepreneurial orientation with product innovation and farm revenues: the case of vegetable farmers in West Java, Indonesia." *International Food and Agribusiness Management Review* 21 (7): 969-987.

Etriya, E., V. E. Scholten, E. F. M. Wubben, and S. W. F. Omta. 2019. "The impact of networks on the innovative and financial performance of more entrepreneurial versus less entrepreneurial farmers in West Java, Indonesia." *NJAS–Wageningen Journal of Life Sciences* 89 (2019): 100308.

Galunic, D. C., and K. M. Eisenhardt. 2001. "Architectural innovation and modular corporate forms." *Academy of Management Journal* 44 (6): 1229–1250.

Hitt, M. A., R. D. Ireland, S. M. Camp, and D. L. Sexton. 2001. "Strategic entrepreneurship: entrepreneurial strategies for wealth creation." *Strategic Management Journal* 22 (6-7): 479-491.

Hitt, M. A., B. W. Keats, and S. M. DeMarie. 1998. "Navigating in the new competitive landscape: Building strategic flexibility and competitive advantage in the 21st century." *Academy of Management Perspectives* 12 (4): 22-42.

Hollnagel, E. 2013. *Prologue: The scope of resilience engineering. Resilience engineering in practice: A guidebook.* Aldershot, Ashgate Publishing.

Ingenbleek, P. T. M., W. K. Tessema, and H. C. M. van Trijp. 2013. "Conducting field research in subsistence markets, with an application to market orientation in the context of Ethiopian pastoralists." *International Journal of Research in Marketing* 30 (1): 83-97.

Krishnan, R., X. Martin, and N. G. Noorderhaven. 2006. "When does trust matter to alliance performance?" *Academy of Management Journal* 49 (5): 894-917.

Kuratko, D. F., and D. B. Audretsch. 2009. "Strategic entrepreneurship: exploring different perspectives of an emerging concept." *Entrepreneurship Theory and Practice* 33 (1): 1–17.

Li, D-Y., and J. Liu. 2014. "Dynamic capabilities, environmental dynamism, and competitive advantage: Evidence from China." *Journal of Business Research* 67 (1): 2793.

Li, J. J., and K. Z. Zhou. 2010. "How foreign firms achieve competitive advantage in the Chinese emerging economy: Managerial ties and market orientation." *Journal of Business Research* 63 (8): 856–862.

Lin, X., and R. Germain. 2003. "Organizational structure, context, customer orientation, and performance: lessons from Chinese state-owned enterprises." *Strategic Management Journal* 24 (11): 1131-1151.

Lin, Y., and L-Y. Wu. 2014. "Exploring the role of dynamic capabilities in firm performance under the resource-based view framework." *Journal of Business Research* 67 (3): 407-413.

Lu, Y., L. Zhou, G. Bruton, and W. Li. 2010. "Capabilities as a mediator linking resources and the international performance of entrepreneurial firms in an emerging economy." *Journal of International Business Studies* 41: 419–436.

Lumpkin, G. T., L. Steier, and M. Wright. 2011. "Strategic entrepreneurship in family business." *Strategic Entrepreneurship Journal* 5 (4): 285-306.

Materia, V.C., A. R. Linnemann, E. J. Smid, and S. E. Schoustra. 2021. "Contribution of traditional fermented foods to food systems transformation: value addition and inclusive entrepreneurship." *Food Security* 13(5): 1163-1177.

McKelvie, A., and P. Davidsson. 2009. "From resource base to dynamic capabilities: an investigation of new firms." *British Journal of Management* 20: S63-S80.

Meuwissen, M. P. M., P. H. Feindt, A. Spiegel, et al. 2019. "A framework to assess the resilience of farming systems." *Agricultural Systems* 176: 102656.

Miller, D., and I. Le Breton-Miller. 2017. "Underdog entrepreneurs: A model of challenge–based entrepreneurship." *Entrepreneurship Theory and Practice* 41 (1): 7-17.

Miklian, J., and K. Hoelscher. 2022. "SMEs and exogenous shocks: A conceptual literature review and forward research agenda." *International Small Business Journal* 40 (2): 178-204.

Moore, S. B., and S. L. Manring. 2009. "Strategy development in small and medium sized enterprises for sustainability and increased value creation." *Journal of Cleaner Production* 17 (2): 276-282.

Morais-Storz, M., and N. Nguyen. 2017. "The role of unlearning in metamorphosis and strategic resilience." *The Learning Organization* 24 (2): 93-106.

Morgan, H. M. 2020. *Underdog entrepreneurs: A framework of success for marginalized and minority innovators*. Cham: Palgrave Macmillan.

Morris, S., C. Carlos, G. M. Kistruck, R. B. Lount, and T. E. Thomas. 2023. "The impact of growth mindset training on entrepreneurial action among necessity entrepreneurs: Evidence from a randomized control trial." *Strategic Entrepreneurship Journal* 17 (3): 671-692.

Mozumdar, L., G. Hagelaar, V. C. Materia, S. W. F. Omta, G. van der Velde, and M. A. Islam. 2022. "Fuelling entrepreneurial orientation in enhancing business performance: Women entrepreneurs' contribution to family livelihood in a constrained context, Bangladesh." *The European Journal of Development Research* 35 (3): 623-655.

Mozumdar, L., S. W. F. Omta, G. Hagelaar, and V. C. Materia. 2018. *Entrepreneurship against the tide: business performance of women entrepreneurs in a constrained environment: a survey in Bangladesh.* PhD Thesis, Wageningen University, the Netherlands.

Nelson, R. 1991. "Why do firms differ, and how does it matter?" *Strategic Management Journal* 2 (S2): 61-74.

Oliveira Teixeira, E. de, and W. B. Werther. 2013. "Resilience: Continuous renewal of competitive advantages." *Business Horizons* 56 (3): 333-342.

Olthaar, M., W. Dolfsma, C. Lutz, and F. Noseleit. 2019. "Strategic resources and smallholder performance at the bottom of the pyramid." *International Food and Agribusiness Management Review* 22 (3): 365-380.

Onetti, A., A. Zucchella, M. V. Jones, and P. P. McDougall-Covin. 2012. "Internationalization, innovation and entrepreneurship: business models for new technology-based firms." *Journal of Management and Governance* 16 (3): 337-368.

Onibon Doubogan, Y. 2019. *Entrepreneuriat féminin et développement au Bénin*. Etudes africaines. Paris: L'Harmattan.

Pal, R., H. Torstensson, and H. Mattila. 2014. "Antecedents of organizational resilience in economic crises—an empirical study of Swedish textile and clothing SMEs." *International Journal of Production Economics* 147: 410-448.

Peteraf, M. 1993. "The cornerstones of competitive advantage." *Strategic Management Journal* 14 (3): 179–191.

Peteraf, M., and J. Barney. 2003. "Unraveling the resource-based tangle." *Managerial and Decision Economics* 24 (4): 309-323.

Pindado, E., M. Sánchez, J. A. A. M. Verstegen, and T. Lans. 2018. "Searching for the entrepreneurs among new entrants in European agriculture: the role of human and social capital." *Land Use Policy* 77: 19–30.

Priem, R. L., and J. E. Butler. 2001. Is the Resource-Based "View" a Useful Perspective for Strategic Management Research?" *The Academy of Management Review* 26 (1): 22-40.

Rijkers, B., and M. Söderbom. 2013. "The effects of risk and shocks on non-farm enterprise development in rural Ethiopia." *World Development* 45: 119-136.

Schilke, O. 2014. "On the contingent value of dynamic capabilities for competitive advantage: The nonlinear moderating effect of environmental dynamism." *Strategic Management Journal* 35 (2): 179-203.

Schneider, S., and P. Spieth. 2013. "Business model innovation: Towards an integrated future research agenda." *International Journal of Innovation Management* 17 (01): 1340001.

Shafia, M. A., S. Shavvalpour, M. Hosseini, and R. Hosseini. 2016. "Mediating effect of technological innovation capabilities between dynamic capabilities and competitiveness of research and technology organisations." *Technology Analysis and Strategic Management* 28 (7): 811-826.

Sirmon, D. G., M. A. Hitt, and R. D. Ireland. 2007. "Managing firm resources in dynamic environments to create value: Looking inside the black box." *Academy of Management Review* 32 (1): 273-292.

Smallbone, D., D. Deakins, M. Battisti, and J. Kitching. 2012. "Small business responses to a major economic downturn: Empirical perspectives from New Zealand and the United Kingdom." *International Small Business Journal* 30 (7): 754-777.

Teece, D. J. 2007. "Explicating Dynamic Capabilities: The nature and microfoundations of (sustainable) enterprise performance." *Strategic Management Journal* 28 (13): 1319-1350.

Teece, D. J. 2010. "Business models, business strategy and innovation." *Long Range Plan* 43 (2): 172-194.

Teece, D. J. 2018. "Business models and dynamic capabilities." *Long Range Planning* 51 (1): 40-49.

Teece, D. J., G. Pisano, and A. Shuen. 1997. "Dynamic capabilities and strategic management." *Strategic Management Journal* 18 (7): 509–533.

Thomas, H., and T. Pollock. 1999. "From I-O economics' S-C-P paradigm through strategic groups to competence-based competition: reflections on the puzzle of competitive strategy." *British Journal of Management* 10 (2): 127–140.

Vargo, J., and E. Seville. 2011. "Crisis strategic planning for SMEs: finding the silver lining." *International Journal of Production Research* 49 (18): 5619-5635.

Wang, C. L., and P. K. Ahmed. 2007. "Dynamic capabilities: A review and research agenda." *International Journal of Management Reviews* 9 (1): 31-51.

Wernerfelt, B. 1984. "A resource-based view of the firm." *Strategic Management Journal* 5 (2): 171-180.

Wernerfelt, B. 1995. "The resource-based view of the firm: ten years after." *Strategic Management Journal* 16 (3): 171–174.

World Bank. 2019. *Small and Medium Enterprises (SMEs) finance: Improving SMEs' access to finance and finding innovative solutions to unlock sources of capital* Retrieved from https://www.worldbank.org/en/topic/smefinance

Xu, W. 2022. "Social insurance and entrepreneurship: The effect of unemployment benefits on new-business formation." *Strategic Entrepreneurship Journal* 16 (3): 522-551.

Zott, C. 2003. "Dynamic capabilities and the emergence of intraindustry differential firm performance: insights from a simulation study." *Strategic Management Journal* 24 (2), 97–125.

Zulkiffli, S. N. A. 2014. "Business performance for SMEs: Subjective or objective measures?" *Review of Integrative Business and Economics Research* 3 (1): 391-401. Retrieved from http://buscompress.com/uploads/3/4/9/8/34980536/riber_k2011-194__391-401_.pdf

Chapter 4

Chapter 4. Mitigating Shocks for Women Entrepreneurs in Informal Agrifood Businesses: How do social networks support building resilience?

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Abstract:

Access to social resources has been recognized as critical for firms, especially during times when internal resources may be depleted or lacking to deal with shocks. However, little is known about how these resources are effective in the development of mitigation strategies for different types of shocks. A potential source of these resources are social networks. We examine what different resources are gained from social networks and how they are used to mitigate the various shocks women entrepreneurs in small agri-food informal businesses in Benin (West Africa) face. Our findings indicate that bonding networks (i.e., relationships with family and kinship) play a dual role, both as a source of shocks that threaten businesses continuity, and as a source of resources for resilience. When women entrepreneurs experience shocks, they immediately turn to their bonding networks and bridging networks (i.e., relationships with peers, entrepreneurs, and business partners) for resources to develop strategies that ensure business continuity and recovery. Linking networks (i.e., relationships with authorities, credit institutes, banks, extension services etc.) appear to be the cause of shocks to the informal women businesses rather than providing support, shocks which are only mitigated with bridging networks. In fact, bridging networks, particularly those involving competitors, appear to be more instrumental than bonding networks in providing resources and strategies to mitigate particularly institution-driven shocks caused by linking networks (e.g., sudden changes in regulations decided by governmental authorities). Indeed, when institution-driven shocks emerge and impact women's businesses, only the collaboration among bridging network members is effective in mitigating this type of shocks. However, except for the institution-driven shocks, both bonding and bridging networks are found to provide support for personal and business-related shocks (e.g., the death of a family member or the sudden increase in inputs prices).

Keywords: shocks, resilience, social networks, resources, agrifood businesses, institution-driven shocks

4.1 Introduction:

Resilience serves as the foundation for firms to overcome shocks, which can range from internal issues to external events including natural and human-induced disasters. Overcoming these shocks requires resources, which micro and small firms in emerging economies often lack or have limited access to. Specifically, their limited access to financial and human resources, as well as their lack of reliance on and experience with shock management plans, makes them particularly vulnerable to the shocks they face (Biggs et al., 2012; Ha et al., 2022; Hystad & Keller, 2008). Social resources play a crucial role in helping these organizations cope with shocks and implement resilience strategies. These resources serve as drivers and enablers of resilience, fostering the development of coping strategies (Aaker & Mascarenhas, 1984; Aalbers & Dolfsma, 2013; Duchek, 2019; Meuwissen et al., 2019). As specific shocks require specific resources and strategies, the resources and resilience strategies used vary depending on the type of shock (Su & Junge, 2023). Resilience involves the use of essential resources for appropriate action or rational decision-making to absorb and adapt to shocks (Mithani, 2020; Rao & Greve, 2018). Entrepreneurs who lack resources often seek support from their social networks, which provide essential social resources for their businesses (Penrose, 2009). Social networks, which connect individuals or organizations and provide access to information, business ideas, skills, and resources, serve as a support system for acquiring resources in a vulnerable environment (Biggs, 2011; Nahapiet & Ghoshal, 1997).

Most empirical research has examined business resilience as being outcome-focused (Lengnick-Hall et al., 2011) rather than as being a process. With a focus on a single specific type of shock such as a natural disaster (e.g., Islam and Walkerden, 2014; Nguyễn et al., 2023), most of the literature neglects the different forms shocks can take and the different implications their nature might have on the strategies needed to cope with them (Su & Junge, 2023). Examining how organizations develop resilience as a process to diverse shocks provides an understanding of how resources and resilience strategies are employed for each. Further insights can be gained by examining how social resources promote the development of resilience in businesses (Duchek, 2019). In particular, empirical evidence is needed on how social resources influence the development of resilience (coping) strategies against shocks (Duchek, 2019; Meuwissen et al., 2019).

Investigating the "how" requires examining the use of social resources for resilience using qualitative approaches rather than the usual quantitative ones. In addition, examining how social resources contribute to the resilience particularly of women-owned small businesses, is imperative to understand how existentially challenged women entrepreneurs[1] in turbulent contexts address the shocks to their business and guarantee business continuity. For these women, this means resources from social networks allow to continue their activity regardless the shocks they face, which will directly benefit income generation to support livelihoods. Most recent studies about shocks, social networks, social resources, and resilience are not specifically related to women entrepreneurship, however, they are insightful and contribute to the literature on this topic. Su & Junge (2023) contribute with a literature review study and suggest antecedents such as the severity of the shocks, individual-level resilience, group-level efficacy, organizational-level size, network-level structure and integration as determining the decision of what strategy to adopt when facing a shock and the outcome of resilience. According to Doern (2017), entrepreneurs could mitigate the impact of a human-induced, conflict-orientated shock on their companies in *England* in 2011 by relying on social resources provided by their networks. Pham et al. (2021) also studied the role of social networks in building business resilience to external shocks for small tourism and hospitality businesses. From the study, they proposed that multiple types of social networks, namely bonding, bridging and linking networks, can influence access to resources, and resources gained from social networks can assist survival and recovery from shocks. However, these propositions lack empirical testing in the study, which leaves a gap open in understanding whether they actually reflect reality. Additionally, Slijper et al. (2022) contributed to the topic by exploring how social capital combined with learning processes strengthens resilience in farming systems. Nguyễn et al. (2023), and Islam and Walkerden (2014) also investigated the role of social networks in resilience to disasters. Nguyễn et al. (2023) investigated how social networks influence disaster preparedness for earthquakes in Seattle (USA), while Islam and Walkerden (2014) investigated how bonding and bridging relationship contribute to disaster recovery from Cyclone Sidr in Bangladesh. To the best of our knowledge, none of these studies addresses how social resources acquired from women entrepreneurs' networks are used to access the resources needed to develop resilience strategies in

[1] existentially challenged women entrepreneurs are women who continually face shocks because of their lives and activities that are embedded in a multiple contexts that all generate shocks to them.

women-led informal food businesses. This leaves a critical gap in research, which implications on women business resilience using social networks are clearly relevant.

Our study addresses the gap in the literature by analysing how women entrepreneurs in small informal businesses obtain and utilize social resources from their social networks to develop strategies to mitigate the effects of the diverse shocks they may face. We look in particular at women entrepreneurs at the bottom of the pyramid who sell at home, in markets, and on the street. We argue that with limited internal resources, many women entrepreneurs may rely on their social networks for additional resources to address the numerous shocks they face in their challenging environments. Furthermore, as each social network is unique because of the type of actors it involves, and many types of social networks may be important for access to resources (Pham et al., 2021), we pose that not all social networks will provide the same type of resources needed to face any shock independently of its nature and origin, but rather some networks might be more useful than others depending on the type and nature of the shocks. Despite the importance of social resources in the literature, there is a lack of understanding of the specific resources needed to cope with each type of shocks, from whom these resources can be gained, and how they can be used for shocks mitigation, particularly for women entrepreneurs of small food informal businesses. Because women entrepreneurs usually operate in small and less profitable businesses sectors (OECD, 2022) and under strict social expectations on the multiple roles they are asked to perform (i.e., as entrepreneurs, wives, mothers, carers etc.), we think that they may experience specific shocks that require specific resources and strategies which they can only obtain from specific networks, as the resources and strategies used to cope with shocks may differ depending on the form of shocks (Su and Junge, 2023). To address this research gap, we conducted qualitative data analysis using exploratory interviews, focus groups, and semi-structured interviews with women working in the traditional fermented food industry.

The results of our research indicate that women entrepreneurs utilize both bonding networks (i.e. relationships with family and relatives) and bridging networks (i.e. relationships with peers entrepreneurs and business partners) as a means to cope with any shocks that may arise, while linking networks (i.e. relationship with banks and insurers and city governments) seem to only rather cause additional shocks. Notably, our study reveals that bonding networks serve as a valuable source of resources, despite also presenting potential sources of shocks. Bridging

networks, on the other hand, play a crucial role in the implementation of resilience strategies in every shock, even those caused by linking networks. They appear to be of greater importance than bonding networks. Our study offers valuable insights into the manner in which social networks alleviate the vulnerability caused by shocks to women entrepreneurs. By filling a gap in existing literature and highlighting the significance of collaboration within entrepreneurial communities, our research contributes to a more refined understanding of the importance of each social network in mitigating shocks to women entrepreneurs operating in the informal food sector. Our findings provide recommendations for policy interventions that can help ensure the livelihoods, economic empowerment, and food security of these individuals in the Global South.

4.2 Theoretical framework: shocks, resilience, and networks

4.2.1 Shocks and resilience

Shocks are challenges, adversities, disruptive events, disasters, disturbances, or threats (expected or unexpected, internal or external to the business) that entrepreneurs perceive as a crisis of their organization and that require strategies, resources, and capabilities to overcome (Akkermans et al., 2018; Doern et al., 2019; Meuwissen et al., 2019). The definition of shock varies in the literature depending on the context of the analysis. It is defined differently and ranges from a challenging event (Meuwissen et al., 2019) to a disruptive and extraordinary event (Akkermans et al., 2018). There are many classifications of shocks: context-specific shocks: social, environmental, institutional, etc. (Meuwissen et al., 2019); external/internal shocks to firms, human-induced shocks, personal shocks, etc. (Doern et al., 2019). To provide an overview of the different types of shocks, Su & Junge (2023) use three distinguishing criteria for shocks: their emergence, their novelty and their severity. Mithani (2020) distinguishes between life-threatening and livelihood-threatening shocks. Depending on the type of shock, the resilience responses and the resources used differ (Su & Junge, 2023). For example, entrepreneurs experience more emotional and physical setbacks in life-threatening events than in livelihood-threatening shocks, and this can affect the use of essential resources for appropriate action or rational sensemaking for the shock mitigation (Mithani, 2020; Rao & Greve, 2018).

In the business context, resilience is defined as the ability of a company to survive or grow after a crisis, often measured by increased sales or profits or by the use of positive and creative strategies,

such as expanding the customer base, hiring more employees or making strategic investments (Smallbone et al., 2012) or through business continuity (Iftikhar et al., 2021). Few studies examine the relationship between shocks and resilience as a response to shocks, even though researchers encourage the study of different types of shocks and resilience (Conz & Magnani, 2020; Su & Junge, 2023). Duchek (2020) proposes that social resources positively influence the resilience of organizations as they specifically foster the development of coping capabilities, however, the way these resources are obtained and used (as strategies) has not been addressed. Yet, empirical research is needed to investigate the resilience strategies to different types of shocks with social resources. Conz and Magnani (2020) distinguish types of firm (coping) resilience. However, they do not specify the type of resilience that corresponds to the different types of shocks (and how social resources can contribute to these resilience), but suggest this as a future line of research to be investigated. Su and Junge (2023) suggest that the types of resilience depend on the resources and capacities of the organisation and, most importantly, on the specific negative event (i.e., the shock). Furthermore, to the best of our knowledge no paper has so far analysed what social resources is necessary for developing resilience to what specific shock in the context of women entrepreneurs in informal business settings in the global south. A few studies show that women entrepreneurs benefit from linkages with their family as this allows for access to resources to start a business (Azmat and Fujimoto 2016; Randerson et al. 2023). The how this happens for what type of shock and with what type of network is our aim.

4.2.3 Social capital theory, social networks, and resources for small firms

Social capital theory offers valuable insights into how social networks contribute to resource access and resilience. According to Bourdieu (1986) and Coleman (1990), social capital refers to the resources embedded within social networks, including trust, norms, and connections, which enable individuals or businesses to access valuable resources that may not be readily available otherwise. Social capital underpins those social resources which are intangible assets (Field, 2017). To navigate challenges and enhance resilience, small businesses, rely heavily on their social networks to gain social resources, because of their limited resources and their vulnerability to shocks (Morrison, 1996; Sokolinskaya & Kupriyanova, 2015). Following the basic concepts of Granovetter (1973) and Uzzi (1996), Smith & Lohrke (2008) assert that a network is characterized by the composition of relationships and the quality of interactions within those relationships.

Social networks are commonly differentiated into networks of three kinds, based on the types of relationships people have with each other. These networks consist of bonding, bridging, and linking networks (Carpenter et al., 2012; Woolcock, 2001).

Bonding network consists of particularly close relationships with personal network. Commonly, bonding networks include relationship with close connections such as family, relatives, friends, and neighbours (Scott & Liew, 2012); however, because this study focus on women entrepreneurs who sell at home, market, and on the street, and may have their neighbours selling the same products, we define bonding networks as an entrepreneur's relationship with her household (husband, children) and relatives (sisters, mothers, in-laws, uncles, etc..), following Islam and Walkerden (2014). This bonding network provides quick but limited resource transfers (Aldrich & Meyer, 2015). The extent of support is rather limited as it depends on other individuals' capacity. Due to the homogeneity and closeness among actors, bonding networks also tend to be the most durable type of networks. They are far less likely to break down after shocks and continue to provide consistent benefits (Islam & Walkerden, 2014). In general, small businesses are characterized by limited resources and vulnerability to shocks, and so rely heavily on their social networks to navigate challenges and enhance resilience (Morrison, 1996; Sokolinskaya & Kupriyanova, 2015). Women entrepreneurs of small business, in particular, seem to struggle more when running a business: their position in society, with high expectations of their role as carer for their family (Huq et al., 2020), often "prescribes" and implies a limited access to resources such as funds and information. For women, bonding network (specifically, family) becomes possibly the closer if not the most accessible network to rely on in business (Azmat & Fujimoto, 2016; Mozumdar et al., 2019; Randerson et al., 2023). We expect therefore that family provides support for women businesses regardless of the type of shock they face: women draw resources from linkages with family for resilience to any shocks their business can face, as these are the most available networks for them. We propose:

Proposition P1: Bonding networks are available resources for the resilience to the shocks women businesses face.

Bridging network is the business network of the entrepreneur (Boso et al., 2013). Bridging networks, spanning across diverse social groups within the community, facilitate collaboration and knowledge sharing (Mair et al., 2016), such as professional relationships and alliances between the business and other actors in the market (Pham et al., 2021). In this study, bridging networks are defined as relationships with peer entrepreneurs selling the same product, the same group of products (similar products), a neighbour at the market, or business service or commodity provider. Bridging networks are horizontal relationships (Islam and Walkerden, 2014). Bridging networks might be in a better position to provide resources in business and economic settings. However, bridging networks may be volatile and can be weakened by competition or conflicting interests among parties (Islam & Walkerden, 2014). For a shock that affects the businesses of many entrepreneurs in a community (in this paper, we call it a collective shock), such as drought, flood, war, raw material price fluctuation, etc., resources with networks of peer entrepreneurs or social resources from community prove to be useful (Doern, 2014). From a network with business ties, women can get information and resources to navigate business-related shocks. For example, women entrepreneurs can form a strategic partnership to have access to finance, or training and so increase their business. Studies recognised market women as able to achieve essential collective action, such as credit and savings groups (Scheiterle & Birner, 2023), which they cannot get from formal institution. Consequently, we propose that during a collective shock that affects many women entrepreneurs, they may purposely collaborate by joining resources for a strong resilience, while collaboration might not be the effective strategy in the case of a shock that affects a single entrepreneur (individual shock) such as a personal issue.

> ***Proposition P2: Bridging networks are essential for collaborative resilience to mitigate collective shocks to business, while individual shocks are coped individually by entrepreneurs.***

Finally, linking networks connect businesses with powerful institutions such as banks and insurers and city government, albeit often requiring formal procedures (Torres et al., 2019). Linking networks are "vertical" relationships of businesses with organisations that have influence over their circumstances (Nakagawa & Shaw, 2004). They usually necessitate formal requirements and procedures which can be a huge barrier for women businesses that are usually are not formally registered and thus informal. Many factors such as the micro size of women enterprises, the small

profit the women get from their business, the lack of interest/incentive in a formal registration, often explained by their low educational level, may result in women staying in the informality, which reinforces their being invisible to the state and to any formal way of support. Consequently, not having a formal enterprise that is recognised as such by the government state would prevent entrepreneurs from benefitting from the resources that formal institutions (e.g. credit from financial institutions, capacity strengthening) might provide to support them implementing resilience in the face of any type of shock. Consequently, linking networks will not provide resources for women business resilience, and because of lack of linking networks, women must rely on their bonding and bridging networks to boost their resilience. This is because bonding networks are usually the most available and durable ones (Islam & Walkerden, 2014), and bridging networks are essential for resources exchanges between business partners (Scheiterle & Birner, 2023). These networks will not entirely provide the resources that linking networks are supposed to give to the women entrepreneurs, but they can help to some extent.

Proposition P3. Because of lack of linking networks, women must rely on their bonding and bridging networks to boost their resilience.

4.3 Methodology:

4.3.1 Study Context

The study was conducted in Benin, a developing country situated in West Africa, which shares similar economic and entrepreneurial challenges with many other countries in comparable circumstances. The economy of Benin is largely reliant on agriculture, which is susceptible to weather fluctuations and market volatility. The majority of the country's economic activity occurs in the informal sector, where a significant portion of its female workforce is engaged. It is noteworthy that 97.9 percent of women in Benin are part of the informal workforce, a trend that is mirrored across sub-Saharan Africa (excluding Southern Africa), where the figure stands at 92 percent (Bonnet et al., 2019). Across Africa, informal employment accounts for 76.0 percent of the workforce, while formal employment constitutes only 5.5 percent and household employment accounts for 4.3 percent (ILO, 2018). Benin's GDP is moderate, estimated at 17.4 billion, with a per capita GDP of 4,056.1 in 2022 (World Bank, 2023). Despite these challenges, the country has

implemented measures to promote sustainable growth and enhance the business climate. For example, Benin has outlawed gender-based discrimination in financial services (WB, 2023).

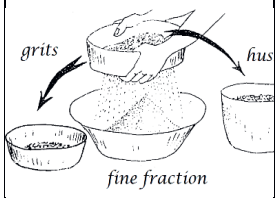
Our primary focus is on women entrepreneurs in Benin who run their informal businesses in producing and selling traditional maize-based fermented foods. These fermented foods, which are integral to daily consumption and served as staples for breakfast, lunch, dinner, and snacks, represent a prevalent form of informal food commerce managed by women in developing countries. Apart from their cultural significance, fermented foods are nutritionally beneficial, offering enhanced food safety and increased micronutrient availability (Marco et al., 2017), which bolsters food security while fostering economic opportunities for the women (Materia et al., 2021). Traditional fermented foods are highly valued in Benin for their distinct flavour, nutritional richness, and cultural symbolism. However, their production processes are labour-intensive, complex, and time-consuming (Houngbedji et al., 2014) (refer to Figure A).

The traditional food processing landscape in Benin is diverse, with maize being a primary raw material. (Nago, 1989) identified approximately 40 different maize processing methods in Benin. In addition to household processing and consumption, various foods are manufactured and marketed by food processing micro-enterprises, significantly contributing to national food security by processing local products, catering to local culinary preferences, and offering employment opportunities for urban women, who often rely on food processing as their primary income source (Nago et al., 1990). Approximately 83% of all *mawè* produced in Cotonou is sourced from food processing micro-enterprises (Hounhouigan, 1994; Hounhouigan et al., 1994). *Mawè* is marketed both as a ready-to-serve product and as a ready-to- cook product. The surge in demand for semi-processed *mawè* is driven by urban consumers seeking high-quality, hygienic products, which has led to the rise of micro-enterprises specializing in its production (Hounhouigan, 1994). This growing market for semi-processed goods has notably spurred the proliferation of *mawè*-producing micro-enterprises, catering to the evolving demands of urban consumers.

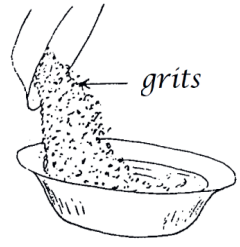
1. Cleaning the maize grains

2. Washing the maize grains

3. Crushing the maize grains

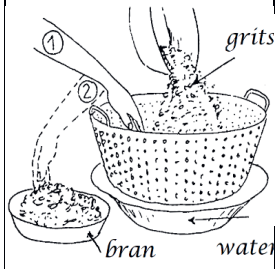


4. Dry sieving of the crushed maize grains to separate the grits, fine fraction and husks

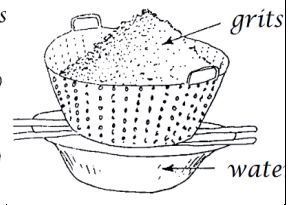


5. Soaking the maize grits

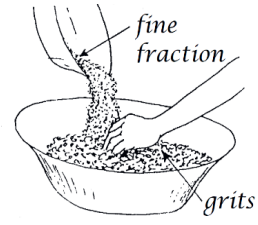
6. Washing the maize grits



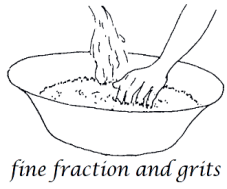
7. Removal of the bran



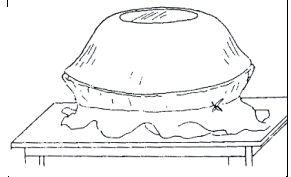
8. Draining the maize grits



9. Mixing the maize grits with the fine fraction from production step 4 (sieving)

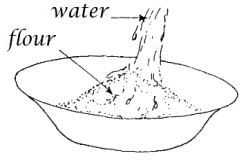


10. Wetting the mixture



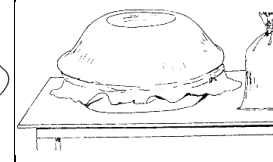
11. Letting the mixture rest

12. Grinding the mixture



13. Adding water to the ground mixture

14. Kneading the ground mixture



15. Fermentation

Figure 4.A Mawè production (after Nago and Hounhouigan, 1998)

4.3.2 Data collection, processing and analysis

This study aims to explore how women entrepreneurs in informal small businesses utilize resources obtained from their social networks to develop resilience when confronted with different types of shocks to their business. Shocks to a woman's business can be any events that occur inside or outside the business and disrupt the normal way of operating, requiring additional resources or capabilities to mitigate the negative impact these shocks could have on the business. The focus is on how they access social resources and whether the resources prove effective in mitigating the different shocks women face. This section will delve into the methodology employed, including the methods of data collection, data processing, and data analysis.

Data collection: Data collection for this study follows a qualitative research methodology, as suggested by Creswell (2007) (Creswell, 2007; Creswell & Poth, 2016). The study's purpose also relies on the participants' perspective, which is in line with Creswell's argument for qualitative research. Additionally, the study utilizes a narrative approach, as described by Ntinda (2019) (Ntinda, 2019), who claims that "narrative research aims to unravel consequential stories of people's lives as told by them in their own words and worlds." This approach falls within the realm of social constructivism and is one of the most common ways of conducting narrative research, as found by Lieblich et al. (1998) (Lieblich et al., 1998). We employ the narrative analysis method (Polkinghorne, 1995) to collect and synthesize the description of events into stories using a plot. This method connects actions and events by arranging them as contributions to the development of the plot, allowing for the integration of human purpose and choice, dispositions, and environmental forces. Previous studies have utilized the narrative approach to investigate social resources and strategies (e.g. Doern, 2017). Our study employs this approach to capture contextualized life stories of women entrepreneurs running food businesses in the informal sector in Benin in order to better understand how they gain and utilise social resources for resilience in times of shocks. To make contact with these women entrepreneurs, the primary author of this paper went to them directly via multiple phases of data collection because there was no information available about them in either the literature or government databases. She gathered data through an exploratory study and eight focus group discussions, along with 110 individual interviews. This data was also used for other studies. The exploratory data collection aimed to provide a quick understanding of the relevance of the topic of shocks and resilience in the context of the study,

while the focus group discussions aimed to have small groups of 4-8 women sharing their experiences with various types of shocks and the resilience strategies they employed (including the use of social resources). The individual interviews provided a safe space for the women to discuss the most serious and recent shock that disrupted their business, how they coped with it, who they contacted for help, and what type of support they received.

The selection process for participants was carried out using the snowball technique and was determined by their eagerness to take part in the research study. The individual interviews were conducted between June and July 2021 at various locations, including markets, streets, and homes, where the participants were found. The data was collected through in-depth interviews using an interview guide. The women entrepreneurs were interviewed for a duration of 45 to 90 minutes, with interruptions allowed to permit the women to attend (trade) to their customers. The interviews were conducted in local languages that the first author was familiar with, and the conversations were recorded. An assistant took notes during the interviews, and the records of the focus groups were later transcribed into French by the assistant. The notes from the individual interviews were then cleaned and organized for analysis.

Data processing and analysis: The first step in data analysis was selecting entrepreneurs who had received assistance from others in mitigating the shock they had experienced, which resulted in considering for our analyses 47 interviews out of the 110 individual interviews performed; these data were complemented with the focus group discussions and the available exploratory data to identify the types of resources and strategies that entrepreneurs received from others to mitigate different shocks.

The narrative analysis produced a retrospective explanation, linking past events to explain how an outcome may have occurred (Polkinghorne, 1995). Our goal was to build stories about the mitigation of shocks using resources gained from others (i.e. social resources). We were interested in the following elements in our narratives: what happened that was considered a shock; who helped to deal with the shock; what was done to help the women facing the shock; how helpful the reources provided proved to be for mitigating the shock. During the entire study, close attention was paid to ethical principles. Specifically, the research followed guidelines such as obtaining consent, preserving confidentiality, and safeguarding the anonymity of individuals. To ensure

confidentiality and maintain anonymity, codes were utilized to refer to the entrepreneurs throughout the study.

4.4 Results

4.4.1 Types of shocks

Our data reveal that many specific events were considered as shocks to their informal business by the women interviewed compared to the narrow definition and examples of shocks provided by the extant literature. Women indicated as shocks "societal" events, such as environmental and institutional events (e.g., drought, new regulations, pandemic, etc.), followed by "economic" and "business" events (e.g., commodity price fluctuation, financial crisis, cut throat competition, false measurement and bad quality of raw material), and "personal" events (e.g., entrepreneur's illness, but also illness, accidents, death of her close and extended family members). Many of the events considered as shocks were not directly related to the business context but were drawn to the business and disrupted its continuity and performance. We find that personal events were the most common as shocks, followed by economic events and societal events, and finally business-related shocks. Some shocks such as societal ones (specifically, the COVID-19 pandemic) and economic ones (financial crisis) involved the entire community as collective shocks and so affected many women entrepreneurs simultaneously, while personal and business-related events affected the entrepreneurs at individual level, here considered as individual shocks. Women were resourceless to overcome many shocks, and so received diverse resources from social networks to mitigate the impacts of the shocks. In the following, we will report on these resources and how they were used as resilience for the benefit of the women entrepreneurs.

4.4.2 Social networks provide resources for resilience

When we asked the respondents about who they contacted during a specific shock they faced, who helped, what was provided as help, the women mentioned two categories of networks that mainly provide support: bonding networks (relationship with family and relatives) and bridging networks (business relationship with colleagues entrepreneurs/service and raw material providers, etc.). Their relationship with high authorities (linking network) was also mentioned, but not as providing

resources, rather causing circumstances perceived as shocks to women business. In the following, because only bonding and bridging networks were mentioned as resources providers, we present the resources provided by these (bonding and bridging) networks in Table 1, and how such resources are used for developing business resilience and (family) livelihood. Although not significant in addressing shocks in our context, we also discuss the role of linking networks.

Table 4.1 Overview of main shocks, disturbance, resources provided, and resilience

Shocks	**Example of disturbance associate with the shock**	**Bonding Networks**		**Bridging Networks**	
		Resources provided	**Coping strategies and outcome**	**Resources provided**	**Coping strategies and outcome**
Entrepreneur's personal health issue	Health related problems cause the women to stop their business because they are ill; this implies less availability of food for themselves and their families and of money to pay e.g. school fees for their children who eventually drop out from school	Financial gifts	Financial support from relatives (e.g. brothers and sisters) is provided for food and basic needs	Financial loans	Loans from colleague entrepreneurs increase the financial capital women entrepreneurs have spent during illness
		Labour	Family members such as daughters help continue the business as possible	labour	Colleagues in the market help for selling while the woman is away for illness reason
Pregnancy & birth	Work stops for several months, with repercussion on income. (Part of) business capital is spent to sustain livelihood and other needs	Financial loan	Financial support is provided by husband and father-in-law to continue the business when the woman entrepreneur is back	Financial loan	Loans from community saving groups guarantee the money needed to continue business while the woman entrepreneur is back
		Labour	Female relatives help to continue the business so to retain the clients until the woman entrepreneur comes back	Labour	(Neighbour) seller in the market looks after the product while the woman is away.

Close family and relatives' illness and death	During illness or death of family and relatives, the woman is expected to take care of the loved one(s) and give moral support. This implies to stop any business.	Time	Family and relatives take the responsibility to assist the sick person, or to run errands connected to a funeral, freeing by this time for the woman entrepreneur to continue her business	Time	
		Labour	Replacement of the woman entrepreneur by a relative to continue the business while they take care of their relatives or mourn	Labor	Help from colleagues to keep business running while the woman entrepreneur is busy with family matters
	Women entrepreneurs spend part or the complete business capital for arranging a funeral or to assist during illness of their loved ones. Therefore, afterwards they cannot operate properly their business	Financial gift	Gift of money from relatives *to support the family's food staples*	Financial gift	Colleagues give money as support for livelihood of the woman entrepreneur who is not running her business due to the shock
			Gift of money to the entrepreneurs is provided by *relatives to fill a gap in their business capital* because they used it to cope with a severe family shock		Colleagues support by giving money to help with the expenses related to the death of a relative
	Women are emotionally involved, hardly leaving room for any business thinking or action	Emotional support and counselling	The emotional support from husbands and family members during the event helps to be emotionally healed and resume the business	Moral support and counselling from colleagues	With moral support and counselling provided by colleagues, the entrepreneurs are healed and receive stimuli to continue their business

	Not running their business for long time, women cannot guarantee food for their and their children sustenance.	Food donation	Food donation from extended family help to feed family while women are prevented from running their business		No food donation, but one of the purposes of financial gift by colleagues is for feeding women and family (see financial gift by colleagues)
Financial crisis and high commodity prices	Raw material too expensive and entrepreneurs cannot afford it to produce the food they sell; clients cannot buy the food too expensive	Financial support	Gift of money by husband to increase business capital and buy raw material to continue their businesses.	Dialogue and encouragement between entrepreneurs	Collaboration between entrepreneurs for dialogue about the price and how to handle it so that they could continue the business
			Have the raw material bought by their adult children as supporting the business	Loan	The loan (from colleagues, raw material providers, community finance saving groups) helps to buy the expensive raw material and continue the business
	Clients do not buy as much as they used to because they do not have money and the good is too expensive	Advice on business model	Entrepreneur's parents advise on production and trade: e.g. change of the business model to produce on order during the crisis to avoid losing the food produced		
	The entrepreneurs are emotionally affected and willing to stop the business because of the decrease in sale	Emotional and moral support and courage	Parents and relatives advise and encourage the entrepreneurs to keep running the business when they were about to stop the business	Dialogue and encouragement between entrepreneurs	Collaboration between entrepreneurs for dialogue and encouragement so that they could continue the business
Institutional-driven shocks	Sudden rules, norms and regulations settled by authorities affect women business, by restricting or stopping it.			Group efficacy	Collaboration between entrepreneurs to mitigate institutional-driven shocks to business

Note: No evidence was found of linking networks directly providing support to women facing shocks

4.4.2.1 Resources that bonding networks provide to face shocks

Bonding networks, i.e. connections to family and relatives, are a great source of resources for women entrepreneurs during shocks, the primary they turn to in case of need. Women rely on their families to mitigate shocks. The family consists of the immediate family: husband, children, and the extended family: in-laws, mother, father, uncle, aunt, brother, sister, cousin, nephew, etc. All these people are reservoirs of resources and play a key role in coping with shocks that affect women businesses. In general, our data show that bonding networks provide all kinds of resources to mitigate all kind of shock, however they are not effective in the case of institution-driven shocks, namely shocks caused by a sudden imposition of a new rule, a regulation which negatively affect women business. In addition, we found that specific resources are provided by certain types of family members to cushion shocks, as described in the following.

Labour provision

Since the women usually have no employees in their business, it is their children, especially the daughters, but also their sisters, who offer their support in the production and sale of food when the entrepreneurs are going through a hard time and cannot continue their business. This is one of the most important ways to avoid business interruption, as it allows the business to continue. The women (Q5, 35, 82, 89) stated that their own daughters replaced them in the business when they went through respectively husband's illness, personal illness, death of child, and mother's illness. (Q35) said she had been ill for a year and had not been able to run her business. During that time, "my daughter stood in for me in the business for four months, then she gave up looking after me", she said. Sometimes sisters, grandchildren, nieces, daughters-in-law support, as they are members of the extended family and so considered as children and sisters. For example, (D006)'s story shows that when her husband became ill, this could bring the business to a halt, however two of her sisters, who were off on vacation, came to continue the big business while she took care of her husband in the hospital. After a while at hospital, she came back but she could not run the business at its full potential since she needed to continue to take care of the husband who needed attention. The overall total duration of the disturbance to the business due to the husband's illness was estimated by (Q006) to be 5 years. During that time, she was using the business capital to cover

for illness related expenses. For (D018), a female student, a relative, came to support the business when (D018) lost her father. Thus, she managed to cope with the disruption as she said, "*I asked my (extended) family for help and my aunt's daughter came to help me sell while I was busy with funeral arrangements, but my aunt's daughter was also supposed to go to school, so it was really difficult. I could no longer produce the amount I was earning per week, and that meant a loss of profit for me*." Close and extended female family members are the ones who help women entrepreneurs work during shocks. Sometimes the work (labour) offered is to help the entrepreneur keep her customers during her absence rather than to give her money during the interruption. This can be seen with women (Q43) and (Q44). While (Q44)'s business was interrupted for 6 months due to her pregnancy complication, her younger sister helped and sold her product for her for a while. (Q44) said that "a sister came to help". When Q43 experienced a similar shock related to giving birth to her baby and therefore staying at home for three months with her business halted, she was supported by her sister-in-law in the business. She was fearing that she would lose her customers during her stay at home. With the help of her sister-in-law, she went from being a "producer and seller" to a "reseller" and managed to get her sister-in-law to sell to her.

Financial support

Direct business capital support: During the shocks, financial support was mainly provided by the women's husbands and their adult children. Sometimes it was provided also by the sons-in-law, cousins, nephews, and family in general. For financial resources, men figure as money providers during shocks rather than labour providers. Financial support is utilized by women entrepreneurs and serves many purposes. One of the objectives is to refinance their business during shocks. When the women experience shocks, they sometimes use up all their (saving) profit and even their business capital for the shocks; therefore, they need additional or new financial capital to continue their business. When (Q16), who is a young girl entrepreneur, experienced the shock of the death of her uncle who had supported her in her studies, she overspent her business capital on the funerals and could not operate properly after the burial. She asked her male cousin for help, who was generous to her. (Q10) instead got the raw material bought by her adult children during the financial crisis, and she used it to make and sell her fermented foods. Women (Q55) and (Q56) also narrated how their husbands helped them during the shock of "high commodity prices" by giving them money to increase their business capital and buy maize to continue their businesses.

In the narratives, an (additional) business capital was needed for two main reasons. Either because the women were unable to buy an expensive commodity due to an economic shock (price fluctuation) or because they needed to fill a gap in their business capital because they had used it to cope with a severe personal or family shock. (D043) for example, when she had to restart properly her business after she stayed home because of the birth of her baby, while her business capital was already exhausted, she borrowed money (50,000FCFA) from her husband and from her father-in-law to continue the business. It is clear from these stories that many of the shocks that come from the families and relatives of women entrepreneurs and affect their business are resolved through bonding networks.

Finance for essential needs support: The money is also provided as a gift, not to only support the business directly, but to support the needs of the women, the reason for their business. Any kind of shocks that affect women's business, whether it is COVID-19, or price fluctuations, or the death, illness or accident of a loved one, or illness problems, etc. can make women vulnerable because the shocks are either life-threating events or livelihood threating events or both. The family and relatives know this and feel morally obligated to help. From our data, we found that women received financial support for their needs during these shocks. (Q02) received a gift of 20,000 FCFA (30 euros) from her aunt for support to her needs during her husband's accident. This helped to mitigate the impact of the accident on the woman's business and family livelihood, as she said: "*Because of my husband's car accident, I stopped my business for 6 months. It was a big failure for me because all my customers left in those 6 months. My financial capital had taken a severe blow because I spent it. The shock had a negative impact on me and my family's food staples because I was spending money when I had nothing coming in*." Such a gift of 20,000FCF at that time is valuable for the whole family. To cope with a personal shock that affected her health (pain disease in her hip), (Q009)'s family came to her aid. She said that her business of *mawè* collapsed during her health problem because she had to give up the business until now. "*I could no longer continue the business because the work was taking a toll on my hip and the helper who was with me at the time had left, so I had to stop until now*". The shock also affected the family's food staples. "*I had no more money, so we couldn't eat as well as before. I wasn't able to pay the school fees for my children. Some of the children were attending a private school with expensive school fees, so it was difficult for me to pay the school fees, they could not continue school that year; they had to leave school that year and start again after*." In this situation, she said: "*My brothers and*

sisters came to my aid with financial resources during the shock." This financial aid was for their food and basic needs.

Other types of resources (time, food donation, advice, counselling, etc.)

There are other types of support that have direct impacts on business continuity or provide women with a direct livelihood or moral or psychological support during the shock.

Emotional, moral and knowledge (advice) support: these forms of support, although intangible, are just as important as the others. To be optimistic about their life and business despite the shocks, one must indeed be courageous. Women entrepreneurs received this support from their husbands and other family members in the form of advice and courage. When women entrepreneurs (Q112), (Q67) and (Q60) experienced shocks, it was their family members who gave them advice to keep the business going. Entrepreneur (Q112) said that her parents helped her during the financial crisis when people were not buying as much as they used to. "*My parents advised me on production. ... ... I now produce mawè to customer on orde*r" this helped her. (Q60) received advice and counsels from her old brother during the shock of high commodity prices. The brother advised her to be patient and persevere in the business when customers stopped coming to buy the food because they found it too expensive. "*Keep going! If your customers go elsewhere and find the same problem, they will come back*," he advised. During the same shock, (Q67) said it was her mother who advised her. Shocks such as the illness of a child, the illness of a husband and the death of a husband also have an emotional impact on women entrepreneurs and therefore on their business. In such shocks, (Q27) received emotional support from her husband when her child became seriously ill, while (Q5), (Q6) and (Q50) received emotional support and all kind of support they said, from their extended family members when their husbands were ill (Q5) & (Q6) or dead (Q50).

Food donation: Sometimes the support is in the form of donations of food or time. This is the case of (Q50) who received not only emotional support but also food and financial support from her extended family members because she could not run her business during her husband's death but had to eat and her children too. (Q54) received a gift from her mother in the form of food for herself and her family when she experienced the shock of the high price of maize and could not make a profit in her business to meet food needs.

Time: Family ties also give support in the form of time spent assisting a sick relative of an entrepreneur so that the woman can continue her business (Q99), or helping with some errands, e.g. related to the shock of death (Q18), (Q109). Time can also be spent to provide moral support to the entrepreneur herself and so speed up her emotional healing if she has been hit hard by a shock in her family or personal life.

Bonding networks are essential to provide alone resources to mitigate almost all shocks, except institution-driven shocks which are shocks caused by a sudden rule, regulation which negatively affect women business (table 1).

4.4.2.2 Resources that bridging networks provide to face shocks

From the data, many types of resources were identified that support women during shocks through their business relationships. Below we describe them and provide examples. This section also describes the type of shocks for which the women entrepreneurs received the support from the bridging networks. Exceptionally, more than the bonding networks, bridging networks are the ones used for mitigating institution-driven shocks affecting women businesses.

Dialogue and encouragement

Increases in commodity prices and in milling services prices affected food businesses collectively. Although the entrepreneurs were not organized in formal business networks, they contacted each other to exchange ideas and receive encouragement as a way to continue their businesses. One entrepreneur (Q11), who spoke about the increase in maize prices and processing costs at the mill, stated *"We were all discouraged when the prices went up, but now we are doing well"*. They were on the verge of going out of business as the commodity price had doubled 450 FCFA/kg, and customers did not have the financial means to buy their food products. From the discussion with her colleagues about the shock, she learned that it was important to adjust the price of her products to the increased commodity prices without fearing that her customers would go to other sellers because they had all experienced the same shock. Apparently, this shock prompted the food entrepreneurs to collaborate by discussing and sharing ideas through an informal business relationship, even though they were actually in competition. This collaboration led to a solution for the benefit of all: "*.....now we are fine*" (Q11).

Moral support

Moral support is usually provided by family members and relatives when someone faces a difficult time such as sickness, or a loss. For these entrepreneurs, our data show that bridging networks also provided moral support when the entrepreneurs experienced difficult events that impacted their businesses as shocks, such as the shocks faced by entrepreneur (Q52), namely: "*deaths of my father-in-law and my maternal aunt*". These two successive shocks caused entrepreneur (Q52) to have very low morale, she said. Her colleagues were among those who comforted her during this difficult time, she added. Since they sell in the same market, they have built a relationship and benefit from care from each other. As such, they provide each other with necessities when they are in trouble. Similarly, entrepreneur (Q93) confirmed that her colleagues joined her family to support her through counselling when she lost her child. She said that she even received moral support from her raw material supplier, who waited for her to restart the business without breaking the informal business contract between them. During the two months that she stayed home to grieve for her child, she received such support that she felt healed and was able to resume her business. "*I did not feel discouraged to continue my business*," she said.

Financial gift

Business partners offer not only moral support but also financial support to their colleagues in the events of shocks. Participant (Q52) confirmed that her colleagues gave her money as well as moral support. She explained, "*During the time of death, ... I could not continue my business. I spent the money I had on expenses related to the death. My colleagues helped me financially with my contribution to the death-related expenses*". Generally, when there is a death in a family, the adult members in the family and relatives must donate a certain amount of money to cover the associated costs for the funeral and death. The financial support from business colleagues was useful for this entrepreneur (Q52). As she was unable to work during this time, her needs (food included) costs can also become a problem for her family. Entrepreneur (Q83) was a little more explicit and explained that she felt the negative impact of her brother's death on herself and her family. She said that the shock affected her and her business in such a way that she had "*less to spend on food for her household*" and was unable "*to meet all of her children's essential needs*". This is normal since a death induces a shock to their businesses. All the same, the most important thing for her,

participant (Q52), during this time was coping with the costs of the death, which she did with the money she received as a gift and support from her colleagues.

Financial Loan

Some other events cause peer entrepreneurs to grant a loan to their peers. A loan is granted to support the entrepreneur's business when the commodity price falls or rises. When the commodity price goes down, sales also go down as many could be doing the same business. However, this is an opportunity for the entrepreneurs to buy and store the maize in advance so that they can benefit when it becomes expensive. During our data collection, many entrepreneurs explained that they did not have the financial means to pursue such a strategy of anticipation. However, the entrepreneur (Q14) confirmed that she obtained the money for such a strategy from various sources among which is a loan from her colleagues. For this reason, she said she could better cope with the shock of a price fluctuation. Faced with an increase in the commodity price due to a price fluctuation, (Q40) said: "I received a partial loan from my commodity supplier. I paid half of the raw material price and paid the loan back after selling my produce". With this business opportunity, she was able to continue her business without interruption during the shock. Not every raw material supplier would be willing to support with the half loan because some women do not reimburse the money. (Q77), on the other hand, received an entire savings balance, even though she had not yet saved that much money. This was like a loan without interest as the saving group leader trusted that she would pay back the money later when she completed her savings. The loan served to strengthen her business capital when the raw material was expensive. Another entrepreneur explained that she had lent 30,000 FCFA (46 euros) to her employer to repair the mill where she worked as an employee. This was urgently needed as otherwise customers would go elsewhere for the service. (Q33) also received a loan from her colleagues: "*I got a loan from my colleagues, which I paid back later*". That loan was used to increase her financial business capital and she said, "*I was ill and stayed at home for three months for treatment and recuperation. The expenses related to my illness reduced my financial business capita*l". The data shows that colleagues are more willing to give money in case of death, while they prefer to give a loan in case of an illness or in a direct shock to business.

Labour provision for food production and sales

Support in the form of labour for food production and sales was granted to women entrepreneurs who experienced a shock because of illness or death in the family or with relatives since these women usually have no employees to keep their business running while they are affected by such shocks. Illnesses and deaths are critical moments when money is needed, and instead of giving money directly to meet the women's needs as some did in previous narratives, some women entrepreneurs prefer to help their colleagues to keep their business running so that it brings in money for their colleagues' livelihood, and keeps customers until the affected women entrepreneurs come back from their shocks. With the support of her neighbour entrepreneur, (Q18) was able to maintain sales without employees when her two children were sick. "*I tried to produce my mawè, which I put on the side of the road, and the neighbour next to my stall sold my mawè for me while I went home to take care of the sick children*". She could not come and stay on the roadside to sell her food product, but the relationship with her neighbour helped her to mitigate the shock, so she said, "*My weekly sales during the shock were the same as before the shock*" (Q18). Another woman explained how her neighbour at the market has helped her sell her food product for a long time since she was suddenly struck with a shock. "*When I heard about the unexpected death of my grandson who was living with me, ……I entrusted my food display to my neighbour at the market and went home*" (Q95). Not only did this woman receive urgent help from her colleague, but this colleague also helped for many months; all the months the woman concerned stayed at home to mourn her grandson following cultural norms. With the cultural norm, you must leave your activity for a moment for many reasons such as to show your love for the lost, your pain, your innocence (that you do not intentionally participate in the death), to do the funerals, and to get morally healed. Depending on the culture and the family link with the dead, the time to leave your activity can be shorter or longer: "*I stayed at home for 1.5 years. During this time, I discreetly made mawè that I sent to the market and my neighbour at the market sold my mawè until the time of mourning was over*." It is a great generosity to sell for a colleague over such a long period.

Some entrepreneurs receive shorter support in sales and production from colleagues in shock like the entrepreneur (Q51), who received help in production and sales from her colleagues when she lost her child. She said she was about to lose the fermented food she had started to produce. Note

that the production takes couples of days with many steps in the process, and if a step is delayed for one reason or another, the product spoils and the entrepreneur loses her money invested in production. So, she asked her colleagues for help. Two of her colleagues took over production and sales when they found out what had happened to her. She said, *"Two colleagues helped me: one took over the production and the second took over the sales"*. Similarly, (Q68) experienced a similar death event, namely the death of her sister. According to the prevailing socio-cultural norms, losing a loved one requires you to give up your job for a while, which she did, but this was naturally negatively impacting her business. Fortunately, colleagues came to mitigate the business shock induced by the death: "*I lost my sister and unfortunately, I made mawè the day before she died, so I had no choice but to give up my business. I finally managed to contact some colleagues from the market who helped me sell the mawè I had already produced*" (Q68). Such short support in production and sales helps to avoid losing the cost of the produced food, but it does not guarantee that customers will wait for the entrepreneur in shock. Entrepreneur (Q68) continued: "*For three weeks I stayed at home, produced nothing… the customers left, and when I came back, I started to win them back little by little, which made me fail in my business*" (Q68).

4.4.2.3 Resources that linking networks provide to face shocks

From our data, we did not get any evidence of linking networks (e.g. with authorities) directly providing support to women facing shocks as bonding and bridging networks do. In the interviews, high authorities were referred to mainly as causing circumstances perceived as shocks to women business. For example, data show that some women entrepreneurs sometimes felt to be rather the victims of the local government and authorities sudden decisions to for example a change of the location of their markets, or sudden regulations affecting their business and interrupting it. These shocks seem to be the hardest ones to face. In order to develop resilience to this specific type of shock, women were able to act in group to for example oppose and overcome sudden regulations restricting their business. Such resilience was achieved by leveraging the women's bridging networks, namely by mobilizing their sense of belonging to a group and facing the shock as a group building legitimacy to act. Women entrepreneurs in groups could take purposeful action, and made risky decisions influencing the formal and informal constraints imposed by authorities

in their environment. This evidence provided us with insights into two specific types of resistance (as resilience) we identified in our sample: discrete resistance and open resistance.

Discrete resistance

Some women entrepreneurs reported that they mutually offered to discreetly fight back against sudden rules/regulations in their community by leveraging their sense of belonging to a strong group.

The story of (Q95) (explained in a previous narrative) who lost her grandson shows how she discretely fought against the informal norms (interrupting her business): *"...I stayed at home for 1.5 years. During that time, I discreetly made mawè that I sent to the market, and my neighbour at the market sold my mawè until the time of mourning was over*." This shows that she thought and found a way to live on despite the shock and the expectation of the society (informal norms), as she is a widow and had no close relatives to take care of her livelihood during a long period of mourning, she said. As she needed money to live on, the discretion and support of a colleague helped her to rent another room far away from her usual place of residence and she went there to produce her food and then gave it to the colleague for sale. She then returned to her usual place without anyone around her knowing that she was still in business, she explained. The complicity of a colleague helped to get assistance and soften the impact of such a shock on her.

Other women explained how they resist norms and regulations that are shocks to their businesses. They forced changes to their advantage, some advocated and helped each other by using complicity and acting as a group to be resilient. For example, in a focus group discussion in Cotonou, one woman explained how difficult it was for her to continue her food production when the municipality suddenly banned them from pouring water (from *mawè* production and other activities) onto the streets. Not all the streets in Cotonou have sewers into which the *mawè* producers could easily discharge the water. This regulation made it difficult for them to continue their business, as *mawè* production requires the use of a lot of water to wash the maize many times. The woman with her work team therefore poured water into the street in complicity, even though this was forbidden by the city administration and controlled by the city's district chiefs. They defied this regulation but ensured that the street remained clean and dry (the main objective of the city administrators). To do this, they waited for the deep night, when the road was empty so that no

one could see it, and poured out the water, sprinkled some sand on it and also cleaned the road very well. In the morning, the district manager did not notice this action, as they said.

Some women entrepreneurs put up similar resistance by joining forces and courage to fight the lockdown on the Zogbodomey road in the centre (or upper south) of the country during the COVID-19 period. "*During COVID-19, we could not come and sell to the travellers because the authorities restricted traffic and also prohibited us from coming and selling on the road to prevent the spread of the virus*", they said. This travel restriction has severely affected their businesses because some women said they have lost some products like oranges, which were spoiled. But this period of lockdown, which brought the business of many street vendors to a halt, had the opposite (positive) effect on some other women who fought back collectively but discreetly for mitigation. "*But since we knew that trucks transporting goods from the north to the south were allowed to pass during that time, I and some other women, took the risk and came on the streets. We knew that the few travellers (drivers and their apprentices) needed to eat. We sold a lot during that time because there were only a few food vendors here*". The discrete resistance against the regulation and the union of these women entrepreneurs (bridging network), who have some bonding enabled them to cushion the shocks so that their business was more profitable than before the restriction.

Open resistance

Our data show other women who openly confronted some formal regulations which induced shock to their businesses. But they still act as a group of bridging network.

At the Parakou market "Depot" (in the north of Benin), the women entrepreneurs of a fermented food were also asked to change their usual place in the market and were assigned a new place that was a little further away from the usual. This is a shock-inducing decision from the market officer as the women could lose some of their loyal customers and suffer a drop in sales. (RT), an entrepreneur of akassa (another fermented food) who has been operating in the market for 9 years, said: "*The place that the municipality first gave us was far from where we are now. We (4 entrepreneurs) first resisted the market authorities and refused to move. We refused to stay where we were assigned because our customers could come and not find us. After being forced to move several times (sometimes by violence), we tried to negotiate. The result was that we got a new small place, not far from the previous one, where we are now."* These women (in bridging networks, but also, they are relatives) first resisted to the shock induced by the linking network,

and then negotiated and got half of what they wanted because they did neither stay in the old place nor the place assigned to them by the market officials. Instead, after negotiations, a new place was found at a middle distance from the two points.

Some other women also acted openly in a group to change decisions concerning their business, but they did so peacefully and faced the regulation that shocked their activities. This is the case with the women on the street of Zogbodomey (explained previously) when the main road was in reconstruction. They had to face the shock caused by the change of their selling place on the street when the street was rebuilt: Before the road was rebuilt, they used to sell at Tegon near the customs station, they said. When the customs officers were checking taxi drivers' papers, the passengers in the taxi used that time to buy from the vendors along the road. However, after the road was rebuilt, the authorities assigned these women vendors a different spot along the same road, as the old arrangements on the road had changed. The new space assigned to the women was not suitable for stopping taxis so that passengers could buy there. As a result, their trade declined sharply. The women got together to find a solution to their problem. Thus, along the way, they identified a space reserved for vehicle parking that could be suitable for their business. Then they went to the administrative officials, negotiated to have that place, and they got approval. The mitigation of the shock of the marketplace along the road has had a positive impact on their business because the women got a good solution. Indeed, the women said that they are selling more than before because the space they gained through their advocacy in bridging network is better. Since they advocated for a specific need, they got a better and legitimate space after the shock.

4.4.2.4 Social networks and institution-related shocks

According to the narratives, family-related and business-related shocks are primarily addressed by bonding and bridging networks, respectively. However, when it comes to institution-related shocks, linking networks do not seem to play a significant role. Instead, entrepreneurs use bridging networks in an indirect way through active resistance and collaboration. On the other hand, family members (bonding networks) are used for a passive resistance to institution-related shocks. In fact, having the permission of their husbands or the support of a family member to hide a discreet resistance can help entrepreneurs to face these types of shocks. (See Figure 2).

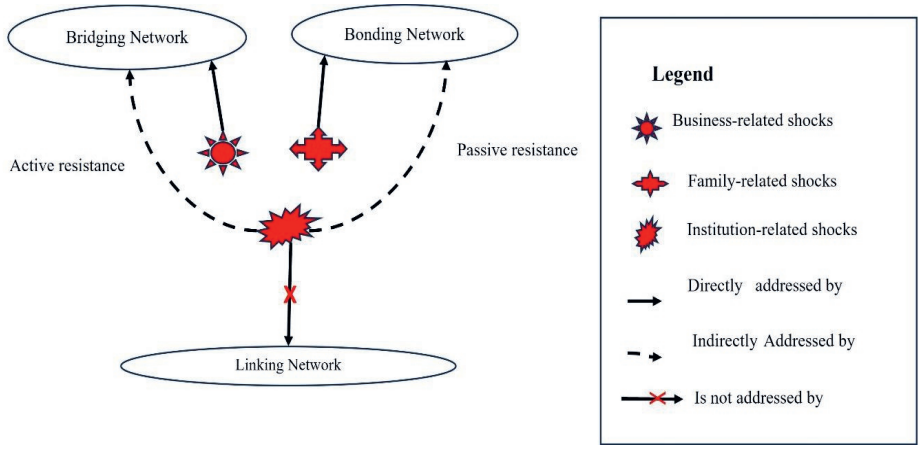


Figure 4.2 Social networks addressing different types of shocks

4.5 Discussion and Implication

4.5.1. Discussion

Social resources provided by different types of networks are necessary to increase the capacity of firms to develop resilience to shocks. Social resources have broadly been recognized as drivers and enablers of entrepreneurs' resilience to social shocks (Dimitriadis, 2021; Doern, 2017), but the social resources that particularly women entrepreneurs in turbulent contexts deploy in supporting resilience have received less attention in the literature. Furthermore, how social resources are drawn from social networks and used to face the several types of shocks women face is not addressed in the literature, which is to the best of our knowledge mainly focused on a single specific shock in a given predictable context. In addition, what a shock is in the specific context of informal small women business in emerging economies has been overlooked in literature with the consequence of providing definitions of shocks to businesses rather narrow and fictitious when decoupled from the specific context of application. Taking the social networks lens, we studied, in a specific context, how women entrepreneurs utilize social resources to mitigate the impact of *many* events they perceive as shocks to their business. Responding to the need for substantive empirical evidence on how social resources influence the development of resilience (coping) strategies for shocks (Duchek, 2019), our study qualitatively explains how diverse shocks to

women's businesses are solved by resources from women's bonding, bridging and linking networks. To the best of our knowledge, this research is the first to analyse in a single paper how women entrepreneurs in emerging economies build resilience to *many* shocks, especially what social networks they rely on when facing a shock, how this networks provide resources to apply efficient strategies that fit the best the various types of shocks the women need to mitigate. This study makes four theoretical contributions.

Our first contribution concerns the double role of bonding networks: source of shocks and resources provider. It can be observed that the women entrepreneurs possess a significant number of connections, particularly within their family and relatives. Women entrepreneurs' position within their familial context makes them susceptible to a variety of shocks drawn to their business, such as illness of their children, or accidents to their husbands, i.e. family related events that influence and often interrupt their business. Specifically, we find that their deep embeddedness in their family as person, function and role to maintain (in the face of social expectations) represents a source of shocks contrary to the prescriptions of the extant literature that does not identify personal or family related shocks of an entrepreneur as impacting their business so to even interrupt it. Going a step even further, our study clearly demonstrates that bonding networks cause shocks, however the very same bonding networks (in which women are embedded) often serve as sources of resources and coping strategies for dealing with such shocks. Typically, it is close relatives, including husbands, children, and extended family members such as sisters, in-laws, aunts, uncles, and cousins, who provide solutions for addressing these shocks arising from the personal and family circle of the women entrepreneurs. This confirms what other authors indicated, namely that people can take advantage of the wider social relations in which their ties are embedded because of their social embeddedness (Cope et al., 2007; Kim & Aldrich, 2005). Women in emerging economies possess culturally close relationships with their family and also serve as resources providers for the family. Interestingly, women receive increased attention back when they encounter difficulties. This observation is consistent with the literature that asserts that family influences entrepreneurship through access to resources (Azmat & Fujimoto, 2016; Randerson et al., 2023). This finding aligns with prior research on women's embeddedness, which has identified family issues such as children-rearing as hindrance for women entrepreneurship (Rouse & Kitching, 2006). Our results additionally reveal that women's bonding networks can also serve as valuable resources to lean on when mitigating personal and family-related events that adversely

impact their businesses as shocks. This confirms Dimitriadis (2021)'s evidence that social capital can have a conflicting effect on entrepreneurs' resilience, which is verified with women bonding networks. Our study also confirms what Nguyễn et al. (2023) find: individuals in low socioeconomic classes rely on their bonding networks for resilience, which are more available for a long period (Islam & Walkerden, 2014). This double role of the bonding network is a first important contribution of this paper.

Our second contribution concerns the efficacy of the use of bridging networks for shocks' mitigation. When a shock that collectively affects entrepreneurs occurs, such as a shock due to an increase in raw material price that is negatively affecting women businesses, collaboration for communication, reflexion, and group's action efficacy between entrepreneurs are key strategies for the shock's mitigation and achievement of a shared goal. Resilience consists in informally cooperating for communication and advice to absorb the shocks instead of pursuing competitive behaviour in the context of a collective shock. We can argue that some collective shocks are so strong that they stop the competition within resourceless entrepreneurs, as the shocks result in a change of priority: competition is pushed aside to rather prioritize the pursue of a collective strategy to find a solution. This finding is in line with the results of Dias and France (2018) and Dias et al. (2019), who show how agricultural entrepreneurs operating in networks strategise together on how to achieve common goals in producing and selling their goods: for example, they rely on informal conversations with other producers for solving problems in production, setting their product price, or for a direct selling to customers. Our study however is more specific in that it explores and defines shocks as any event that can disturb the normal way entrepreneurs run their businesses. We find that bridging networks mitigate collective shocks (i.e. affecting many entrepreneurs together). Most importantly, bridging networks are also used as collaboration between entrepreneurs for the resilience of only one member in the network. We find evidence of entrepreneurs giving and lending money to their colleagues, providing labour to produce and sell the food commodity, advising, and even caring for their colleague's personal livelihood when they are facing a shock. The goal of the entrepreneurs who assist is to have their colleagues facing a shock continue to achieve business continuity: sale, profit, or for direct livelihood during and after a shock. This shows that for women entrepreneurs in small business, the worry about their colleagues' (even competitors') livelihood guides the gift of social resources in shocks. Our study is one of the rare to show that to cope with shocks that affect women businesses collectively, such

as an increase of the raw material price, or individually, such as a health issue, women do not prioritize competition, they rather collaborate through strategic bridging networks, either to fight a collective shock, or to help mitigating a shock that even just one colleague is facing individually. This partially confirms the proposition 2 of this study: *P2: Bridging networks are essential for collaborative resilience to mitigate collective shocks to business, while individual shocks are coped individually* by entrepreneurs. From the results of our study, this proposition becomes: ***P'2: Bridging networks are essential for collaborative resilience to mitigate collective shocks (that affect many entrepreneurs together), as well as individual shocks (that concern one entrepreneurs' personal business, life and family).*** Our findings add an important element to the research of Duchek (2019) and Meuwissen et al. (2019) about how social resources are enablers of resilience and allow to activate strategies, but with women entrepreneurs.

The third contribution concerns the role of linking networks during shocks, and the difference in the use of bridging, bonding, and linking networks. For women entrepreneurs in informal business, apparently, linking networks (i.e. networks with high authorities) are not available during shocks. Conversely, through imposing often unexpected and sudden decisions which concern the women business without providing relative information and efficient support beforehand, linking networks generate shocks to these women. This is the case of many institution-driven shocks to business such as a ban of using an infrastructure or a sudden decision restricting the business activity. The evidence we provide of linking networks not supporting the women entrepreneurs as the other networks (bridging and bonding) do is furthermore complemented by the evidence that only bridging networks (rather than bonding networks) are efficient in providing resources for resilience in institution-driven shocks caused by linking networks. This finding reveals the difference in the use (or efficiency) of each of the three social networks for resources access to achieve resilience to various types of shocks. This is to be explained by the fact that these women operate in the informal sector and as such are prevented from contacting formal organisations (such as banks) that could provide resources to face shocks, and that priorities of those making decisions for the country do not align with not target at all the specific needs of those actors. This contribution partially confirms our proposition *P3. Because of lack of linking networks, women must rely on their bonding and bridging networks to boost their resilience.* From our findings, this proposition becomes ***Proposition P'3. Because of lack of linking networks, women must rely on their bridging networks to boost their resilience.***

For women entrepreneurs in informal small businesses, bonding and bridging networks are all important for resources provision and mitigation to shocks induced by both personal (family included) related events, and economic and business-related events. Previous studies have proved that both networks are also useful in shocks related to environmental disasters (Islam & Walkerden, 2014). In our case, we find **bonding networks** providing useful resources for **not only peers' personal** issues (bonding-related shocks), but also for **business-related shocks** by providing labour, finance, counselling, etc. Similarly, **bridging networks** are essential for not only business-related shocks, but also **for personal related shocks:** giving resources such as labour, gift of money, and moral support (e.g. illness, death) of colleagues' relative, etc. However, for institutional driven shock (generated by linking networks), ***only bridging networks are used and effective to fight such a shock with group efficacy strategies. Only women who are concerned about the shocks and willing to fight the shock make strategic collaboration to resist, or negotiate, or advocate.*** This proves how some shocks are powerful and only a joint action of entrepreneurs can fight them. However, bonding networks are more available to provide resources for all other shocks, except institution-driven shocks. Our finding **rejects** the proposition *P1: Bonding networks are available resources for the resilience to the shocks women businesses face*. Instead, our results confirm **P'1**: ***Bonding networks are available resources for the resilience to the shocks women businesses face, except institution-driven shocks***. This result is an empirical confirmation of Pham et al. (2021)'s propositions that multiple types of social networks can influence access to resources and it is essential that small businesses develop and maintain a variety of networks to reap their complementarity benefits. In our case study, developing bonding and bridging networks do matter for business resilience. Indeed, by making connections with others, individuals are able to achieve more than if they acted alone (Cope et al., 2007). This conforms Biggs (2011) (Biggs, 2011) that the essential of networks between individuals and organizations serves as a support system for resource acquisition in a vulnerable environment.

4.5.2 Implications

Theoretical / scientific contribution

Our study's findings have significant theoretical implications for the resilience of informal small businesses of women. Through an empirical investigation, we examined Duchek (2019) and Meuwissen et al. (2019) suggestions that social resources are enablers of resilience. Our study goes further by researching on the social networks needed for social resources provision in diverse

shocks. Our research findings underscore the importance of comprehending the role of bonding, bridging, and linking networks in fostering resilience. Through a thorough investigation of various shocks, this study presents a valuable addition to the literature on shocks, resilience, and social networks. It provides theoretical contributions by emphasizing the significance of bonding and bridging networks in offering resources for coping strategies in response to any shock except shocks generated by linking networks. For these institution-driven shocks, only bridging networks are effective. The study also substantiates the contradictory effects of bonding networks in drawing shocks to women business and providing resources for resilience, and the negative effect of linking networks as generators of shocks. Our research validates the importance of both bonding and bridging networks to increase resilience among women entrepreneurs.

Managerial implications

The findings emphasize the significance of cooperation among entrepreneurs during shocks. Rather than engaging in competition, the research demonstrates that entrepreneurs can benefit from informal cooperation, communication, and advice exchange to effectively mitigate shocks. This highlights the importance of fostering a supportive network environment within business communities. Entrepreneurs should recognize their role in providing support to their colleagues during shocks. Strategies for facilitating peer support, such as providing financial assistance, labour, advice, or even personal care, can contribute to maintaining business continuity and ensure resilience among women entrepreneurs, especially in informal small businesses. The study provides valuable insights for both researchers and practitioners by offering an understanding of how social resources from networks contribute to the resilience of women entrepreneurs facing diverse challenges.

4.6 Conclusion and limitation

This research underscores the critical role that social networks play in fostering firms' resilience to shocks, particularly among women entrepreneurs operating informal businesses in emerging countries. By examining the resources and strategies which women employ to navigate various shocks to their businesses, this study makes a substantial contribution to the existing literature on shocks, resilience, and social networks.

A key finding of this study highlights the nuanced dynamics of social resources utilization across different shocks. Both bonding and bridging networks provide resources for either mitigating directly the impact of the shocks on the business or for livelihood provision which is a business goal for the women entrepreneurs. While shocks from family and personal lives are often resolved through relationships within the same environment, with bonding networks, business-related shocks are predominantly addressed through interactions with fellow entrepreneurs-bridging networks. Nonetheless, the exchange of resources between these two networks is also possible and allows more resources availability, emphasizing the importance of investing in valuable relationships. However, linking networks do not seem to help the women entrepreneurs. In contrary, it generates institution-driven shocks such as a sudden norms and regulations that affect women business by restricting or stopping the business. For these specific types of shocks, only relying on a concerted action with the members of their bridging networks is efficient to fight against the shocks. This shows the importance of bonding and bridging networks, and the most significance of fostering supportive networks among women entrepreneurs, particularly those like these entrepreneurs who receive limited support from higher authorities and organizations.

This study has some limitations. The first limitation of this study is that the stories are based on the memories of the entrepreneurs, which means they may forget some resources providers or resources used to mitigate the shocks. However, as we asked about the most important shocks, and the resources and network used, we believe that they would not forget key actors who helped them. In addition, the big number of women interviewed until saturation would have helped us to capture all the phenomenon we have studied.

Second, it is crucial to further investigate how network resources providers belonging to numerous networks (bonding and perhaps also bridging for example) could improve this finding, as this can provide insights into the type of support they offer during shocks and the redundancy that may happen (Mozumbar et al., 2019). Better highlighting how many networks in providing solutions to shocks can shed light on the combination of types of networks that offers rich ties for resilience, as multiplex networks are recognized for their significant impact on knowledge transfer, for instance (Aalbers & Dolfsma, 2013).

Finally, the finding in this study and the propositions can be more thoroughly examined through extended analysis using both qualitative and quantitative data in other contexts. Such studies would determine if the findings are generalizable.

In sum, this study emphasizes the critical role that social networks play in the success and sustainability of women entrepreneurship, especially women entrepreneurs who are vulnerable and are in the informal business sector. In a context where government and institutional support for women entrepreneurs is limited, especially for informal business entrepreneurs, the findings underscore the importance of women's reliance on bonding networks and most importantly the development of collaborative relationships with peers to mitigate shocks. By building and maintaining relationships with peers, women entrepreneurs can strengthen their resilience and effectively manage the many challenges they may face. They can even use the bridging networks to activate the linking network for resources and navigate shocks.

4.7 References

Aaker, D. A. a., & Mascarenhas, B. (1984). The need for strategic flexibility. *The Journal of Business Strategy*, *5*, 74.

Aalbers, R., & Dolfsma, W. (2013). Improving the value-of-input for ideation by management intervention: An intra-organizational network study. *Journal of Engineering and Technology Management*, *46*, 39-51. https://doi.org/10.1016/j.jengtecman.2017.10.006

Akkermans, J., Seibert, S. E., & Mol, S. T. (2018). Tales of the unexpected: Integrating career shocks in the contemporary careers literature [Article]. *SA Journal of Industrial Psychology*, *44*, Article a1503. https://doi.org/10.4102/sajip.v44i0.1503

Aldrich, D. P., & Meyer, M. A. (2015). Social capital and community resilience. *American behavioral scientist*, *59*(2), 254-269.

Azmat, F., & Fujimoto, Y. (2016). Family embeddedness and entrepreneurship experience: a study of Indian migrant women entrepreneurs in Australia. *Entrepreneurship & Regional Development*, *28*(9-10), 630-656. https://doi.org/10.1080/08985626.2016.1208279

Biggs, D. (2011). Understanding resilience in a vulnerable industry: the case of reef tourism in Australia. *Ecology and Society*, *16*(1).

Biggs, D., Hall, C. M., & Stoeckl, N. (2012). The resilience of formal and informal tourism enterprises to disasters: reef tourism in Phuket, Thailand. *Journal of sustainable tourism*, *20*(5), 645-665.

Bonnet, F., Vanek, J., & Chen, M. (2019). *Women and Men in the Informal Economy – A Statistical Brief.* WIEGO.

Boso, N., Story, V. M., & Cadogan, J. W. (2013). Entrepreneurial orientation, market orientation, network ties, and performance: Study of entrepreneurial firms in a developing economy. *Journal of Business Venturing*, *28*(6), 708-727. https://doi.org/10.1016/j.jbusvent.2013.04.001

Bourdieu, P. (1986). *The forms of capital*.

Carpenter, M. A., Li, M., & Jiang, H. (2012). Social network research in organizational contexts: A systematic review of methodological issues and choices. *Journal of Management*, *38*(4), 1328-1361.

Coleman, J. S. (1990). *Foundations of social theory*. Harvard university press.
Conz, E., & Magnani, G. (2020). A dynamic perspective on the resilience of firms: A systematic literature review and a framework for future research. *European Management Journal*, *38*(3), 400-412. https://doi.org/10.1016/j.emj.2019.12.004
Cope, J., Jack, S., & Rose, M. B. (2007). Social Capital and Entrepreneurship: An Introduction *International Small Business Journal*.
Creswell, J. W. (2007). Qualitative inquiry and research method: Choosing among five approaches (2nd ed.). *Sage*.
Creswell, J. W., & Poth, C. N. (2016). *Qualitative inquiry and research design: Choosing among five approaches*. Sage publications.
Dias, C., & Franco, M. (2018). Cooperation in tradition or tradition in cooperation? Networks of agricultural entrepreneurs. *Land Use Policy*, 71, 36-48.
Dias, C. S. L., Rodrigues, R. G., & Ferreira, J. J. (2019). Agricultural entrepreneurship: Going back to the basics. *Journal of Rural Studies*, *70*, 125-138. https://doi.org/10.1016/j.jrurstud.2019.06.001
Dimitriadis, S. (2021). Social capital and entrepreneur resilience: Entrepreneur performance during violent protests in Togo. *Strategic Management Journal*, *42*(11), 1993-2019. https://doi.org/10.1002/smj.3292
Doern, R. (2017, forthcoming). Strategies for resilience in entrepreneurship: Building resources for small business survival after a crisis. . In T. a. W. Vorley, N (Eds.) (Ed.), *Creating Resilient Economies: Entrepreneurship, Growth and Development in Uncertain Times,* . Edward Elgar.
Doern, R., Williams, N., & Vorley, T. (2019). Special issue on entrepreneurship and crises: business as usual? An introduction and review of the literature. *Entrepreneurship & Regional Development*, *31*(5-6), 400-412. https://doi.org/10.1080/08985626.2018.1541590
Duchek, S. (2019). Organizational resilience: a capability-based conceptualization. *Business Research*, *13*(1), 215-246. https://doi.org/10.1007/s40685-019-0085-7
Field, J. (Ed.). (2017). *Social Capital*. London: Routledge.
Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, *78*(6), 1360-1380.
Ha, S., Childs, M., Kim, Y.-K., & Fairhurst, A. (2022). After the fire: An assessment of small business preparedness and recovery in Gatlinburg, Tennessee. *International Journal of Hospitality & Tourism Administration*, *23*(2), 216-241.
Houngbedji, M., Padonou, W., & Hounhouigan, J. (2014). *Preserving African Food Microorganisms for Green Growth: Value chain analysis of Mawè in Bénin* (Preserving African Food Microorganisms for Green Growth, Issue.
Hounhouigan, D. J. (1994). *Fermentation of maize (zea mays L.) meal for mawe production in Bénin. Physical, chemical and microbiological aspects* Wageningen University and Research]. Wageningen
Hounhouigan, D. J., Rombouts, F. M., & Nout, M. J. R. (1994). *Fermentation of maize (Zea mays L.) meal for mawè production in Bénin : physical, chemical and microbiological aspects* Wageningen, the Netherlands]. WorldCat.org. https://wur.on.worldcat.org/oclc/905481628
Huq, A., Tan, C. S. L., & Venugopal, V. (2020). How do women entrepreneurs strategize growth? An investigation using the social feminist theory lens. *Journal of Small Business Management*, *58*(2), 259-287.
Hystad, P. W., & Keller, P. C. (2008). Towards a destination tourism disaster management framework: Long-term lessons from a forest fire disaster. *Tourism Management*, *29*(1), 151-162.
Iftikhar, A., Purvis, L., & Giannoccaro, I. (2021). A meta-analytical review of antecedents and outcomes of firm resilience. *Journal of Business Research*, *135*, 408-425.
ILO. (2018). *Women and Men in the Informal Economy: A Statistical Picture,* (Third ed.). International Labor Office (ILO).
Islam, R., & Walkerden, G. (2014). How bonding and bridging networks contribute to disaster resilience and recovery on the Bangladeshi coast. *International Journal of Disaster Risk Reduction*, *10*, 281-291. https://doi.org/10.1016/j.ijdrr.2014.09.016

Kim, P. H. a., & Aldrich, H. E. (2005). Social Capital and Entrepreneurship. *Foundations and Trends in Entrepreneurship*, *1*(2), 1-52.

Lengnick-Hall, C. A., Beck, T. E., & Lengnick-Hall, M. L. (2011). Developing a capacity for organizational resilience through strategic human resource management. *Human resource management review*, *21*(3), 243-255.

Lieblich, A., Tuval-Mashiach, R., & Z, & ilber, T. (1998). The holistic-content perspective. *Narrative research: Reading, analysis and interpretation*, 62-87.

Mair, J., Ritchie, B. W., & Walters, G. (2016). Towards a research agenda for post-disaster and post-crisis recovery strategies for tourist destinations: A narrative review. *Current issues in tourism*, *19*(1), 1-26.

Marco, M. L., Heeney, D., Binda, S., Cifelli, C. J., Cotter, P. D., Foligne, B., Ganzle, M., Kort, R., Pasin, G., Pihlanto, A., Smid, E. J., & Hutkins, R. (2017). Health benefits of fermented foods: microbiota and beyond. *Curr Opin Biotechnol*, *44*, 94-102. https://doi.org/10.1016/j.copbio.2016.11.010

Materia, V. C., Linnemann, A. R., Smid, E. J., & Schoustra, S. E. (2021). Contribution of traditional fermented foods to food systems transformation: value addition and inclusive entrepreneurship. *Food Security*, *13*(5), 1163-1177. https://doi.org/10.1007/s12571-021-01185-5

Meuwissen, M. P. M., Feindt, P. H., Spiegel, A., Termeer, C. J. A. M., Mathijs, E., Mey, d. Y., Finger, R., Balmann, A., Wauters, E., Urquhart, J., Vigani, M., Zawalińska, K., Herrera, H., Nicholas-Davies, P., Hansson, H., Paas, W., Slijper, T., Coopmans, I., Vroege, W., . . . Reidsma, P. (2019). A framework to assess the resilience of farming systems. *Agricultural Systems*, *176*. https://doi.org/10.1016/j.agsy.2019.102656

Mithani, M. A. (2020). Adaptation in the face of the new normal. *Academy of Management Perspectives*, *34*(4), 508-530.

Morrison, A. (1996). Marketing the small tourism business. *Marketing tourism products: Concepts, issues, cases*, 399-420.

Mozumdar, L., Hagelaar, G., Materia, V. C., Omta, S. W. F., Islam, M. A., & van der Velde, G. (2019). Embeddedness or Over-Embeddedness? Women Entrepreneurs' Networks and Their Influence on Business Performance. *The European Journal of Development Research*, *31*(5), 1449-1469. https://doi.org/10.1057/s41287-019-00217-3

Nago, C. (1989). *Technologies traditionnelles et alimentation au Bénin: aspects techniques, biochimiques et nutritionnels. Application à quelques aliments fermentes locaux. 1 -Identification et caractérisation des principales filières et technologies du secteur traditionnel de transformation alimentaire.* Faculté des Sciences Agronomiques. Université Nationale du Bénin.

Nago, C., H., D., & J., M. (1990). Technical resources of food processing micro-enterprises in Bénin. . *Agritrop 14* (3), 7-11.

Nago, M.C., & Hounhouigan, D.J. (1998). La transformation alimentaire traditionnelle des cereales au Bénin. 01 BP 526 Cotonou Bénin. CERNA..

Nahapiet, J., & Ghoshal, S. (1997). Social capital, intellectual capital and the creation of value in firms. Academy of Management Proceedings,

Nakagawa, Y., & Shaw, R. (2004). Social capital and disaster recovery: A comparative case study of Kobe and Gujarat Earthquake. 13th World Conference on Earthquake Engineering, Vancouver, BC, Canada,

Nguyễn, L. T., Bostrom, A., Abramson, D. B., & Moy, P. (2023). Understanding the role of individual- and community-based resources in disaster preparedness [Article]. *International Journal of Disaster Risk Reduction*, *96*, Article 103882. https://doi.org/10.1016/j.ijdrr.2023.103882

Ntinda, K. (2019). *Narrative Research*. Springer Singapore. https://doi.org/https:// doi. org/ 10. 1007/ 978- 981- 10- 5251-4_ 79

OECD. (2022). Gender and Food Systems: Overcoming Evidence Gaps (OECD Food, Agriculture and Fisheries, Issue.

Penrose, E. T. (2009). *The Theory of the Growth of the Firm*. Oxford university press.

Pham, L. D. Q., Coles, T., Ritchie, B. W., & Wang, J. (2021). Building business resilience to external shocks: Conceptualising the role of social networks to small tourism & hospitality businesses. *Journal of Hospitality and Tourism Management*, *48*, 210-219. https://doi.org/10.1016/j.jhtm.2021.06.012

Polkinghorne, D. E. (1995). Narrative configuration in qualitative analysis. . *International journal of qualitative studies in education*, *8*(1), 5-23.

Randerson, K., Frank, H., Dibrell, C., & Memili, E. (2023). *Families in business:the next generation of family evolution*. https://doi.org/DOI: 10.4324/ 9781003342946

Rao, H., & Greve, H. R. (2018). Disasters and community resilience: Spanish flu and the formation of retail cooperatives in Norway. *Academy of Management Journal*, *61*(1), 5-25.

Rouse, J., & Kitching, J. (2006). Do Enterprise Support Programmes Leave Women Holding the Baby? . http://eprints.kingston.ac.uk/archive/00001083.

Scheiterle, L., & Birner, R. (2023). The myth of the market queens: A case study of women and power in Ghanaian markets. *Global Food Security*, *38*. https://doi.org/10.1016/j.gfs.2023.100703

Scott, K., & Liew, T. (2012). Social networking as a development tool: a critical reflection. *Urban Studies*, *49*(12), 2751-2767.

Slijper, T., Urquhart, J., Poortvliet, P. M., Soriano, B., & Meuwissen, M. P. M. (2022). Exploring how social capital and learning are related to the resilience of Dutch arable farmers. *Agricultural Systems*, *198*. https://doi.org/10.1016/j.agsy.2022.103385

Smallbone, D., Deakins, D., Battisti, M., & , & Kitching, J. (2012). Small business responses to a major economic downturn: Empirical perspectives from New Zealand and the United Kingdom. *International Small Business Journal 30*(7), 754-777.

Smith, D. A., & Lohrke, F. T. (2008). Entrepreneurial network development: Trusting in the process. *Journal of Business Research*, *61*(4), 315-322. https://doi.org/10.1016/j.jbusres.2007.06.018

Sokolinskaya, N. E., & Kupriyanova, L. M. (2015). Evaluation of small business support's effectiveness. *Asian Social Science*, *11*(7), 98.

Su, W., & Junge, S. (2023). Unlocking the recipe for organizational resilience: A review and future research directions. *European Management Journal*, *41*(6), 1086-1105. https://doi.org/10.1016/j.emj.2023.03.002

Torres, A. P., Marshall, M. I., & Sydnor, S. (2019). Does social capital pay off? The case of small business resilience after Hurricane Katrina. *Journal of contingencies and crisis management*, *27*(2), 168-181.

Uzzi, B. (1996). The sources and consequences of embeddedness for the economic performance of organizations: The network effect. *American sociological review*, 674-698.

World Bank. (2023). *World Bank national accounts data, and OECD National Accounts data files.* Retrieved 17.09.23 from https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?end=2022&locations=BJ&start=1960&view=chart

WB. (2023). *Women, Business and the Law 2023* https://doi.org/doi:10.1596/978-1-4648-1944-5

Woolcock, M. (2001). The place of social capital in understanding social and economic outcomes. *Canadian journal of policy research*, *2*(1), 11-17.

Chapter 5

Chapter 5. General discussion and conclusion

5.1 Introduction

Understanding the specific shocks faced by women in agribusiness and their resilience to these shocks is essential for enhancing their productivity, thereby supporting food security and nutrition for the growing population (OECD, 2022). This is crucial for achieving the second Sustainable Development Goal (SDG), which aims to end hunger and all forms of malnutrition by 2030. Boosting incomes and strengthening resilience through targeted policies for women's empowerment become therefore crucial for this aim (FAO, 2023). The overall objective of this thesis is to align with this SDG by exploring the shocks and resilience of women entrepreneurs in the informal food business sector. The specific research objectives are explored in three main chapters, which together provide a comprehensive understanding of the resilience of women entrepreneurs. Figure 1 presents the structure of the thesis; per each of the core chapters (Chapters II to IV), the main results are reported that address the analysed theme (reported in bold characters).

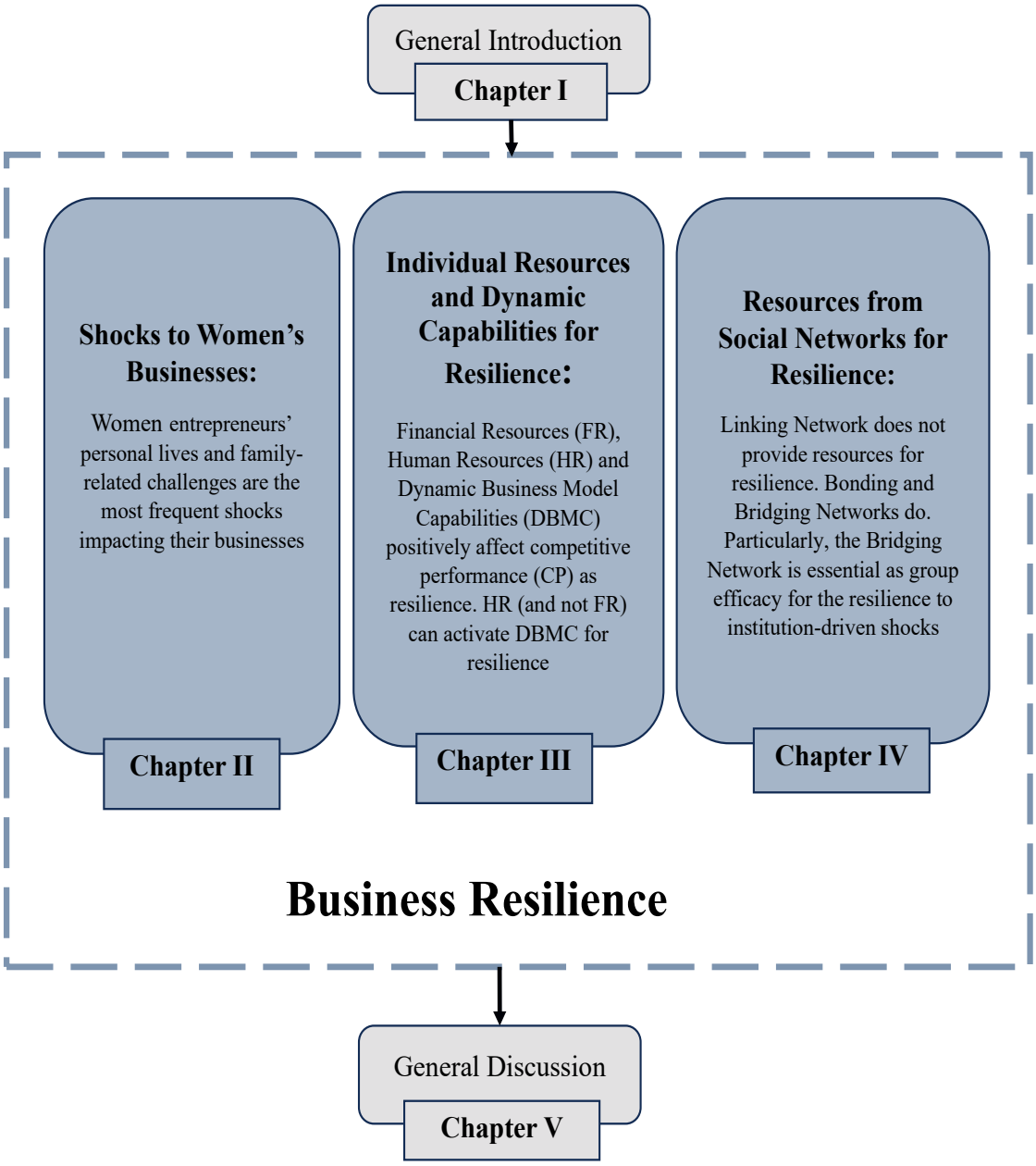


Figure 5.1 The thesis framework and synthesis of results

The first research objective (Chapter 2) investigated the events that women entrepreneurs perceive as seriously disturbing their business operations as shocks. These shocks are defined as any event that significantly disrupts or disturbs the continuity and performance of businesses, preventing them from delivering food to clients or achieving their livelihood goals. The second research objective (Chapter 3) examined how women entrepreneurs respond to food and market-related shocks, focusing on the resources and business capabilities employed as resilience to cope with these shocks. This chapter explores the human resources, financial resources, and dynamic business model capabilities used by women entrepreneurs to adapt to and mitigate the negative impacts of food and market-related shocks to maintain competitive performance. The third research objective (Chapter 4) focused on the role of social networks in building resilience. It investigated the types of resources women entrepreneurs can access through diverse social networks to mitigate different types of shocks when their own resources are insufficient. This chapter highlights how social networks provide external resources that are essential for resilience, particularly for shocks that are too severe for entrepreneurs to handle alone.

Addressing these three research objectives has significantly contributed to a better understanding of the resilience of informal small-scale women businesses and thus provides a new approach to examining shocks and resilience among women entrepreneurs in informal food small businesses. Although these women are overrepresented in the Global South economies (OECD, 2022), their resilience remains an understudied topic in the literature. The remainder of this chapter (Chapter 5) is structured as follows: Section 5.2 synthesizes the results of Chapters 2-4; Section 5.3 discusses the scientific contributions of this thesis; Sections 5.4 and 5.5 present recommendations based on the findings; and Section 5.6 concludes and suggests areas for further research.

5.2 Synthesis of the results

Across the three chapters, we identify three key themes that explain how women leading businesses build resilience. First, the definition of shocks is investigated. Understanding what constitutes a shock to women entrepreneurs is crucial, as resilience depends on the type of shock encountered. Chapter 2 examines this and reveals that shocks to women's businesses can range from business-related events to personal and societal challenges, each requiring different resources for coping. Second, the use of internal (or personal) resources and of dynamic capabilities is

studied: it is essential to use the correct types of resources and capabilities for each shock. Chapter 3 provides therefore insights into how financial and human resources are deployed to cope with food and market-related shocks. The purpose is to either directly increase firm performance during a shock or dynamically innovate business models conducive to higher performance. Third, the use of external resources from social networks is addressed: the right source to draw resources from is vital to resilience. Thus, Chapter 4 highlights the importance of social networks in providing external resources, showing that group efficacy and support from bridging networks are crucial for dealing with severe shocks, particularly institution-related shocks.

These themes collectively contribute to a comprehensive understanding of how women entrepreneurs can achieve resilience in the face of various shocks: first, by recognizing the type of shocks they face, then by employing their internal resources and dynamic capabilities, and finally by drawing external resources from suitable social networks when their own resources are limited. By examining the shocks and responses of women in informal small businesses, this thesis offers valuable insights into the steps taken to achieve resilience in this vital sector of the food business in the Global South.

5.2.1 Shocks to women's businesses

Researchers often disregard the context of female entrepreneurs in informal settings, despite their unique difficulties and vulnerabilities (Carranza et al., 2018). It is important to comprehend the specific shocks that women encounter to improve their resilience, considering that shocks in the food system frequently have a greater impact on women than men, particularly in the Global South where women are disproportionately involved in this sector (FAO, 2023). Chapter 2 delves into the shocks experienced by women entrepreneurs in Benin, providing a comprehensive understanding and evidence of these shocks. In Chapter 2, we discovered that many common occurrences, which may not be regarded as shocks in certain contexts, are perceived as significant disruptions by women entrepreneurs in Benin and call for resilience to face the shocks and continue business activities. These shocks impede their ability to provide food, emphasizing that resilience must be customized to address the specific shocks faced (Su & Junge, 2023). Our study in Chapter 2 uncovered these exceptional shocks faced by women entrepreneurs, which have not been sufficiently addressed in the existing literature. These shocks extend beyond the business context and originate from personal and societal challenges. For instance, personal shocks such as illness,

pregnancy, childbirth, and severe physical pain from food-processing activities significantly impact women's businesses. These personal shocks are more prevalent than those arising from the social and economic business environment, yet they have rarely been studied (cf. Doern et al., 2019). Our findings suggest that the high number of shocks experienced by women entrepreneurs, both in their business and personal lives, can be attributed to their deep embeddedness in multiple life and activity contexts, the expectations placed on them by these host contexts, and the size and types of businesses run by the entrepreneurs. Unlike typical firms, which operate independently of family and personal lives, the businesses studied in this thesis are closely intertwined with these aspects (see Figure 2). Values and social norms exacerbate the shocks women face because conflicting guidance from informal institutions complicates women's business operations. As women entrepreneurs navigate their roles in society, family, and business, they encounter unique challenges that require comprehensive solutions. Consequently, we suggest, based on our results, that families (and relatives) and personal lives are the primary channels through which shocks impact women's businesses.

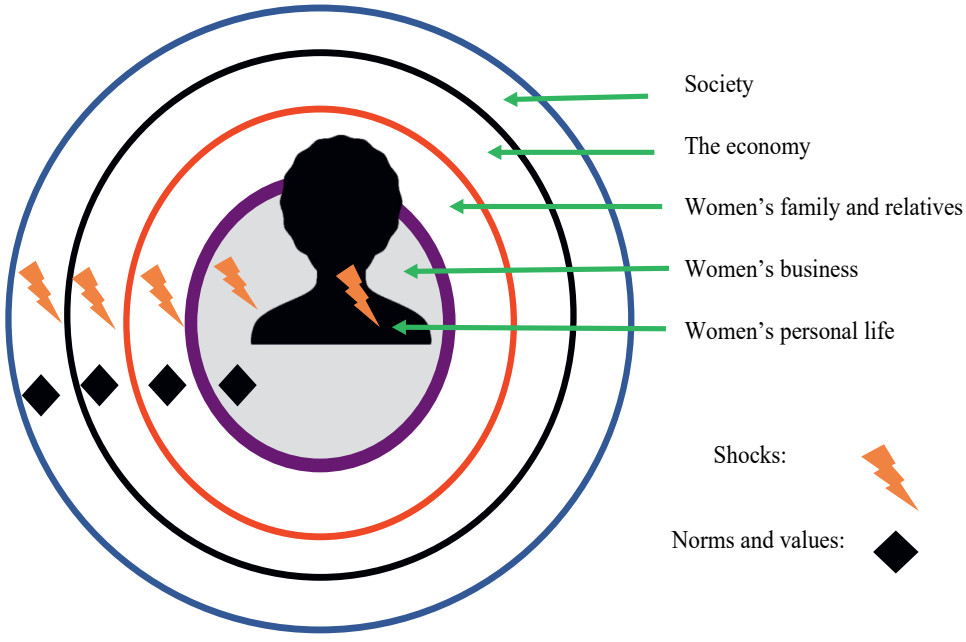


Figure 5.2 The embeddedness of small-scale women's business

5.2.2 Types of resilience for women entrepreneurs

Chapters 3 and 4 investigate the types of resilience that are suitable for the types of shocks that women typically encounter. Chapter 3 explores the use of financial and human resources to maintain competitive performance during shocks and how to combine these resources with dynamic business model capabilities for improved performance in the face of typical food technological and market-related shocks. Chapter 4 emphasizes the significance of social networks, demonstrating that resources from these networks are essential for resilience against particularly severe shocks. Specifically, for institution-related shocks, the group efficacy derived from bridging networks is necessary for resilience. In the following, we will present the results of this thesis on how to utilize these resources, dynamic capabilities, and networks to achieve resilience for women entrepreneurs in response to the types of shocks they face, providing practical solutions for women entrepreneurs to sustain their businesses amid various shocks.

Resilience to achieve Competitive Performance through Human and Financial Resources and Dynamic Business Model Capabilities

Chapter 3 emphasizes the essential role of human and financial resources in fostering competitive performance for small businesses confronting shocks. Both quantitative and qualitative data from our thesis indicate that these resources are critical for women entrepreneurs facing shocks, directly contributing to superior performance in the Global South, as earlier studies have found (Mozumdar et al., 2022). Our results differ from research on large firms in developed economies, which often report financial resources as non-valuable and non-rare (Barney, 1991; Lin & Wu, 2014). Furthermore, Chapter 3 indicates that, in the face of shocks, dynamic business model capabilities significantly improve the performance of small-scale, informal women-run enterprises. Adaptive and proactive dynamic capabilities enable these entrepreneurs to innovate their business models (namely, the way they organize their business), maintaining superior firm performance (Hitt et al., 1998; Teece, 2018). In our case, these dynamic business model capabilities, such as continuously innovating the applied food technology and marketing strategies, and adapting businesses to changing market information, directly enhance firm performance in a situation of a shock. For example, the ability to determine the quality and quantity of raw material inputs and the creativity to change product offerings can make the difference between success and failure.

Our most significant contribution in Chapter 3 is the analysis of the mediating role of dynamic business model capabilities between resources (human and financial) and competitive performance. We found that financial resources have a direct influence on competitive performance but do not enhance dynamic capabilities to innovate business models in our context. In contrast, human resources improve performance both directly and (indirectly) by enhancing dynamic business model capabilities, facilitating competitive performance during shocks. This finding shows that both human and financial resources are important in dealing with shocks, but are not equally valued. Human resources are the most important ones. The result concerning the effect of human resources aligns with Lin and Wu (2014), who studied large firms in developed economies, but our finding also highlights the unique context of existentially challenged women entrepreneurs in the Global South. Therefore, the combination of resources and dynamic capabilities provides the necessary ingredients for entrepreneurs to innovate their business models when facing shocks that challenge their performance. Resilience entails the ability to adjust and maintain competitive performance in the face of shocks (Conz & Magnani, 2020). The implementation of these resilience resources and capabilities depends heavily on the context, emphasizing the need for customized resilience for women entrepreneurs in the Global South.

Resilience Through resources from Social Networks

Women entrepreneurs in informal agrifood businesses rely on social networks to mitigate shocks, as their own resources are often insufficient. These networks include bonding (family and close relatives), bridging (business partners and competitors), and linking (local governments and authorities) networks (Carpenter et al., 2012; Woolcock, 2001). However, not all networks support resilience. Chapter 4 discusses bonding and linking networks that sometimes cause shocks instead of mitigating them. However, a bonding network also provides resources for resilience. Chapter 4 highlights the complex dynamics of social resource utilization across different types of shocks. The key findings indicate that bonding and bridging networks are crucial. Bonding networks help mitigate personal and family-related shocks (i.e., within the same environment). Bridging networks address business-related shocks through interactions with other entrepreneurs. Resource exchange between these two networks enhances resilience by increasing resource availability and underscoring the value of investing in strong relationships. Conversely, linking networks often do not help women entrepreneurs and can create institution-driven shocks, such as sudden regulations

that restrict or halt business operations. In these cases, concerted actions with competitors (bridging networks) are more effective. Chapter 4 postulates propositions and confirms the following: Bonding networks are essential for resilience against any shock to women's businesses, except institution-driven shocks; bridging networks are vital for cooperative resilience, addressing both collective and individual shocks to women entrepreneurs; and, this bridging network is the suitable one to address institution-driven shocks; finally, because of the lack of linking networks, women rely on bonding and bridging networks to boost their resilience. Overall, Chapter 4 emphasizes the importance of bonding and bridging networks in fostering resilience among women entrepreneurs, particularly those with limited support from higher authorities and organizations.

5.3 Scientific contribution

The present thesis explored the shocks on women's businesses and the resilience of women entrepreneurs in the informal small food business sector in the Global South. By doing so, the study aimed to provide new insights and approaches to studying resilience to shocks among actors not studied much in the literature. The research utilized a mixed-methods approach, incorporating both qualitative and quantitative methods, to uncover effective strategies for addressing the unique challenges faced by women entrepreneurs who are at risk of losing their businesses due to shocks. The study's overall scientific contribution is an integrated approach to understanding how women entrepreneurs achieve resilience by identifying the shocks they face, utilizing personal financial and human resources, and leveraging social networks for social resource utilization. The novel aspect of this research lies in the selection of actors, namely women who operate informal small food businesses, who do not fit the conventional definition of entrepreneurs. The research findings, which demonstrate the utilization of resources, dynamic capabilities, business model innovation, networking, and other strategies typically employed by formal and large enterprises, serve as **evidence that these women are, in fact, entrepreneurs**. This study underscores the importance of examining such previously overlooked actors in the literature and highlights their entrepreneurial potential, despite the informal nature and small size of their businesses. The thesis also provides more specific contributions regarding the steps involved in understanding how women achieve business resilience, which are discussed below.

Our research has contributed to the **understanding of the wide range of shocks experienced by women entrepreneurs**, which require resilience. Specifically, we have uncovered a previously uncharted area by examining the shocks faced by small informal businesses run by women entrepreneurs in a challenging context (Chapter 2). Unlike previous studies that have focused on shocks to formal large enterprises and small to medium-sized businesses, our study is a pioneer in shedding light on the types of shocks faced by women who operate informal food businesses, usually invisible as entrepreneurs, and who are facing existential challenges. While previous studies considered one shock and studied the resilience used, our research explores many shocks, both general and specific, as per Meuwissen et al. (2019), and explores the exhaustive shocks the women in small food businesses may encounter. Such a study has not been conducted before. The advantage of the method used in this study, which combines primary data comprised of an exploratory study, focus group discussions, and individual interviews with a large sample of women, is that it has provided us with many real-life shock stories and groups of shocks that have never been revealed before as shocks to businesses (Chapter 2). Our thesis describes the business environment of women entrepreneurs, which is characterized by existential shocks, and provides a new perspective on understanding the resilience achievement by these women entrepreneurs, to ensure food security for the population and livelihood provision for their households. We demonstrate how women face shocks in every context of their lives, and how even the government is sometimes causing those shocks instead of protecting these vulnerable actors. Our thesis contributes to the ongoing debate on "shocks," “resilience” and "women entrepreneurship". It challenges previous research that minimized the impact of personal events on business success. Instead, we emphasize the importance of considering all aspects of women's lives and activities, including family, personal, business, economy, and social factors, in studying women entrepreneurs to better capture the dynamism around them.

To the best of our knowledge, we are the first to analyze how existentially challenged, informally operating women entrepreneurs in the Global South build resilience by innovating their business models when confronted with a shock (Chapter 3). We provide contextual theoretical contributions about the resources and capabilities that are required to build resilience and how they interplay. It was previously unclear what specific combination of resources was needed to support the competitive performance of women entrepreneurs when they face shocks. It was believed that women entrepreneurs, particularly those with a low socioeconomic status, may struggle to

mobilize resources to develop and grow their businesses (Lumpkin et al., 2011; Morgan, 2020). Our research reveals that even with limited resources, women entrepreneurs in the Global South are able to recombine them with their business capabilities to support their competitive performance as resilience. Our study addresses the need for research on the relationship between resources and competitive performance (Lin and Wu 2014) and on the resources required to enhance resilience and competitive performance in the context of a shock (Conz and Magnani 2020). Understanding the resources needed by women entrepreneurs will support the sustainability of their informal food businesses and thereby their families' livelihoods. Chapter 3 of our study offers a valuable addition to the existing Resource-Based View (RBV) and Dynamic Capabilities (DC) approaches by adapting these theories to the business model innovation of women small-scale enterprises in the challenging context of shocks in the Global South. Thus far, these theoretical perspectives have primarily been applied to large and medium-scale firms (Barney et al., 2001; Lu et al., 2010). By integrating these two approaches, our research provides insights into how small food firms operating in challenging environments sustain their competitiveness and develop resilience to shocks. Our findings emphasize the significance of dynamic business model capabilities, financial resources, and human resources in enhancing performance. Furthermore, we demonstrate that dynamic business model capabilities play a mediating role in enhancing the positive impact of deploying human resources on competitive performance. Previous studies have suggested that financial resources are neither rare nor valuable when considered in isolation, and they cannot lead to competitive performance on their own. Our study reveals that financial resources are important for women entrepreneurs in the Global South, particularly in existentially challenging situations, but they are insufficient to leverage the enhancement of business model capabilities that support competitive performance in a context of shocks. Our main theoretical contribution is that we stress the need to contextualize the role of both resources and dynamic capabilities for business model innovation. We argue that which resources are critical for a firm's performance depends on empirical evidence and is heavily influenced by contextual factors. Theories developed based on research in developed economies may not be directly applicable to developing economies due to differences in socioeconomic conditions (Lin & Germain, 2003). Consequently, mainstream research on formal entrepreneurship is not directly generalizable to informal entrepreneurship in the Global South.

The fourth chapter of our study aimed to empirically examine how women can attain resilience through resources obtained from social networks. Specifically, our research is the first to empirically show, based on the numerous and diverse shocks experienced by women entrepreneurs, the role that bonding, bridging, and linking networks play in causing and mitigating these shocks, and which network to rely on in different situations. This study emphasizes the crucial function that social networks play in achieving the resilience of firms, particularly among women entrepreneurs who manage informal businesses in the Global South. By investigating the resources that women use to overcome various shocks to their enterprises, our research provides a significant contribution to the existing literature on resilience, shocks, and social networks. Previous studies were limited to how social networks were utilized in specific unique shocks for resilience, whereas our fourth chapter focuses on general multiple shocks and the resources provided by these networks, with an emphasis on the role of each type of network for each type of shock. As Benin has many features in common with other countries in the Global South, findings from our study provide important implications for women's small firms in the Global South (Li & Zhou, 2010).

5.4 Policy recommendation

This thesis presents several recommendations aimed at redesigning policies to bolster the resilience of women entrepreneurs. It suggests that policymakers should consider adopting a diverse range of policy instruments to strengthen the resilience of small agrifood businesses, especially when led by women. Our findings in Chapters 2-4 indicate the need for small agrifood businesses to align with the three pillars of food systems systemic change, namely inclusive markets, empowered rural communities, and catalytic governance (IFAD, 2021). The recommendations in this section guide how policymakers can utilize our findings and develop policies that align with these pillars, thereby supporting the resilience of women entrepreneurs in the informal sector. This will enable them to continue providing food for their livelihood and ensuring food security for the population.

Recommendations for policy change should first prioritize the establishment of an inclusive market as a fundamental shift in the food system. The findings of this thesis demonstrate that women entrepreneurs face significant challenges in the form of shocks, many of which stem from

the absence of market information from adaptable market information channels. The lack of real-time raw material price information and price prediction information can exacerbate the shocks that they experience. While market information is available, it is not accessible to all actors in the food system, such as women entrepreneurs in the informal sector who often lack formal education. Increasing market and information inclusion can lead to more innovative business models for women entrepreneurs, which can improve their competitive performance and resilience. For instance, utilizing formal channels for price and market information, in addition to their existing channels, such as messages in local languages via mobile phones can assist women entrepreneurs in making informed decisions about when and where to purchase affordable raw materials and how to utilize them in their food businesses.

Besides, women entrepreneurs in the informal sector are also impacted by sudden decisions made by formal institutions (we presented the example of the construction of infrastructure and renovation projects). These decisions often do not take the perspectives of and the impact on women entrepreneurs into account, as they are typically invisible to the formal sector being small business owners in the informal sector. As a result, such decisions can have severe negative effects on women's businesses. It is important for policymakers to carefully consider the potential pros and cons of each decision and its impact on the livelihoods of both sellers and buyers, particularly those who are living in poverty. By prioritizing inclusivity and accessibility, policymakers can help to promote the growth and success of women-led businesses in the food sector.

Moreover, informal institutions often establish norms that can exacerbate women entrepreneurs' activities. The expectations and judgments placed upon women entrepreneurs regarding their roles as care providers and resource providers, as highlighted in Chapters 2 and 4, can be contradictory and hinder their business resilience. It is essential to strike a balance between these responsibilities. Therefore, policymakers should develop measures that address these issues and mitigate the shocks resulting from informal institutions, as it is believed that formal institutions can affect informal ones (Pejovich, 2006). Policymakers should provide equitable information through adaptable channels in the areas of finance and markets, and also, strive to balance gender roles in terms of expectations. For example, radio broadcasts and awareness-raising messages on these topics will help on these matters. This will allow formal institutions to guide informal institutions in

alleviating women's roles, burdens and expectations from them. Policymakers must carefully consider such matters and develop appropriate strategies to address them.

The second policy recommendation based on this thesis is to emphasize the significance of women's empowerment. The thesis highlights, in Chapter 3, the necessity of women's internal resources for achieving resilience, and, in Chapter 4, demonstrates that social networks can provide support in achieving resilience, provided that the appropriate network is selected to address a specific shock. Women entrepreneurs' human resources, including their knowledge of food technology, business management, marketing, and their ability to dynamically innovate their business models, are critical for business resilience to shocks (Chapter 3). Our thesis in Chapter 3 underscores the important role that policymakers can play in investing in women's knowledge of food technology for food production, business management knowledge, and marketing, as these resources can help women activate the capabilities needed to innovate their businesses in a turbulent business environment characterized by shocks. Moreover, Chapter 3 shows that financial capital can help achieve high performance in a turbulent environment, but it cannot help activate dynamic business model capabilities, indicating a need for financial support for women-owned businesses.

Chapter 4 shows that bonding and bridging networks help women address shocks; it also indicates that bridging networks are more important because they can help tackle institutional shocks that bonding networks alone cannot. From our data collection, many women seem to understand the importance of bridging networks and are willing to establish a formal network of traditional food entrepreneurs, but they struggle with how to establish a cooperative in the agrifood business and how to coordinate it. Based on our findings in Chapter 3 and 4, policymakers could facilitate the resilience of women entrepreneurs through several measures, such as (1) providing support for the creation of a well-established cooperative of women traditional food entrepreneurs, (2) offering knowledge-sharing and research-based training on food technology and entrepreneurship, (3) providing specific microfinance options for businesses, and life and health insurance to cover unexpected events that can deplete business capital and lead to the collapse of the business. Our research has revealed that there are experienced food and business scientists, as well as some women entrepreneurs, who are willing to share their knowledge and expertise. For instance, during our data collection, we encountered a woman who had developed a technology that could extend

the shelf life of fermented foods to months, while the normal shelf life of the product is for days. The short shelf life of the product is one of the reasons why women entrepreneurs face shocks (as discussed in Chapter 2), and having this knowledge could prove invaluable if an unforeseen event were to force an entrepreneur to take a break from her business for a few weeks. By organizing women entrepreneurs into cooperatives, they can receive training and access business financing, similar to what many women in other sectors of the country have been able to do. Empowering women in agrifood business management and finance could transform certain events, such as personal or family-related challenges, from being perceived as shocks that disrupt food delivery to being considered normal occurrences that no longer pose a challenge. It is important to note that the types of shocks we have identified in this thesis are specific to the context of resource scarcity and require context-specific policies to be effective.

The third significant policy recommendation pertains to the implementation of catalytic governance in the transformation of agrifood systems. Chapters 2, 3, and 4 demonstrate that women entrepreneurs in the fermented food industry are struggling to make a living and provide food for the population. In particular, Chapter 4 highlights the need for support to help them overcome shocks. Currently, only bonding and informal bridging networks are providing support. Other organizations are not directly assisting these women when they experience shocks. These women, as key actors in food security and nutrition, are facing shocks affecting their incomes and their health as a result of a lack of appropriate equipment, resources, awareness on working conditions, and support from authorities. This thesis proposes a collaboration between various stakeholders, including entrepreneurs, farmers, consumers, governments, NGOs, insurance and microfinance businesses, researchers, etc., to reconsider the traditional food system for the benefit of all. By integrating diverse perspectives and expertise into the food business transformation process, this collaboration will ensure that the well-being of the people producing our food and the appropriate social inputs are considered, which are essential elements of a more resilient food system. The implementation of catalytic governance in the traditional agrifood sector can bring together stakeholders from various sectors to develop integrated solutions for a more sustainable, equitable, and resilient food business. This governance can provide resources and information to all actors in the food value chain, facilitate policy alignment, innovative financing and technologies adapted to women, and knowledge sharing. This pillar of catalytic governance can support the first two pillars of inclusive markets and women empowerment (IFAD, 2021).

5.5 Business recommendations for women entrepreneurs

This thesis also presents a comprehensive set of business recommendations aimed at enhancing the resilience and prosperity of women entrepreneurs within the agrifood supply chain. These recommendations are intended to complement policy recommendations by adopting a bottom-up approach that maximizes overall impact.

From chapters 2 to 4, it is evident that women entrepreneurs must first analyse the types of shocks they face, their origins, and the resources required to cope with these shocks. By understanding and categorizing the shocks that could impact their business, women entrepreneurs can determine what resources are needed to address these shocks and identify where to obtain them. Given the deep embeddedness of women and their businesses within their families, local economy, and society, they must also analyse how these contexts can both contribute to shocks, and mitigate shocks. This understanding enables them to leverage available resources more effectively. Due to the high embeddedness of women entrepreneurs in their local contexts, it is crucial to actively seek and utilize resources from these same contexts. This involves not only providing support but also drawing the necessary resources to sustain and grow their business. Identifying and harnessing the potential resources within these contexts can help build resilience against shocks.

Coping with shocks often requires anticipatory resources and adaptive capabilities, as discussed by Conz and Magnani (2020), and Duchek (2019). Women entrepreneurs should receive training in business management, marketing and food technology to enhance their dynamic capabilities in innovating the food business when shocks occur. Specifically, gaining experience in the agri-food sector before starting their own business can help build human capital and better prepare them for future shocks (Chapter 3).

Networks are essential for accessing resources and building resilience as they can provide immediate support during shocks (Dolfsma & van der Eijk, 2016; Echeverri, 2009; Granovetter & Swedberg, 2018). Maintaining close relationships with family and relatives is crucial, but developing and activating bridging networks with other entrepreneurs is more important to facilitate informal cooperation, communication, and advice exchange during shocks (Chapter 4). Creating formal networks with clear leadership and objectives focused on knowledge sharing, financial support, and other resources can help buffer against shocks. Engaging in peer support strategies, such as financial assistance, labour sharing, and mutual advice, can help maintain

business continuity and resilience. This thesis suggests that women entrepreneurs should use bridging networks to effectively activate linking networks, which can help access institutional resources and support during shocks.

In a context where government and institutional support for women entrepreneurs is limited, particularly for those in the informal sector, the thesis underscores the importance of self-reliance and peer collaboration. By building and maintaining strong bonding and bridging networks, women entrepreneurs can significantly enhance their resilience to shocks. Overall, the business recommendations provided in this thesis aim to empower women entrepreneurs to build a resilient foundation for their businesses from the bottom up, ensuring long-term resilience.

5.6 Main conclusion and further research

This thesis provides unique and valuable insights and contributions to the understanding of the shocks and resilience of women entrepreneurs in the informal small food business sector in Benin, a country in the Global South.

Firstly, the definition of shocks concerning the small-scale businesses of existentially challenged women entrepreneurs operating in the informal sector was lacking in the literature. This thesis shows that all sorts of events in the life and family of the women can be experienced as shocks, changing the definition of shocks to business from extraordinary and unusual events to common and everyday events that require resources for mitigation.

Secondly, responses to the shocks as resilience are usually researched as strategies such as changes in market orientation or supply chain optimization (Huang & Farboudi Jahromi, 2021). In this thesis, we understood resilience as the use of personal resources of the entrepreneurs and/or social networks resources, which are directly used, or strategically combined with dynamic capabilities when the business environment is turbulent because of shocks.

This empirical study, while offering valuable insights into the challenges faced by women entrepreneurs in the fermented food business in Benin, acknowledges its limitation regarding generalizability to other contexts. Nonetheless, we suggest that our findings for small-scale entrepreneurs in the food industry in one country in the Global South, a country where food and nutrition security is not a given, are representative of other developing economies and other processing industries that have similar characteristics as this country and industry.

The thesis identifies several areas for future research. Future studies are recommended to explore the comprehensive impact of specific shocks on socio-economic and food security outcomes of food system activities. We advise research on the effects of such specific shocks on informal and formal small and medium-sized enterprises (SMEs) in both the Global North and Global South to comprehend the context-specific nature of certain shocks. Such studies can aim to discern which shocks produce major or minor effects. This will shed light on key shocks to consider when designing strategies to manage shocks concerning SMEs in different contexts, thus providing a solution for preparing business actors to successfully face severe shocks to their businesses and maintain their livelihood through their food businesses.

Moreover, future research should focus on examining the resilience of businesses during various stages of a specific shock, including before, during, and following the shock (Conz & Magnani, 2020; Duchek, 2019). This approach would provide a more comprehensive understanding of the resources and capabilities required during these stages of the specific shock.

Furthermore, including research on resilience capacities would allow a comparison between resilience in agricultural and ecological fields and resilience in business fields. Resilience capacities allow entities to maintain their activities in the face of shocks (Meuwissen et al., 2019). Although research on resilience capacities has mostly been conducted in ecological and agricultural systems, there has been little investigation in the business field. three types of resilience capacities can help tackle shocks: robustness, adaptability, and transformability (Conz & Magnani, 2020; Meuwissen et al., 2019; Slijper et al., 2020). Robustness refers to the capacity to withstand both expected and unexpected shocks (Walker et al., 2004). Adaptability is the ability to adjust to shocks through changes in input, production, marketing, and risk management. Transformability is the capacity to radically alter the internal structure of an entity to cope with severe shocks and endure stress, which may also involve the delivery of alternative and/or additional functions (Meuwissen et al., 2019). Future research should explore the extent to which these resilience capacities are used in business resilience, which capacities are used, and how they are expressed. It would be helpful to understand which capacities are necessary to cope with different types of shocks and why. Based on this thesis, we propose that the transformability capacity seems critical in severe business shocks of small women businesses such as entrepreneur's personal health issues that usually require radical changes in business

implementation, while the robustness and adaptability capacities may be more appropriate for less severe shocks that require less rigorous changes in business operations.

Finally, this research on women entrepreneurs in Benin can offer insights into the research on the role of social networks in supporting resilience among various actors, such as business associations, trade unions, environmental organizations, and other interest groups in the Global North such as in the Netherlands. As these groups play a critical role in shaping public policy and supporting different sectors, it is important to understand how decision-making from the government causes shocks to these actors and how these lobbies exert resilience in response to such shocks.

5.7 References

Barney, J. (1991). Firm Resources and Sustained Competitive Advantage *Journal of Management*, *17*(1), 99-120. https://www-proquest-com.ezproxy.library.wur.nl/docview/215258436?accountid=27871

Barney, J., Wright, M., & Ketchen, D. J. (2001). The resource-based view of the firm: Ten years after 1991. *Journal of Management*, *27*(6), 625-641. https://doi.org/10.1177/014920630102700601

Carpenter, M. A., Li, M., & Jiang, H. (2012). Social network research in organizational contexts: A systematic review of methodological issues and choices. Journal of Management, 38(4), 1328-1361.

Carranza, E., Dhakal, C., & Love, I. (2018). Female entrepreneurs: How and why are they different?

Conz, E., & Magnani, G. (2020). A dynamic perspective on the resilience of firms: A systematic literature review and a framework for future research. *European Management Journal*, *38*(3), 400-412. https://doi.org/10.1016/j.emj.2019.12.004

Doern, R., Williams, N., & Vorley, T. (2019). Special issue on entrepreneurship and crises: business as usual? An introduction and review of the literature. *Entrepreneurship & Regional Development*, *31*(5-6), 400-412. https://doi.org/10.1080/08985626.2018.1541590

Dolfsma, W., & van der Eijk, R. (2016). Network position and firm performance – the mediating role of innovation. *Technology Analysis & Strategic Management*, *29*(6), 556-568. https://doi.org/10.1080/09537325.2016.1216095

Duchek, S. (2019). Organizational resilience: a capability-based conceptualization. *Business Research*, *13*(1), 215-246. https://doi.org/10.1007/s40685-019-0085-7

Echeverri, H. H. (2009). Research into social and entrepreneurship networks: A literature review and future agenda [Article]. *Innovar*, *19*(33), 19-33. https://www.scopus.com/inward/record.uri?eid=2-s2.0-70349572526&partnerID=40&md5=6ff6a651c084558cd5684f6ea895eb8a

FAO. (2023). *The status of women in agrifood systems*. https://doi.org/https://doi.org/10.4060/cc5343en

Granovetter, M., & Swedberg, R. (2018). *The sociology of economic life, Third edition* [Book]. https://doi.org/10.4324/9780429494338

Hitt, M. A., Keats, B. W., & , & DeMarie, S. M. (1998). Navigating in the new competitive landscape: Building strategic flexibility and competitive advantage in the 21st century. *Academy of Management Perspectives*, *12*(4), 22-42.

Huang, A., & Farboudi Jahromi, M. (2021). Resilience building in service firms during and post COVID-19. *The Service Industries Journal*, *41*(1-2), 138-167.

IFAD. (2021). *Transforming food systems for rural prosperity* (Rural development Report 2021, Issue.

Li, J. J., & , & Zhou, K. Z. (2010). How foreign firms achieve competitive advantage in the Chinese emerging economy: Managerial ties and market orientation. *Journal of Business Research*, *63*(8), 856–862.

Lin, X., & Germain, R. (2003). Organizational structure, context, customer orientation, and performance: lessons from Chinese state-owned enterprises. *Strategic Management Journal*, *24*(11), 1131-1151. https://doi.org/doi/abs/10.1002/smj.348?casa_token=5a-vaeH3LlgAAAAA:YzmXTrf9YYCQf3-Wnm0xZRP2CDpe2f1fd7w1z0wBGZ684zXAU025xtyJTpFiBIalo4l73oCgRkmZd8Y

Lin, Y., & Wu, L.-Y. (2014). Exploring the role of dynamic capabilities in firm performance under the resource-based view framework. *Journal of Business Research*, *67*(3), 407-413. https://doi.org/10.1016/j.jbusres.2012.12.019

Lu, Y., Zhou, L., Bruton, G., & Li, W. (2010). Capabilities as a mediator linking resources and the international performance of entrepreneurial firms in an emerging economy. *Journal of International Business Studies 41*, 419–436. https://doi.org/10.1057/jibs.2009.73

Lumpkin, G. T., Steier, L., & Wright, M. (2011). Strategic entrepreneurship in family business. *Strategic Entrepreneurship Journal*, *5*(4), 285-306. https://doi.org/10.1002/sej.122

Meuwissen, M. P. M., Feindt, P. H., Spiegel, A., Termeer, C. J. A. M., Mathijs, E., Mey, d. Y., Finger, R., Balmann, A., Wauters, E., Urquhart, J., Vigani, M., Zawalińska, K., Herrera, H., Nicholas-Davies, P., Hansson, H., Paas, W., Slijper, T., Coopmans, I., Vroege, W., . . . Reidsma, P. (2019). A framework to assess the resilience of farming systems. *Agricultural Systems*, *176*. https://doi.org/10.1016/j.agsy.2019.102656

Morgan, H. M. (2020). Underdog entrepreneurs. *Cham: Palgrave Macmillan*.

Mozumdar, L., Hagelaar, G., Materia, V. C., Omta, S. W. F., van der Velde, G., & Islam, M. A. (2022). Fuelling Entrepreneurial Orientation in Enhancing Business Performance: Women Entrepreneurs' Contribution to Family Livelihood in a Constrained Context, Bangladesh. *The European Journal of Development Research*. https://doi.org/10.1057/s41287-022-00523-3

OECD. (2022). *Gender and Food Systems: Overcoming Evidence Gaps* (OECD Food, Agriculture and Fisheries, Issue.

Pejovich, S. (2006). The effects of the interaction of formal and informal institutions on social stability and economic development. *Institutions, globalisation and empowerment*, *56*.

Slijper, T., de Mey, Y., Poortvliet, P. M., & Meuwissen, M. P. (2020). From risk behavior to perceived farm resilience: a Dutch case study. Ecology and Society. *25*, *4*.

Su, W., & Junge, S. (2023). Unlocking the recipe for organizational resilience: A review and future research directions. *European Management Journal*, *41*(6), 1086-1105. https://doi.org/10.1016/j.emj.2023.03.002

Teece, D. J. (2018). Business models and dynamic capabilities. *Long Range Planning*, *51*(1), 40-49. https://doi.org/10.1016/j.lrp.2017.06.007

Walker, B., Holling, C. S., Carpenter, S. R., & Kinzig, A. (2004). Resilience, adaptability and transformability in social–ecological systems. *Ecology and Society*, *9*(2).

Woolcock, M. (2001). The place of social capital in understanding social and economic outcomes. Canadian journal of policy research, 2(1), 11-17.

Summary

In the Global South, women entrepreneurs are frequently subjected to disruptive events - shocks - that exacerbate their challenges and vulnerabilities. Together with other barriers they face, which include limited access to resources (such as education, skills, and networks), and sociocultural and institutional gender norms, these shocks contribute to the lower performance and profitability of women-led businesses. Despite the significant impact of these shocks, the literature still lacks evidence and contextualization regarding their nature, nuances, and effects in the turbulent environments in which women entrepreneurs operate. To address this gap, this thesis focuses on the shocks and resilience-building strategies employed by women entrepreneurs leading agrifood businesses, specifically focusing on traditional fermented food production and sales. The research addresses three interconnected aims: (1) to provide a comprehensive understanding of what shocks are for women entrepreneurs in the Global South and evidence of their impact on their businesses; (2) to identify the resources and capabilities women entrepreneurs use to overcome these shocks; and (3) to analyse the role of social networks in building resilience to the identified shocks. These aims together contribute to uncover the conditions under which women entrepreneurs operate, the turbulent nature of their social and business contexts, and to address the need for a more context-specific definition of the term "shock" for businesses. In addition, this thesis provides an understanding of how resilience can be built for a variety of shocks that the literature so far has missed to address.

In Chapter 2 of this thesis, we investigate the research question "*What events seriously disrupt women's businesses as shocks, and why do women face such shocks?"*. We conduct and analyse 110 individual interviews and eight focus group discussions with women involved in the traditional fermented food trade in Benin, West Africa. By employing an inductive approach with the primary data collected, we uncover the nature and origin of the shocks to women's businesses in agri-food. Our findings indicate that women entrepreneurs and their businesses are embedded in multiple contexts, including family, business, the economy, and society, all of which possess the potential to generate shocks. These contexts influence the behaviour of entrepreneurs. We discover that the most significant shocks to women's businesses were personal in nature, stemming from their families and personal lives, which threaten the existence of the women involved and their families.

Previous studies overlooked these specific shocks. This study concludes that it is crucial to address the challenges that women face with their small-scale businesses holistically, considering not only their economic and societal circumstances, but also their personal and family contexts. Women can achieve success as entrepreneurs, but they can also be existentially challenged by the numerous shocks they experience in every aspect of their lives, particularly in the Global South.

In Chapter 3, we focus on the research question "*What resources and dynamic capabilities (DCs) enable the resilience and competitive performance of informal existentially challenged women entrepreneurs operating in challenged business environments characterized by shocks, and to what extent do these DCs mediate the relationship between the resources and competitive performance?"*

We propose to examine the application of resources and dynamic business capabilities to investigate resilience. Specifically, we combine the resource-based view (RBV) theory and the dynamic capabilities (DCs) approach to explore what contributes to resilience among women entrepreneurs. Our aim is to identify the combination of resources and capabilities that enables women entrepreneurs not only to survive, but also to thrive in challenging business environments. Our analysis of data from 355 women entrepreneurs of fermented foods in Benin indicates that both financial and human resources are critical for firm success. However, our research suggests that human resources play a particularly important role in allowing women entrepreneurs to adapt their business models when faced with a shock. Our findings emphasize that certain resources are more valuable than others in promoting firm resilience and subsequent performance, as they facilitate the development and implementation of dynamic capabilities, which mediate the effects of human resources on business performance.

This study highlights the context-dependent nature of these resources and capabilities, as our findings differ from those of previous studies conducted in different settings. Therefore, our contribution to the literature on the resource-based view and dynamic capabilities is to suggest how these concepts can be interrelated and to demonstrate the importance of considering the specific context in which these resources and capabilities are employed.

In Chapter 4, we investigate the research question: "*How are social networks used to mitigate shocks to women's businesses?"*. Our study is based on the qualitative analysis of primary data collected through 21 exploratory interviews, 8 focus group discussions, and 110 individual

interviews. Our findings suggest that women entrepreneurs utilize both bonding and bridging networks to address business shocks that may arise, while linking networks tend to exacerbate these shocks. Notably, our research reveals that bonding networks provide valuable resources but are also a source of shocks. On the other hand, bridging networks are crucial for implementing resilience strategies to deal with any type of shock, including that caused by linking networks. This finding suggests that bridging networks are more important than bonding networks in mitigating the impact of shocks on women entrepreneurs; however, bonding networks are more available. Our study sheds light on how social networks can alleviate women entrepreneurs' vulnerability to shocks and contributes to a more refined understanding of the importance of each type of social network in this context. Our research adds to the existing literature by emphasising the significance of collaboration within entrepreneurial communities and providing valuable insights for women entrepreneurs operating in the informal food sector.

Throughout the three chapters, we identify three fundamental themes that elucidate how women entrepreneurs build their resilience. Initially, we investigate the meaning of shocks. It is crucial to understand the types of shocks that women entrepreneurs encounter, as resilience depends on the nature of these shocks. In Chapter 2, we examine various shocks that affect women's businesses, ranging from business-related shocks to personal and societal issues, each requiring different coping strategies. In Chapter 3, we study the entrepreneurs' use of internal or personal resources and dynamic capabilities. It is essential to use the appropriate types of resources and capabilities to cope with each type of shock. Chapter 3 provides insights into how financial and human resources are utilized to deal with food- and market-related shocks. The purpose is to either directly improve firm performance during a shock, or dynamically innovate business models that promote higher performance. Finally, Chapter 4 addresses the use of external resources from social networks. It is vital to know the appropriate source of resources to achieve resilience. Chapter 4 highlights the importance of social networks in providing external resources, demonstrating that group efficacy and support from bridging networks are critical in dealing with severe shocks, particularly institution-related shocks.

Together, these themes offer a comprehensive understanding of how women entrepreneurs can build resilience in the face of various shocks in turbulent contexts. They achieve this by first recognizing the nature of the shocks they face, then employing their internal resources and

dynamic capabilities, and finally by drawing external resources from suitable social networks when their resources are limited. This thesis offers valuable insights into the steps taken by women in informal small businesses to achieve resilience in the vital food business sector in the Global South. It can help address the factors contributing to the slow growth and lack of resilience of women in small-scale agri-food businesses. Moreover, the findings of this thesis can help target interventions that can empower women in agri-food systems. By raising awareness of the shocks that women face, this thesis can enhance their resilience, ultimately supporting food security and nutrition in a growing population.

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My research, developed in the context of an interdisciplinary research project has involved numerous individuals. This PhD is the result of the joint efforts of many people who have supported me throughout this winding journey. During this journey, I have faced numerous challenges, but with the help of these people, I have developed resilience and reached a beautiful end. I am deeply grateful to all those who have actively contributed to this achievement.

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my interview at the University of Abomey-Calavi. Having you on my supervisory team made a significant difference.

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I am also deeply grateful to Dr. Yann Madodé, Prof. Joseph Hounhouigan, and Prof. Barthelemy Honfoga from the Abomey-Calavi University in Benin. Your guidance in the early stages of my PhD trajectory facilitated this journey, and knowing that you were there to help was incredibly encouraging. Special thanks to Dr. Yann Madodé for coordinating the FermFood project in Benin and facilitating local practicalities.

My heartfelt thanks go to the whole FermFood team, including all supervisors, secretary personnel - in primis, Marjan Kampinga, secretary of the Laboratory of Genetics, and my fellow PhD colleagues. I shared many wonderful moments with Carole, Ardinesh, Robert, Sakile, and Matthew (even though he is not from FermFood), supporting and encouraging each other, reflecting on our topics, sharing challenges, and celebrating our successes. My journey was also made easier by the camaraderie and support of other close PhD students mostly from FermFood project, such as Thelma, Taonga, Shepherd, Mubonda, Murambiwa, Alanna, Clara, Chindi and others. It was a pleasure to be part of this team, and I greatly benefited from your knowledge and feedback during our meetings and symposia.

I reiterate my sincere gratitude to my paranymphs, Matthew and Alanna, for their invaluable assistance and organizational efforts to support this PhD defense. Despite your imminent PhD defenses and associated workload, you have graciously agreed to provide your support.

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While my work was supported by many academically, my PhD is not only an academic endeavor. The personal support that I received from my family, relatives, and friends was equally crucial. I would not have made this through this process without them.

I especially want to thank my husband Marius Modeste. You have been my greatest supporter, for providing your technical expertise to this achievements, and also for taking care of our children and managing everything when I was absent because in the Netherlands for months on my PhD trajectory. Your constant presence, being there for our family, has allowed me to focus on my studies. I appreciate your efforts immensely. To my children, Baruck, Eliane, and Reouel, you have been a constant source of inspiration, giving me joy and strength to persevere. Thank you for understanding and supporting this journey. I am also grateful to my mother, Philomene, my siblings, my in-laws, my relatives Rosine and Pélagie, and my friend Célestine Mehoba, for caring for my family while I was away. Your support is vital during this journey. I also thank Dr Daniel Dedji and Mrs Ada Babadjide, my close friends and family mentors, for encouraging me to be bold and to continue to achieve that goal.

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About the author

Blandine Assibi Ekpodilè-Domingo was born on March 16th, 1983 in Klouekanmey, Republic of Benin. She completed her secondary education at Lycée Houffon in Abomey and Gbegamey college in Cotonou, where she successfully obtained her baccalaureate in 2002. As one of the highest-performing students in a national competition, she was awarded a Beninese government scholarship to study Management and Protection of the Environment at the Ecole Polytechnique d' Abomey-Calavi (EPAC), at the University of Abomey-Calavi (UAC) in Benin. Prior to graduation, Blandine completed an internship at the International Institute of Tropical Agriculture (IITA) in Benin, where she applied her environmental studies to agricultural research, focusing on the biological control of cowpea pests. She obtained her engineering bachelor (Diplôme d'Ingénieur des Travaux - DIT) in August 2006. Subsequently, she was appointed as Project Officer at "Développement Communautaire et Assainissement du Milieu (DCAM/Bethesda NGO)" to support three municipalities in the Center of Benin for waste management. During this period, she developed professional competencies in monitoring and evaluation (M&E), project management, and stakeholder partnerships. In 2007, Blandine initiated her enterprise by establishing an agribusiness in cashew nuts and honey production and trade. Concurrently, she pursued a Master's degree in Agricultural Economics from 2010 to 2011, conducting research on the study of comparative competitiveness of local and imported rice in Benin, and subsequently obtained her professional Master's degree in 2011 at the African University of Technology and Management (UATM) in Benin. The competencies acquired from the Master's program in agricultural economics facilitated Blandine's engagement as a research assistant in numerous research and consultancy projects with IITA, Bioversity International, UAC, the private sector, and other organizations. Her primary focus areas included agricultural product markets and policy, food security and nutrition, agricultural value chains, and business development and innovation. During this period, Blandine developed an increasing interest in research and aspired to pursue a PhD. Although this objective was temporarily postponed, she successfully secured a scholarship from the Belgian “Academy of Research and

Higher Education (ARES)" for an advanced Master's (research master's) program in "Development, Environment, and Societies, option: Agrarian Dynamics" in Belgium, through an inter-university program between the Université Catholique de Louvain and the University of Liège. She researched the analysis of socio-economic aspects of cashew value chains in Benin, and she obtained her second Master's degree from the "Académie Universitaire Wallonie-Europe" with distinction in 2015. Upon returning to Benin, Blandine assumed the role of Monitoring and Evaluation Specialist and Data Quality Assessment Expert at IITA for the "Cowpea Out-Scaling Project in West Africa (COSP)", a USAID-funded program implemented in Nigeria, Senegal, Ghana, and Mali. Her contributions to monitoring, evaluation, and project management were instrumental in supporting the project's success. In October 2017, she assumed the position of Project Director (Chief of Party) with Catholic Relief Services (CRS) in Benin, successfully managing a Local and Regional Food Aid Procurement Program (LRP), a USDA-funded project, utilizing the Farm-to-Fork approach with an emphasis on agriculture, nutrition, business, partnership, and education. The results from this project became a model for the Beninese government and international organizations in school canteens in the country. Despite her professional success, Blandine remained committed to her academic aspirations. In 2020, she commenced her PhD studies at Wageningen University and Research (WUR), the Netherlands, with an interdisciplinary research project funded by the Interdisciplinary Research and Education Fund (INREF) program of WUR, titled "Traditional Fermented Foods to promote Food and Nutrition Security in Africa: Entrepreneurship, value chains, product development and microbial ecology in Zambia, Zimbabwe and Benin (FermFood)". Blandine was based at the Business Management and Organisation group of WUR. Her PhD research project investigated the nature of shocks experienced by women-led small businesses in the food sector, the resources they mobilize, and their business model innovation for resilience. During her doctoral research, Blandine also attended scientific conferences, symposia and seminars and delivered guest lectures at WUR, discovering her aptitude for academia. Consequently, she applied for and secured a lecturer position in the BMO group at WUR, commencing on the date of her PhD defence.

She can be contacted at blandine.ekpodile@wur.nl; office.bmo@wur.nl; edblandine@gmail.com.

COMPLETED TRAINING AND SUPERVISION PLAN

Blandine Assibi Ekpodilè-Domingo
Wageningen School of Social Sciences (WASS)
Completed Training and Supervision Plan

Name of the learning activity	Department/Institute	Year	ECTS*
A) Project related competences			
A1. Managing a research project			
WASS introduction course	WASS	2022	1
Research Methodology: From topic to proposal	WASS	2020	4
Research Proposal writing	BMO, WASS	2020	6
Scientific writing	Wageningen in'to Languages	2021	1.8
International collaboration for grand challenges	Professional Development Workshop in Poland	2023	0.2
A2. Integrating research in the corresponding discipline			
Academic Publication and Presentation in the Social Sciences	WASS	2022	4
Biotech 101 for Academics - How to Start a Biotech Venture	WGS	2023	1.5
Reviewing paper: *The effects of self-regulated entrepreneurial learning on the innovative work behaviour of entrepreneurs*	Poland, RENT (Research in Entrepreneurship and Small business) Conference	2023	1
Qualitative Data Analysis: Procedures and Strategies, MAT-50806	WUR	2021	6
E-course Food systems	WCDI	2024	0.75
B) General research related competences			
B1. Placing research in a broader scientific			
'Existentially challenged women entrepreneurs: shocks affecting their businesses'	WASS PhD day	2023	1
'Existentially challenged women entrepreneurs: shocks affecting their businesses'	Research in Entrepreneurship and Small business (RENT) conference	2023	1
'Ecology, evolution and entrepreneurship'	WUR, Genetic group	2021	1
Theories for Business Decisions	WASS	2020	2

Workshop Carousel 2021 (Effective and efficient verbal communication in academia and beyond, How to fail, Research data and scientific publishing in a changing world, LinkedIn improvement session)	WGS/ WUR	2021	0.3
Workshop Carousel 2022 (Entrepreneur-ship as a skill set for career development, Designing an attractive and effective poster, Academics outside academia!?, Writing propositions)	WGS/WUR	2022	0.3
Workshop Carousel 2024 (Storytelling for academics, Optimal GenAI use in your PhD, Visual thinking 2, What's next? Academia vs industry vs entrepreneurship)	WGS/WUR	2024	0.3
Masterclass: *Transition from a (Sandwich) PhD programme at Wageningen University to an academic career in Africa*	VLAG/WUR	2022	1
B2. Placing research in a societal context			
Making Impact: Increasing the relevance of research through science-society interaction	WGS	2021	1
Searching and Organising Literature for PhD candidates	Wageningen University Library	2020	0.6
Working on your PhD research in times of crisis	PE&RC and WIMEK	2020	0.6
C) Career related competences			
C1. Employing transferable skills in different domains/careers			
Project and Time Management	WGS	2022	1.5
Brain friendly working and writing	WGS	2020	0.3
Practical introduction to Adaptive Choice-based Conjoint Analysis as an experimental design technique in Entrepreneurship research	Professional Development Workshop in Poland	2023	0.2
Guest lecturer in “Entrepreneurship and Innovation in emerging Economies” course	BMO/WUR	2023	1.5
Total			**38.85**

*One credit according to ECTS is on average equivalent to 28 hours of study load

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