

Women entrepreneurship development and sustainable rural livelihoods in Zimbabwe

Sustainable
rural
livelihoods in
Zimbabwe

Rahabhi Mashapure

*Department of Agribusiness and Management,
Marondera University of Agricultural Sciences and Technology,
Marondera, Zimbabwe*

Brighton Nyagadza

*Department of Marketing,
Marondera University of Agricultural Sciences and Technology,
Marondera, Zimbabwe*

Lovemore Chikazhe

*Department of Retail and Operations Management,
Chinhoyi University of Technology, Chinhoyi, Zimbabwe*

Gideon Mazuruse

*Teaching and Learning Institute,
Marondera University of Agricultural Sciences and Technology,
Marondera, Zimbabwe, and*

Precious Hove

*Department of Agribusiness and Management,
Marondera University of Agricultural Sciences and Technology,
Marondera, Zimbabwe*

Received 19 July 2022
Revised 4 October 2022
5 November 2022
8 December 2022
Accepted 15 December 2022

Abstract

Purpose – The main purpose of this research is to investigate factors influencing rural women entrepreneurship development and sustainable rural livelihoods in Manicaland province of Zimbabwe.

Design/methodology/approach – A quantitative research was conducted in Manicaland province in Zimbabwe. Data were collected through structured questionnaires from 400 women entrepreneurs in various sectors. The participants were in vegetable vending, operating clothing flea markets and cross border trading. A self-administered structured questionnaire was used to collect data from respondents. Structural equation modeling in SmartPLS version 3 was used to test the research hypotheses.

Findings – The study established that women entrepreneurship is driven by financial factors, positive environmental factors, positive psychological factors as well as positive sociological factors for a sustainable rural livelihood.

Research limitations/implications – It is clear that if the discovered challenges are not addressed, sustainability of women entrepreneurship will remain a dream.

Practical implications – The study came up with strategies for improving women entrepreneurship activities. Future research can be done in other areas of provinces to avoid generalization challenges.

© Rahabhi Mashapure, Brighton Nyagadza, Lovemore Chikazhe, Gideon Mazuruse and Precious Hove. Published in *Arab Gulf Journal of Scientific Research*. Published by Emerald Publishing Limited. This article is published under the Creative Commons Attribution (CC BY 4.0) licence. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this licence may be seen at <http://creativecommons.org/licences/by/4.0/legalcode>



Arab Gulf Journal of Scientific
Research
Emerald Publishing Limited
e-ISSN: 2536-0051
p-ISSN: 1985-9899
DOI 10.1108/AGJSR-07-2022-0112

Social implications – Many challenges hinder the sustainability of women entrepreneurship. Major impediments to women entrepreneurship comprises inadequate support from government schemes, patriarchal societal structure of the community, lack of relevant entrepreneurial knowledge to manage businesses, lack of collateral security to access funding, time limitation or role conflict to balance family pressures and business.

Originality/value – The study recommends proper entrepreneurship education and training, supportive government schemes and access to network affiliation/connection to sustain women entrepreneurship.

Keywords Women entrepreneurship, Women entrepreneurs, Sustainable rural livelihoods

Paper type Research paper

Introduction and contextualization

Woman entrepreneurship is a self-possessed, inventive and inventive women skilled of attaining economic freedom independently or in co-operation, creates work opportunities for others through originating and operating a business by keeping pace with their family, social and personal life (Shadrack & Warsanga, 2020; Tabares, Londoño-Pineda, Cano, & Gómez-Montoya, 2022). Deshpande and Sethi (2009) defined women entrepreneurship is a process of boosting an idea into business venture and corporate possession that allow women economically by increasing their economic rights and position in society. Shaila (2012) suggested that women entrepreneurship comprises identifying opportunity, gather resource adequate to start and grow an entrepreneurial venture (Hundera, 2019). However, the impact of women entrepreneurship has not been realized especially by the emerging countries like Zimbabwe, although there is great appreciation of diversity and equality (Nyagadza, Gwiza & Hove, 2022). Rather poverty and unemployment are the two major challenges in the present world economy, with 80% of the extreme poor living in rural areas (Campos, Villani, Davis, & Takagi, 2018). Globally, most of the poorest individuals in rural areas are females (Suttie *et al.*, 2018; Okeke-Uzodi, 2019; Kabonga, Zvokumba, Nyagadza & Dube, 2021). It has also been revealed that females have fewer economic rights, and lower access to economic opportunities and resources, including land and credit facilities, causing them to remain economically inactive (Hayford & Kloke-Lesch, 2013). Kelley, Singer, and Herrington (2016) stressed that women would commonly engage in the activities of entrepreneurship less frequently than men, nevertheless when women do so, they normally do it out of a necessity rather than an opportunity. This raises the question of livelihoods and sustenance of the rural folk. Bönte and Piegeler (2013), Verheul, Thurik, Grilo, and Van der Zwan (2012), Croson and Gneezy (2009) and Wagner (2007) concluded that females are both more risk averse and less competitive than men (Cavada, Bobek, & Maček, 2017) and private enterprise is not an easy step for females.

In Africa, women in rural areas have engaged in various activities for survival like garments making, boutiques, utensils coloring, beauty parlors, pickle making, toy making, packaging and others provided more elasticity in their lifestyle (Guta, Jara, Adhikari, Chen, Gaur, & Mirzabaev, 2017; Khupe, Nyathi, & Ruparanga, 2017). Their forms of livelihoods are believed to have originated from the traditional practice of wives receiving land from their husbands' lineage for agricultural production to feed the family (Kritz & Gurak, 1989). However, women in many African countries practiced entrepreneurship only for poverty alleviation, rather than as an economic choice (Richardson, 2004). The affected women across various sectors are facing many common challenges on sustaining their entrepreneurial ventures especially those in rural areas (Hayford & Kloke-Lesch, 2013).

Although entrepreneurship was traditionally considered as a man's stronghold, women are coming into the limelight to fulfill their aspirations as it is a fruitful opportunity where both the literate and uneducated can do wonders to achieve their dreams (Patil & Deshpande, 2021). It is evidenced in other parts of Africa where women have managed to move from the traditional zone to the working environment for the uplifting of the society and family, and

they are realizing the need for money. For instance, in 2017 the Indonesian Central Statistics Agency stated that women entrepreneurs in Indonesia reached 49.96% of the 242 million population (Mulawarman, Hasan, & Sharif, 2020). Again, according to the Ministry of Cooperatives and Small and Medium Enterprises (SMEs), it was recorded that about 52 million SMEs existed throughout Indonesia and 60% of businesses were run by women (Hendratni & Sukmaningrum, 2018) in 2015. In addition, the Global Entrepreneurship Monitor (2018–2019) conveyed that Indonesian females had an equivalent or even greater than males in terms of entrepreneurial activity level.

Findings also showed that some women in Tanzania have managed to put behind what was traditionally believed to be women's roles such as cooking, taking care of the children and performing all the other household work, which are unpaid activities (Balele Mgasa, 2014). In Singapore, women are driven by the need of freedom and flexible working hours to balance household responsibilities and work and thus they managed to grab the new initiative of women entrepreneurship (Maysami & Goby, 1999; Kabonga, Zvokumba & Nyagadza, 2021). Family support and internal locus of control promotes the Malaysian female entrepreneurs to stay in this field (Alam Jani, & Omar, 2011). There were nine nations where females were stated to have business behavior at the same or advanced level than men: Angola, Indonesia, Ecuador, Qatar, Kazakhstan, Panama, Madagascar, Vietnam and Thailand (Elam *et al.*, 2019; Mulawarman *et al.*, 2020).

In this regard, it is not shocking that in a contemporary society, many females request entrepreneurship by generating their private business, but they are still put aside and their impact has not been realized. A report by Global Entrepreneurship Monitor (2016/17) shows that Sub-Saharan Africa has the highest rate of women entrepreneurship globally. Within the continent, Senegal is the best performer with 36.8% of women entrepreneurs, while South Africa has the lowest number of women entrepreneurs active in the region at just 5.9% (Shukla, Parray, Siingh Chatwal, Bharti, & Dwivedi, 2018). The report reveals that in countries like Ghana, Nigeria and Zambia, women entrepreneurs outnumber men in entrepreneurship concerns. However, Sub-Saharan Africa is regarded as the continent with the highest rate of discontinuance of women entrepreneurship at 8.4% (Shukla *et al.*, 2018). Women are generally considered second-class citizens because biologically men are stronger than women. Thus they should respect and take orders from their husbands as head of the house, including external spheres outside the house. They face many hurdles in a bid to become independent as the traditional concept of a country is a male dominated one (Agarwal & Lenka, 2018). Thus adequate procedures have to be engaged to encourage females to venture into private enterprise (Kaviarasu *et al.*, 2018).

Despite the fact that women entrepreneurs from other parts of Africa have managed to sustain their livelihoods, Zimbabwean women entrepreneurs are still facing challenges in sustaining their livelihoods. In 2009, the United Nations Statistics Division Eurostat, SEDLAC stated that Zimbabwe is one of the countries with statistics showing 50 to 54% of female headed families with poverty (Takayindisa, Thobejane, Mukwevho, & Nyathi, 2019). Although these statistics were around 2009–10, in 2011 72.3% of the Zimbabwean population was considered poor, whilst households in Zimbabwe deemed poor were 62.6% of the total population (Tawodzera & Chigumira, 2018). Also, Dube and Guveya (2016) highlighted that poverty is more prevalent in rural areas with only 38.2% of urban households considered poor compared to 76% of the rural households. In Zimbabwe, rural women and their young children are the more marginalized group compared to adult men (Zungura & Nyemba, 2013; Zaidi & Munir, 2014; Otto *et al.*, 2017; Mandongwe & Jaravaza, 2020).

Despite the efforts by the government of Zimbabwe in coming up with women interventions (garden or horticulture cooperatives, internal savings and lending scheme, goat and chicken projects amongst others), women remain economically suppressed. Regardless of such efforts, women entrepreneurs are still at a small scale with very few women

expanding their businesses (Mandongwe & Jaravaza, 2020). Hence, it is necessary to focus on the empowerment of women in the rural areas for the development of a country in all spheres. While acknowledging the fact that women entrepreneurship plays a key role, their contribution on the sustainability of their livelihoods is silent. Despite previous studies to address the problem, there is deficient knowledge about the extent to which women entrepreneurship affects sustainable rural livelihoods. Also, Agarwal and Lenka (2018) acknowledge the need for and importance of future research in the area of women entrepreneurship in order to strengthen women entrepreneurship programs and policies. Therefore, the knowledge gap in this area is insufficient understanding of strategies to sustain women entrepreneurship in Zimbabwe. This study intends to contribute to the entrepreneurship body of knowledge by investigating the effect of women entrepreneurship on rural livelihoods of Manicaland province in Zimbabwe. Further to this, the results of the study contributes to theoretical insights by extending the perspectives of the entrepreneurship motivation theory and developing the Sustainable Livelihoods Framework (SLF) assumes that people live within a vulnerability environment made up of shock waves, developments and seasonality.

Theory and framework grounding the study

Entrepreneurship motivation theory

Mansor (2005) in the entrepreneurship motivation theory postulates that women entrepreneurship is driven by financial, environmental, psychological as well as sociological factors (SOCI). The assumption of the theory is that female businesspersons are motivated by a combination of these influences and they drive willingness of women to venture in entrepreneurship (Erenstein, Hellin, & Chandna, 2010).

Financial factors (FIN) comprise lack of adequate finance, disincentives of tax systems, inhibiting effects of red tape and regulations, failure in implementation of the policy that discriminate in favor of small firms, deficiency of experience in the financial field and absence of confidence in presenting business plans (Ngorora & Mago, 2013).

Environmental influences consist of accessibility of business resources, existence of knowledge of entrepreneurs who are ready teach others, availability of expert workforce, availability of merchants, availability of consumers and novel marketplaces, government encouragements, accessibility of land, availability of conveyance, availability of new technologies, accessibility of supporting services and availability of developmental opportunities in local communities.

Psychological factors (PSYC) may include: capability and tendency to take risk of entrepreneurship, internal locus of control, desire for success, reactivity and others (Ndofirepi, 2020).

SOCI comprise household influence, role model, role of female in the society and others. Mansor (2005) proposed that the presence of motivational factors propels an entrepreneur to venture into entrepreneurship. The theory informs the research as it comprehends several variables for venture creation. It assimilates the roles of financial, sociological, psychological, environmental factors (ENV) and the individual's competence in encouraging entrepreneurial behavior. The motivational factors are considered as assets needed for the sustainability of livelihoods. The willingness of women to initiate and venture into entrepreneurship is important (Mansor, 2005). The availability of these factors is not enough as women entrepreneurs must be willing to make use of the opportunities available to them within a specific environment and convert them into a venture (Erenstein et al., 2010). Women entrepreneurship is a function of motivational factors and capability. However, Mansor (2005)'s theory did not make clear the extent to which these motivational factors can influence women's willingness to start a business and how much other intervening variables can

inhibit women entrepreneurs from doing so. Thus, the research seeks to measure the extent of influence of these factors. Also, there is disagreement on researchers as some argue that factors influencing women to venture into entrepreneurship differ by regions, provinces and countries. Thus, there is a gap in the [Mansor \(2005\)](#) framework on whether the argument is valid or not.

Sustainable Livelihoods Framework (SLF)

The SLF assumes that people live within a vulnerability environment made up of shock waves, developments and seasonality ([Chitongo, 2019](#); [Kabonga, 2020](#)). The vulnerability environment is determined by converting structures and methods which include levels of government regulations, rules and culture that govern the livelihood strategies ([Tabares et al., 2022](#); [Kabonga, 2020](#)) people use to meet their desired livelihood outcomes such as food security. The concept assumes that individuals move in and out of deficiency and the perception releases the progressions of modification better than insufficiency line dimensions ([Alwang, Siegel, & Jorgensen, 2001](#); [Serrat, 2017](#)).

Financial capital defines the set of monetary resources that are required by individuals to meet livelihood goals (income, employment and savings) ([Mehta & Hill, 2001](#); [Campbell et al., 2002](#); [Wiklund & Shepherd, 2005](#); [Kabonga, 2020](#)). Financial capital is a very useful form of capital. For example if the family has money it can afford to do many other things such as sending children to school, buying enough food and even going to a doctor ([Ngorora & Mago, 2013](#); [Maziriri, Nyagadza, & Chuchu, 2022a, b](#)).

Physical capital comprises rudimentary infrastructures and possessions vital for encouraging and supporting sustainability of rural livelihoods. These might include infrastructure, marketplace accessibility and transport ([Bebbington, 1999](#); [Department of International Development \[DFID\], 1999](#); [Ahmed, Allison, & Muir, 2008](#); [Stoian, Donovan, Fisk, & Muldoon, 2012](#)).

Human capital denotes the knowledge, skills training, education and the ability to work in good health that allows people to pursue livelihood strategies ([Tacoli, 1999](#); [Chapman, Slaymaker, & Young, 2003](#); [Othman et al., 2016](#)).

Social capital characterizes the features of a social organization that function to manage actions driven by community, experience and inner drive. These are social resources people draw on in a quest of livelihood objectives consisting of social prestige, cooperation and decision-making power ([Humphrey & Schmitz, 1998](#); [Lyon, 1999](#); [Lyon, Lumpkin, & Dess, 2000](#); [Fafchamps, 2001](#)).

Natural capital involves the ordinary resource stocks that are essential inputs for the poor and from which livelihood is usually derived. Natural capital comprises of tangibles and intangible goods, such as air quality, soil quality and lodging for a healthy atmosphere ([Campbell et al., 2002](#); [Chapman et al., 2003](#); [Erenstein et al., 2010](#)). The SLF framework describes conditions which govern an individual's access to possessions and livelihood opportunities which can be converted into sustainable rural livelihood outcomes thus driving individuals out of the deprivation trap of poverty ([Kabonga, 2020](#); [Othman et al., 2016](#)). [Knutsson \(2006\)](#) posited that the sustainable livelihoods outcome consists of five indicators which are more income, increased well-being, reduced vulnerability, improved food security and more sustainable use of natural resources. More income or sufficient income allows people to meet their needs.

Literature review

Generally women entrepreneurship is a catalyst for economic development and an engine that promotes productivity, innovation and employment creation ([Greblikaite, Sroka, & Grants, 2015](#); [Zaki & Rashid, 2016](#)). Some researchers argue that entrepreneurship does not

change but rather, it is the factors and challenges that affect people who practice it differently (Vossenbergh, 2013). Women entrepreneurship can be defined as a self-possessed, inventive and inventive skilled of attaining economic freedom independently or in co-operation, creates work opportunities for others through originating and operating a business by keeping pace with their family, social and personal life (Shadrack & Warsanga, 2020).

Women entrepreneurship

The Government of India (GOI, 2006) describes women entrepreneurship as an initiative owned and organized by a woman having financial interest of at least 51% of the capital and giving 51% to women (Gupta, 2010; Kaviarasu *et al.*, 2018). From the above definitions, women entrepreneurship can be viewed as any economic activity being done by a woman to earn a living (Miah, Khan, Misto, & Karim, 2018). This study views women entrepreneurship as an economic activity where females or groups of females are involved in handling all the business events (Mashapure *et al.*, 2022). Although women entrepreneurship is a strategy for sustainable livelihoods (Rambe & Mosweunyane, 2017; Rambe & Ndofirepi, 2021), there is a debate among researchers on factors that influence women entrepreneurship. These factors have been given various categories such as FIN, SOCI, PSYC and ENV.

Effects of financial factors on women entrepreneurship

Women entrepreneurs are motivated by the probability to increase the revenue that they use to provide and maintain the family and household goals, cultivating their household values of living and gaining self-sufficiency (Jesurajan & Gnanadhas, 2011; Bullough, De Luque, Abdelzaher, & Heim, 2015; Maziriri *et al.*, 2022a, b). Evidence from the literature suggests that women are mainly motivated by the need for independence, maintenance of household, reduce/ease poverty as well as difficulty in finding appropriate employment (Chelliah & Lee, 2011; Jesurajan & Gnanadhas, 2011; Vossenbergh, 2013; Bullough *et al.*, 2015; Meyer, 2018). According to Ratten (2011), the desire for individuality, one's fulfillment and need for capital, societal prominence and influence also motivate females into entrepreneurship (Kabonga & Kwashirai, 2021; Kabonga, Kwashirai & Dube, 2021). The absence of chances in the employment marketplace and the desire to increase family income influence women entrepreneurs to engage into entrepreneurship (Amit & Muller, 1995; Sahasranamam & Sud, 2016). Benzing, Chu, and Kara (2009), concurred that income levels and employment opportunities are the driving factors for women entrepreneurship. The findings of the Tanzanian SMEs demonstrated that the larger number of females in emerging nations engage livelihoods because of a shortage of sufficient informative accomplishment and challenge in getting formal employment (Rutashobya, 1995; Toroka & Wenga, 1997; Olomi, 2001; Mfaume & Leonard, 2004; Kuzilwa, 2005; Sospeter, Rwelamila, Nchimbi, & Masou, 2014; Maziriri *et al.*, 2022a, b). Based on the foregoing discussion, it was conceivable to hypothesize that.

H1. FIN positively influences women entrepreneurship.

The effect of psychological factors on women entrepreneurship

According to Kirkwood and Campbell-Hunt (2007), women entrepreneurship motivation can be considered coming from PSYC (Fosić, Kristić, & Trusić, 2017; Maziriri, Nyagadza, Mapuranga, & Maramura, 2022). The psychological construct is considered to be the main factor that enhances the ability of individuals to achieve their goals. For instance, before individuals undertake particular behaviors, they must first intend to do so (Loras & Vizcaino, 2013; Laudano, Zollo, Ciappei, & Zampi, 2019). Therefore, aspiring entrepreneurs must first intend to become self-employed. Upcoming entrepreneurs need to have risk-taking

propensity, which indicates abilities to cope with difficulties and successfully adapt to uncertain and unpredicted circumstances (Yurtkoru, Acar, & Teraman, 2014; Ali & Abou, 2020; Ndofirepi, 2020); need for achievement, which take into account desires to occupy social positions that will fulfill self-identity expectations (Eisenberger, Jones, Stinglhamber, Shanock, & Randall, 2005; Khan, Breitenecker, & Schwarz, 2015; Maziriri, Nyagadza, Maramura, & Mapuranga, 2022), locus of control, which is derived from internal beliefs in life mastery, from powerful others who influence individual decisions and choices, or from other independent external factors such as chance and destiny (Zollo, Laudano, Ciappei, & Zampi, 2017; Laudano *et al.*, 2019); and the need for independence, which indicates personal responsibility for making decisions and acquiring self-esteem (Ciappei, Laudano, Zollo, & Rialti, 2016; Nyagadza, Kadembo, & Makasi, 2020). Considering the PSYC essential to entrepreneurial attitudes, the researchers hypothesize that.

H2. PSYC positively influence women entrepreneurship.

Effects of environmental factors in influencing women entrepreneurship

Several research studies revealed that one of the important influences that contributed to the achievement of female businesses is the sustenance received from the local authorities, nongovernmental organizations and other links besides support from their children (Haan, 2004). However, according to Goby and Eroglu (2011) and Gupta and Mirchandani (2018), the small business promotion procedures are lacking in most countries, yet women entrepreneurs should receive support services from organizations or programs which aim to offer sustenance to small companies (Khan *et al.*, 2015; Maziriri, Nyagadza, Maramura, *et al.*, 2022). Empirical research conducted in Greece considered encouragement by other people as another important factor driving females in business. However, results have shown as having a less strong influence on their desire to become entrepreneurs (Petridou & Glaveli, 2008; Kabonga *et al.*, 2021a, b, c). Saleem (2017) and Raman, Anantharaman, and Jayasingam (2008) found that factors influencing women entrepreneurship are largely from initiatives such as third party support, inspiration by people, networks and family, skill and experiences and the desire for freedom. In light of the above discussion, it was therefore, posited that.

H3. ENV positively influences women entrepreneurship.

The effects of sociological factors on women entrepreneurship

The SOCI point out that the socio-cultural environment can either positively or negatively influence the choice to engage into entrepreneurship (Álvarez, Amorós & Urbano, 2014). McClelland, Swail, Bell, and Ibbotson (2005) note that females are progressively becoming more encouraged by the social influence that their companies can make in society. Furthermore, females have different kinds of social linkages compared to their male counterparts (Kepler & Shane, 2007; Fairlie & Robb, 2009). These social networks give women an opportunity to engage in entrepreneurship (Ozgen & Baron, 2007; Kabonga *et al.*, 2021a, b, c). According to Ummah and Gunapalan (2012), women engage in entrepreneurship following the death of a male family member whom they used to rely on (Maziriri *et al.*, 2022a, b). Research by Sullivan, Halbrendt, Wang, and Scannell (1997) and Kirk and Belovics (2006) found that the need to efficiently balance between employment and household responsibilities often encourages women to engage in entrepreneurship. Similarly, research by Nguyen (2018), Petridou and Glaveli (2008) and Abdul Rahman, Anuar and Daud (2010) suggests that women engage in self-employed business because it likewise provides them the chance to be closer and to dedicate more time to their families, which is the chief characteristic of being a respectable housewife and a businesswoman. This might be particularly applicable

to women with young families who require employment that provides them with a flexible timetable (Hayrapetyan, 2016a). The study therefore posited that.

H4. SOCI positively influences women entrepreneurship.

The effects of women entrepreneurship to sustainability of rural livelihoods

According to the SLF developed by DFID (2000), livelihoods are considered to be sustainable when there is increased income, increased wellbeing, improved/value-added food security, reduced vulnerability and more sustainable usage of natural resources. One of the main mechanisms of the framework that is relevant to this research is the concept of sustainable livelihoods (Maziriri, Nyagadza, Maramura, *et al.*, 2022; Muzuva & Hlungwani, 2022). According to DFID (1999), livelihoods include the competencies and undertakings necessary for creation of a living. Livelihoods are considered sustainable when they can cope with, recover from stresses and shocks and sustain their capabilities and assets both now and in the future (DFID, 1999). The SLF has been effectively used to appreciate and promote rural development (Chambers, 2011; Baker, Murray, & Agyare, 2018). The SLF was selected as it informs mainly the independent variable of the research. However, there is need for clear strategies to cope with these challenges in order to have sustainable livelihoods. Therefore, it is hypothesized that.

H5. Women entrepreneurship has a positive effect on sustainable rural livelihoods.

Mediated relationship between financial, psychological, environmental and sociological factors

The purpose of the mediation was to analyze the impact of the predictors with mediating effect of women entrepreneurship. The SOCI point out that the socio-cultural environment can either positively or negatively influence the choice to engage into entrepreneurship and rural livelihoods (Álvarez *et al.*, 2014). The path (direct effect) from all the factors (financial, psychological, environmental and SOCI) to sustainable rural livelihoods has an impact to sustainable rural livelihoods. However, results have shown as having a less strong influence on their desire to become entrepreneurs (Petridou & Glaveli, 2008; Kabonga *et al.*, 2021a, b, c). Saleem (2017) and Raman *et al.* (2008) found that factors influencing women entrepreneurship are largely from initiatives such as third party support, inspiration by people, networks and family, skill and experiences and the desire for freedom. Therefore, it is hypothesized that.

H6. FIN positively mediates sustainable rural livelihoods indirectly.

H7. PSYC positively mediates sustainable rural livelihoods indirectly.

H8. ENV positively mediates sustainable rural livelihoods indirectly.

H9. SOCI positively mediates sustainable rural livelihoods indirectly.

Figure A1 in the Appendix summarizes and illustrates the hypothesized relationships based on the foregoing discussions.

Methodology

This study adopted the positivist paradigm research philosophy since it appreciates the use of the quantitative methodology to achieve quality results. Researchers' positivist perspective in the current study is a result of multiple, emergent, shifting reality out there that can be obtained through objective experience (Saunders, Lewis, & Thornhill, 2009; Nyagadza, Mazuruse, Muposhi, & Chigora, 2022). The reason for adopting this ontological inclination is due to fact that there is stable, law-like reality out there (Chikazhe, Jecha, Nyagadza, Bhebhe, & Manyeruke, 2022). Cross sectional surveys were used, as they have also been used in similar

research (Moses & Mordi, 2010; Tomos, Djebarni, Rogers, Thomas, Clark, & Balan, 2015; Abass, 2018; Khurshid, 2018). Cross-sectional surveys provide an assessment of both the exposure and outcome in a sample of the population at a point in time (Osterholm & Hedberg, 2015; Jacob & Ganguli, 2016). The population of the study consisted of female businesspersons in the rural areas of Manicaland province, Zimbabwe. The participants were in vegetable vending, operating clothing flea markets and cross border trading.

The present study used the Raosoft sample for unknown variables since the statistics for women entrepreneurs in Zimbabwe is not known. Generally, women entrepreneurs in Zimbabwe are still informal, thus their statistical standing is not yet known and there are no records at the relevant ministry, justifying the need for empirical evidence to ensure that their statistical records are put in place. Raosoft (2004) scientific calculator states that unknown population 20,000 was used which give us 400 respondents of the study. The stratified method was used in accessing the sample. Stratified sampling captures key population characteristics in the sample. The area was subdivided into different groups (Nyagadza *et al.*, 2022). Justification for the use of the stratified random sampling technique was due to its higher degree of accuracy, high statistical power and easy-to-use advantages (Saunders *et al.*, 2009). Further to this, stratified enabled the researchers to obtain a sample population which best suited the entire total population that was being studied, making sure that each sub-unit of interest was fully represented (Nyagadza *et al.*, 2022). The five-point Likert scale structured questionnaire was used to collect data since it is easy to understand. The Likert scale ranged from strongly disagree to strongly agree and the respondents were asked to show their response by the use of a tick or a visible mark. Questionnaires were self-administered since it helps to reduce researcher favoritism since there will be no interference from the researchers.

Results discussion

Scale validation

SPSS version 20 and SmartPLS version 3 were used to perform the analyses. Study constructs were measured using item scales adapted from literature specifically from prior research studies. These included FIN influencing women entrepreneurship (Chelliah & Lee, 2011; Jesurajan & Gnanadhas, 2011; Vossenbergh, 2013; Bullough *et al.*, 2015; Meyer, 2018), ENV (Khan *et al.*, 2015; Kabonga *et al.*, 2021a, b, c; Goby & Eroglu, 2011), PSYC (Loras & Vizcaino, 2013; Laudano *et al.*, 2019; Eisenberger *et al.*, 2005; Khan *et al.*, 2015; Maziriri *et al.*, 2022a, b), SOC (Kirk & Belovics, 2006; Ummah & Gunapalan, 2012; Ozgen & Baron, 2007) and impact of women entrepreneurship to the sustainability of rural livelihoods (IFS) (DFID, 1999; Chambers, 2011; Baker *et al.*, 2018). Likert scale used was with a range of strongly disagree (SD) = 1 to strongly agree (SA) = 5. The main importance of the Likert scale questions to statistical community is that they use a universal method of collecting data, which means it is easy to understand them and easy to draw conclusions, reports, results and graphs from the responses.

Exploratory factor analysis (EFA)

EFA was used to identify the underlying relationships between the variables measured. Chan and Idris (2017), advise researchers to carry out an EFA at the beginning of data analysis as part of scale validation. EFA was performed so as to refine and decrease the number of related variables to a more relevant and manageable number prior to using them for further analysis. Varimax (orthogonal rotation) with principal axis factoring on 28 items was used. Orthogonal rotation states that there is no correlation between the resultant components or factors.

Table 1 summarizes the results of the rotated factor matrix for each variable, where three items with factor loadings <0.60 were removed one by one with re-running the analysis for

that specific variable. In total, 26 items were retained for further analysis with no cross-loadings >75% on any other item, and the eigenvalues of one were opted to extract the number of factors (Field, 2013).

Sampling adequacy

Kaiser–Meyer–Olkin (KMO) and Bartlett’s test of sphericity (BTS) are arithmetical checks executed to establish the adequacy of the research sample and the suitability of data as a preliminary measure for conducting inferential statistical tests which include EFA (Alexander *et al.*, 2016; Chan & Idris, 2017). The present study’s KMO and BTS were performed in SPSS version 20. Table 2 presents the results.

Item	FIN factors 1	PSY factors 2	ENV factors 3	SOCI factors 4	WIWE factors 5	SRL factors 6
FIN1	0.88					
FIN2	0.89					
FIN3	0.58					
FIN4	0.79					
FIN5	0.41					
PSYC1		0.88				
PSYC2		0.69				
PSYC3		0.75				
PSYC4		0.86				
ENV1			0.65			
ENV2			0.87			
ENV3			0.77			
SOC11				0.82		
SOC12				0.83		
SOC13				0.74		
SOC14				0.70		
WIWE1					0.72	
WIWE2					0.71	
WIWE3					0.82	
WIWE4					0.73	
WIWE5					0.74	
WIWE6					0.49	
SRL1						0.69
SRL2						0.83
SRL3						0.88
SRL4						0.72
SRL5						0.71

Table 1.
Summarized results of
rotated factor matrix

Note(s): Extraction method: principal axis factoring; factor loading in italic are <0.60
Source(s): Primary data (2022)

Table 2. Kaiser–Meyer–Olkin (KMO) and the Barlett’s test of sphericity (BTS) Source(s): Primary data (2022)			
	KMO and Bartlett’s test		
	Kaiser–Meyer–Olkin measure of sampling adequacy		
	0.71		
	Bartlett’s test of sphericity	Approx. Chi-Square	6093.58
	Df	465	
	Sig	0.000	

The results presented in Table 2 mean that the sample was sufficient and for that reason, permitted EFA to be performed (Bhakar *et al.*, 2013). The aim of carrying out EFA was to refine and reduce the number of related variables to a relevant and manageable size before using them in future analyses.

Reliability analysis

Reliability of constructs shown in Table 5 ranges from 0.71 to 0.90. This indicates that the data collected in the survey were reliable.

A Cronbach's alpha (α) in Table 3 was adopted to regulate the constructs which are reliable. Tore, Gumussoy, and Oskay (2019) and Nunnally (1978) considered alpha threshold of 0.7 or any value higher to validate the internal consistency. Table 4 openly displays that all the measured constructs exhibited reliabilities above the minimum benchmark higher than 0.7 which is acceptable in social science (Norusis, 1992; Ofori-Kuragu *et al.*, 2016).

Discriminant validity

The six latent constructs had fulfilled the criteria of discriminant validity. Heterotrait-Monotrait ratio (HTMT) was also used. Henseler, Ringle, and Sarstedt (2015) proposed a more rigorous assessment of the variables discriminant validity by observing the HTMT criterion. Henseler's HTMT criterion recommends that all the variables are uniquely different at HTMT 0.90 cut-off point. As shown in Table 5, the HTMT values for all variables are in the range from 0.60 to 0.82 and these indicate that are variables are uniquely different at values below HTMT 0.90 which also confirms discriminant validity.

Testing research hypotheses

Research hypotheses H1–H5 were tested using structural equation modeling (SEM) in AMOS. The SEM technique is ideal since it is able to determine relationships and also able to suggest a general fit between observed data and the research model (McQuitty & Wolf, 2013). Results presented show that hypotheses H1–H4 were supported. These hypotheses have *t* values greater than 2 ($CR > 2$) which entails that the relationships were significant. Results in Table 6 imply that FIN positively influences women entrepreneurship. This finding is consistent with previous studies (Naser, Mohammed, & Nuseibeh, 2009; Nasir, Iqbal, & Akhtar, 2019). This implies that Zimbabwean women engage in entrepreneurship driven by financial motives (inadequate family income, the need to be financially self-sufficient, access to start-up capital, difficulty in finding formal work and need to supplement household income). H1 was therefore supported.

PSYC were found to positively influence women entrepreneurship. This finding is in line with a study conducted by Schlaegel and Koenig (2014), Loras and Vizcaíno (2013), Thompson (2009) and Kirkwood and Campbell-Hunt (2007). Based on these findings, it is

Construct	Number of items	Cronbach's alpha (α)
Financial factors	5	0.90
Environmental factors	3	0.71
Psychological factors	4	0.78
Sociological factors	4	0.86
Women Entrepreneurship	6	0.82
Sustainable Rural Livelihoods	5	0.79

Source(s): Primary data (2022)

Table 3.
Construct, number of
items and Cronbach's
alpha (α)

Construct	Items	Factor loadings (F)	Number of indicators (n)	CR	AV
Financial factors	FIN1	0.88	4	0.87	0.63
	FIN2	0.89			
	FIN3	0.61			
	FIN4	0.79			
Environmental factors	ENV1	0.65	3	0.81	0.59
	ENV2	0.87			
	ENV3	0.77			
Psychological factors	PSYC1	0.88	4	0.89	0.67
	PSYC2	0.69			
	PSYC3	0.75			
	PSYC4	0.86			
Sociological factors	SOCI1	0.82	4	0.85	0.62
	SOCI2	0.83			
	SOCI3	0.73			
	SOCI4	0.70			
Sustainable rural livelihoods	SRL1	0.69	5	0.79	0.59
	SRL2	0.83			
	SRL3	0.88			
	SRL4	0.72			
	SRL5	0.71			
Women entrepreneurship	WIWE1	0.72	5	0.81	0.58
	WIWE2	0.72			
	WIWE3	0.82			
	WIWE4	0.73			
	WIWE5	0.74			

Note(s):
$$CR = \frac{(\sum F_i)^2}{[(\sum F_i)^2 + \sum (1 - F_i^2)]} \quad (1)$$
$$AVE = \frac{\sum F_i^2}{n} \quad (2)$$
Where:
 F = standardized factor loading
 N = number of items
Source(s): Primary data (2022)

Table 4.
Convergent validity

Variables	FIN	PSC	ENV	SOCI	WIWE	SRL
FIN						
PSC	0.72					
ENV	0.81	0.76				
SOCI	0.71	0.68	0.71			
WIWE	0.65	0.70	0.67	0.60		
SRL	0.73	0.64	0.68	0.67	0.82	

Table 5.
Heterotrait-Monotrait ratio (HTMT)

Source(s): Primary data (2022)

clear that the influence of PSYC toward women entrepreneurship seems to be consistent. Hence, [H2](#) was supported.

The presented results also supported the hypothesized relationship [H3](#) implying that ENV positively influence women entrepreneurship. This suggests that environment where women operate their businesses has a greater effect on their entrepreneurial activities. This finding

Hypo	Path	Path Coeff (β value)	Confidence interval		T value	P -value	Sig level
			2.5%	97.5%			
H1	FIN $\rightarrow$ WIWE	0.48	0.27	0.52	6.32	<0.001	Significant
H2	PSY $\rightarrow$ WIWE	0.091	0.04	0.18	2.65	<0.001	Significant
H3	ENV $\rightarrow$ WIWE	0.02	0.01	0.25	2.30	<0.001	Significant
H4	SOCI $\rightarrow$ WIWE	0.34	0.17	0.52	5.20	<0.001	Significant
H5	WIWE $\rightarrow$ SRL	0.70	0.37	0.81	9.42	<0.001	Significant

Note(s): SRW standardized regression weight, t values, ** significant at $p < 0.05$, *** significant at $p < 0.001$, ^{ns} not significant

Source(s): Primary data (2022)

Table 6.
Results of hypotheses testing

upholds findings of Ibrahim and Mas'ud (2016) who established a positive relationship between ENV and women entrepreneurship.

Moreover, results presented in Table 6 show that H4 was supported. This implies that SOCI positively influence women entrepreneurship. This denotes that socio-cultural environment in which women operate their businesses plays a key role on their entrepreneurial engagements and their success. This finding concurs with previous studies by Agarwal and Lenka (2016), Okello (2020) and Ng and Jenkins (2018) that social factors have a positive and significant influence on women entrepreneurship.

Findings also show that *women entrepreneurship* significantly predicts *sustainable rural livelihoods* and direct relationship was noted (β value = 0.70; t value = 9.42; significant at $p < 0.001$). A positive standardized regression weight indicates that women entrepreneurship has positive influence on sustainable rural livelihoods. Women entrepreneurs in Manicaland province agreed that there are positive changes in their livelihoods outcomes evidenced by improved food security, increased income, increased well-being and reduced vulnerability of their livelihoods. This finding extends the current body of knowledge since various previous studies did not research on the effect of women entrepreneurship on sustainable rural livelihoods. They mainly considered characteristics and motivations, start-up resources and limitations, managerial issues of women-owned firms, finance in women-run businesses, women's business networks and measuring business performance and growth (Hisrich & Brush, 1986; Carter, Shaw, Lam, & Wilson, 2007; Nasir *et al.*, 2019; Zeb & Ihsan, 2020). This therefore, shows that H5 was supported.

Structural research structurally validated model

Figure A2 shows the model that was used to test the hypothesized relationships H1–H5 and the results are shown in standardized formats. Findings in Figure A2 are presented in standardized format, and it is evident that all the hypothesized relationships were supported. H1–H5 had standardized estimates greater than 0.2 and they were all significant. Therefore, hypotheses H1–H5 were supported.

Mediation effect analysis

To examine the proposed mediation, we used Hayes Process Macro (HPM) in SPSS that was developed by Andrew F. Hayes to run the analysis. The model is for specifically testing the indirect effects of variables. Therefore, the researcher used (Hayes, 2013) method for mediation analysis in SPSS V 25.0. The results indicated that the R square is 0.70 meaning that 70.44% of variance in Sustainable Rural Livelihoods was accounted by FIN with $p < 0.05$, thus the model is significant at all stages. The path (direct effect) from FIN to sustainable rural livelihoods is positive and significant ($\beta = 0.64$, $se = 0.16$, $p = 0.0001$) indicating that FIN contribute positively to sustainable rural livelihoods. The indirect effect was tested using

nonparametric bootstrap estimation approach, implemented with the process macro version 3 (Hayes, 2017). If the intervals of the lower bound and upper bound of the 95% confidence intervals falls between 0 then the indirect effects are statistically insignificant. From the results, the indirect effect of FIN on sustainable rural livelihoods with women entrepreneurship as the mediator variable is positive and significant since the bootstrap lower confidence and bootstrap upper confidence excludes 0 (LCI = 0.14 and UCI = 0.32). These results support the mediation hypothesis. Mediation analysis was also supported on PSYC, ENV and SOCI with women entrepreneurship as the mediator variable.

Evaluation of the structural model

After the validation of convergent validity, discriminant validity and reliability of the measurement model and testing of the relationship between variables takes place evaluation of the model followed. Coefficient of determination (R^2) value of the endogenous constructs was done as part of analysis in the study. Schumacher, Erol, and Sihm (2016) define R^2 value as the percentage of variance in the variable that is accounted for by association in the independent variable groups. R^2 values of 0.75, 0.5 and 0.25 can be considered substantial, moderate and weak, respectively (Hair, Ringle, & Sarstedt, 2011; Hair, Sarstedt, Ringle, & Mena, 2011). Very high values of R^2 may result in model overfitting the data and may result in spurious relationship provided the R^2 value is greater than the Durbin–Watson value. In the current case women entrepreneurship in Table 7 has an R^2 value of 0.80 which is being explained by FIN, PSYC, ENV and SOCI. The predictors have a direct effect toward women entrepreneurship but later have an indirect relationship toward sustainable rural livelihoods. Sustainable rural livelihood, which is our main dependent variable, has an R^2 value is 0.489 contributed by women entrepreneurship. The predictors have an indirect contribution of the R^2 value. The developed model has a moderate to substantial explaining power.

One of the assumptions of structural equation modeling is multicollinearity. Before judging the structural interactions, collinearity must be studied to ensure that it does not prejudice the results. The variance inflation factor (VIF) and tolerance is often used to evaluate collinearity of the predictors. Hair, Risher, Sarstedt, and Ringle (2019) noted that VIF values of 5 or above indicate critical collinearity issues among the variables whilst Collier (2020) noted that tolerance values (>0.10) are desirable. However, collinearity issues can also occur at lower VIF values of 3 (Becker, Reimer, & Rust, 2015). The VIF values should be close to 3 or lower. From our model results, the VIF's values of the most variables were below the rules of thumb of 5 and tolerance values were 0.196 and 0.51 which approves that there is no multicollinearity. Effect size (f^2) is a measurement that tells the impact of change in the R^2 value when a specified exogenous construct is ignored in the model (Hair, Ringle, et al., 2011; Hair, Sarstedt, et al., 2011). An effect size $f^2 \leq 0.30$, $0.30 < f^2 \leq 0.50$ and $f^2 > 0.50$ is thought to represent a weak, moderate and strong effect respectively (Bliwise, 2006). The relationship between constructs shows that the effect size is considered as moderate (Bliwise, 2006).

In addition to R^2 as a predictive criterion, Hair, Hult, Ringle, Sarstedt, and Thiele (2017) recommended that researchers examine Q^2 to assess the predictive relevance of the

Table 7.
Variance inflation
factor (VIF) and
effect size

Constructs	R^2	Women entrepreneurship and sustainable rural livelihoods as dependent variables		
		Tolerance	VIF	Effect size
WIWE	0.80	0.20	5.08	0.32
SRL	0.49	0.51	1.96	0.47
Source(s): Primary data (2022)				

structural model. [Chin \(1998\)](#) mentions that the predictive relevance of constructs must be positive and with values greater than zero, as does [Hair, Ringle, et al. \(2011\)](#) and [Hair, Sarstedt, et al. \(2011\)](#). The size of the Q^2 effect allows one to evaluate how an exogenous construct contributes to an endogenous latent construct Q^2 as a measure of predictive relevance, which can be small (0.02), medium (0.15) or large (0.35). The study obtains a Q^2 of 0.32 for women entrepreneurship and 0.251 for sustainable rural livelihoods which is within the required limit and supports that the path model's predictive relevance was adequate for the endogenous construct.

The standardized root mean square residual (SRMR) is an index of the average of standardized residuals between the observed and the hypothesized covariance matrices ([Chen, 2007](#)). SRMR is a measure of the estimated model fit. When $SRMR \leq 0.08$, then the study model has a good fit ([Hu et al., 1998](#)), with a lower SRMR being a better fit. According to the results presented in [Table 8](#), the SRMR value for the fitted model is 0.0723, which is less than the threshold value of 0.08, suggesting that the model can be accepted. Furthermore, the NFI value for the model is 0.903 which is slightly above the recommended threshold value of 0.9. These results suggest that the fitted model is a good model, whereas the chi-square was equal to 4629.28.

Overall assessment

Goodness of fit (GoF) defined as the geometric mean of both average variances extracted (AVE) and the average of R^2 of all endogenous variables ([Akter, D'Ambra, & Ray, 2011](#)). The partial least square (PLS) results can be assessed globally for the overall mode and locally for the measurement model and the structural model. The criteria of GoF to decide whether GoF values are not fit, small, medium or large to be considered as global valid PLS model are given by [Akter et al. \(2011\)](#) as GoF less than 0.1 (not fit), GoF between 0.1 and 0.25 (small), GoF between 0.25 and 0.36 (medium) and GoF greater than 0.36 (large). The formula for calculating GoF was adopted from [Akter et al. \(2011\)](#) as follows:

$$GoF = \sqrt{AVE \times R^2}$$

Therefore, the GoF value for this study is 0.63 in [Table 9](#) which is above 0.36 as indicated ([Akter et al., 2011](#)). This proves that the developed model is large in explaining the issues of corporate brand perception.

Discussion and conclusion

Findings from this study make a novel contribution, in that it sought to establish the effect of women entrepreneurship and its effect on sustainable rural livelihoods. Various previous scholars had mainly considered challenges faced by women entrepreneurs and none established the effect of women entrepreneurship on sustainability of rural livelihoods. Although entrepreneurship was traditionally considered as a man's stronghold, women are coming into the limelight to fulfill their aspirations as it is a fruitful opportunity where both

	Estimated model
Standardized Root Mean Square (SRMR)	0.072
d_ULS	17.24
d_G	19.03
Chi-square	4629.28
NFI	0.90

Source(s): Primary data (2022)

Table 8.
Goodness of Fit (GoF)
results

	Construct	AVE	R ²
	FIN	0.63	
	PSYC	0.67	
	ENV	0.59	
	SOCI	0.62	
	WIWE	0.58	0.80
	SRL	0.59	0.49
	AVE × R ²	0.40	
	GoF	0.63	
Table 9. Goodness of Fit (GoF) Index calculation	Source(s): Primary data (2022)		

the literate and uneducated can do wonders to achieve their dreams. It is evidenced in other parts of Africa where women have managed to move from the traditional zone to the working environment for the uplifting of the society and family, after having realised the need for self-sustenance. Zimbabwe is one of the countries with statistics showing 50 to 54% of female headed families with poverty. Although these statistics are of around 2009/10 in 2011, 72.3% of the Zimbabwean population were considered poor, whilst households in Zimbabwe deemed poor were 62.6% of the total population.

Overall, the government and the supporting partners must make an effort in providing adequate support needed by women entrepreneurs for the sustainability of women entrepreneurs. Since women entrepreneurship can play a bigger role in sustaining livelihoods, development and growth of the economy. Despite previous studies to address the problem, there is deficient knowledge about the extent to which women entrepreneurship affects sustainable rural livelihoods. Also, [Agarwal and Lenka \(2018\)](#) acknowledge the need for and importance of future research in the area of women entrepreneurship in order to strengthen women entrepreneurship programs and policies. Therefore, the knowledge gap in this area is insufficient understanding of strategies to sustain women entrepreneurship in Zimbabwe. This study intends to contribute to the entrepreneurship body of knowledge by investigating the effect of women entrepreneurship on rural livelihoods of Manicaland province in Zimbabwe. Further to this, the results of the study contributes to theoretical insights by extending the perspectives of the entrepreneurship motivation theory and developing the SLF assumes that people live within a vulnerability environment made up of shock waves, developments and seasonality.

Theoretical implications

Many researchers have conducted studies on women entrepreneurship both in developing and developed nations. However, there still is a dearth of studies which have focused on women entrepreneurship and its effect on sustainable rural livelihoods in emerging economies. It is against this background that this research was conducted to close this knowledge gap and contribute to the present body of knowledge. The findings from the study put forth that women entrepreneurship has a positive effect on sustainable rural livelihoods. This substantiates the present body of literature. These findings show that the effect of women entrepreneurship on sustainable rural livelihoods cannot be ignored across the country. The study therefore, established that women entrepreneurship has a positive effect on sustainable rural livelihoods in Zimbabwe. With regards to challenges hindering women entrepreneurship, the findings indicate that patriarchal societal structure of the case study community and lack of relevant entrepreneurial knowledge to manage the businesses, are the major hindrances of sustainability of women entrepreneurship.

The study further extends the general understanding in literature pertaining strategies for improving women entrepreneurship activities. The effect of strategies for improving women entrepreneurship activities was found to be positive. This implies that women entrepreneurs need help from the supporting structures, which will have impact on the sustainability of their livelihoods. Theories adopted on this study show that women entrepreneurship motivating factors are FIN, ENV, PSYC as well as SOCI. The SLF highlighted that there is need for adequate assets for the success and sustainability of women entrepreneurship. And there is need for women entrepreneurs, the community, the government as well as the supporting partners to minimize the vulnerability of women businesses.

Furthermore, the study adds value to the entrepreneurship motivation theory as the study shows that female businesspersons who are motivated by a combination of factors (financial, environmental and psychological as well as sociological) and they drive willingness of women to venture in entrepreneurship. The study informs the entrepreneurship motivation theory as it comprehends several variables for venture creation. It assimilates the roles of financial, sociological, psychological, ENV and the individual's competence in encouraging entrepreneurial behavior. The motivational factors are considered as assets needed for the sustainability of livelihoods. The willingness of women to initiate and venture into entrepreneurship is important. The availability of these factors is not enough as women entrepreneurs must be willing to make use of the opportunities available to them within a specific environment and convert them into a venture. This is due to the fact that women entrepreneurship is a function of motivational factors and capability.

Practical implications

The research shows that it is important for government to provide adequate funding to women entrepreneurs, for example, the Women's Bank of Zimbabwe. One strategy can be where women businesspersons can have access to capital at reasonable interest charges, for instance by decreasing the charges by banks and microfinance organizations or generating exceptional monies, which can be retrieved or open to women businesspersons without too much bureaucracy. Government must make sure that these banks have sufficient income to cater for all women in business.

The government can offer women entrepreneurs special grants, resources, business centers, enterprise rewards to motivate women to start and stay in the entrepreneurship field. There is need of developing field or practical based entrepreneurship training to enhance sustainability of women entrepreneurship. The path (direct effect) from FIN to sustainable rural livelihoods is positive and significant ($\beta = 0.64$, $se = 0.16$, $p = 0.0001$), indicating that FIN contribute positively to sustainable rural livelihoods. This means Zimbabwean women entrepreneurs are still facing challenges in sustaining their livelihoods, but financial factor play a bigger role in building the entrepreneurship drive for the women.

Further in support of this notion, from the results, the indirect effect of FIN on sustainable rural livelihoods with women entrepreneurship as the mediator variable is positive and significant since the bootstrap lower confidence and bootstrap upper confidence excludes 0 (LCI = 0.14 and UCI = 0.32). Continuous advisory and counseling services are needed to constantly check and monitor progress for women entrepreneurs. Women entrepreneurs suffer emotionally hence there is need to make professional counselors available. African traditional leaders must take its part in encouraging and wavering patriarchal systems, thereby educating and encouraging male figures not to interfere in women businesses.

The success and sustainability of women entrepreneurship demands household, and husband emotional support. Social capital refers to community or society linkages, standards of reciprocity, common help and honesty or dependability. Traditional leaders can take advantage of male gatherings and meetings and encourage them to continuously support

women businesses. Nongovernmental organizations may need to avail adequate funds, resources and field based training and encourage women entrepreneurs to join cooperatives such as internal social money lending groups (Mukando) and others. Books on entrepreneurship can also be translated into the local languages help women entrepreneurs some of whom may not be able to read and write English.

Directions for future research

The study considered women entrepreneurship in the rural areas of Manicaland province, Zimbabwe. This might pose generalizability challenges. It is, therefore, recommended that future research be conducted in other rural areas in Zimbabwe. Future research might also be conducted in other developing countries to enable meaningful conclusions. The study also recommends that a qualitative study should also be conducted to enhance generalizability.

References

- Abass, S. M. (2018). Determinants of women entrepreneurship in Nigeria. ERIA. *Contemporary Issues in Business And Economics ONOMICS (ICCIBE)*, 402.
- Abdul Rahman, F., Anuar, A., & Daud, M. S. (2010). The roles and challenges of women entrepreneurship in the K-Economy.
- Agarwal, & Lenka, U. (2016). An exploratory study on the development of women entrepreneurs: Indian cases. *Journal of Research in Marketing and Entrepreneurship*.
- Agarwal, S., & Lenka, U. (2018). Why research is needed in women entrepreneurship in India: A viewpoint. *International Journal of Social Economics*.
- Ahmed, N., Allison, E. H., & Muir, J. F. (2008). Using the sustainable livelihoods framework to identify constraints and opportunities to the development of freshwater prawn farming in southwest Bangladesh. *Journal of the World Aquaculture Society*, 39(5), 598–611.
- Akter, S., D'Ambra, J., & Ray, P. (2011). Trustworthiness in mHealth information services: An assessment of a hierarchical model with mediating and moderating effects using partial least squares (PLS). *Journal of the American Society for Information Science and Technology*, 62(1), 100–116.
- Alam, S. S., Jani, M.F.M., & Omar, N. A. (2011). An empirical study of success factors of women entrepreneurs in southern region in Malaysia. *International Journal of Economics and Finance*, 3(2), 166–175.
- Alexander, J. R., Houghton, D. C., Twohig, M. P., Franklin, M. E., SaundersNeal-Barnett, A. M., & Woods, D. W. (2016). Factor analysis of the Milwaukee inventory for subtypes of trichotillomania-adult version. *Journal of Obsessive-Compulsive and Related Disorders*, 11, 31–38.
- Ali, & Abou, E. (2020). Determinants of entrepreneurial intention among Sudanese university students. *Management Science Letters*, 10(12), 2849–2860.
- Álvarez, Amorós, J. E., & Urbano, D. (2014). Regulations and entrepreneurship: Evidence from developed and developing countries. *Innovar*, 24(SPE), 81–89.
- Alwang, J., Siegel, P. B., & Jorgensen, S. L. (2001). Vulnerability: A view from different disciplines: Citeseer.
- Amit, R., & Muller, E. (1995). 'Push' and 'pull' entrepreneurship. *Journal of Small Business and Entrepreneurship*, 12(4), 64–80.
- Baker, D.-M., Murray, G., & Agyare, A. K. (2018). Governance and the making and breaking of social-ecological traps. *Ecology and Society*, 23(1).
- Balele Mgasa, D. (2014). How farmers acquire and share knowledge and technology. *A case study on N2Africa-promoted legume technologies in the Salima and Dedza district, Malawi*, Internship.
- Bebbington, A. (1999). Capitals and capabilities: A framework for analyzing peasant viability, rural livelihoods and poverty. *World Development*, 27(12), 2021–2044.

-
- Becker, J., Reimer, E., & Rust, A. (2015). *Klaus Vogel on double taxation conventions*. London: Kluwer Law International.
- Benzing, Chu, H. M., & Kara, O. (2009). Entrepreneurs in Turkey: A factor analysis of motivations, success factors, and problems. *Journal of Small Business Management*, 47(1), 58–91.
- Bhakar, S., Bhakar, S., & Bhakar, S. (2013). Impact of price promotion on brand equity model: A study of online retail store brands. *Call for Papers*, 124.
- Bliwise, N. G. (2006). Structural equation modelling, Retrieved 05 07, 2016. Available from: <http://www.psychology.emory.edu/clinical/bliwise/Tutori>.
- Bönte, W., & Piegeler, M. (2013). Gender gap in latent and nascent entrepreneurship: Driven by competitiveness. *Small Business Economics*, 41(4), 961–987.
- Bullough, A., De Luque, M. S., Abdelzaher, D., & Heim, W. (2015). Developing women leaders through entrepreneurship education and training. *Academy of Management Perspectives*, 29(2), 250–270.
- Campbell, B., Sayer, J. A., Frost, P., Vermeulen, S., Pérez, M. R., Cunningham, A., & Prabhu, R. (2002). Assessing the performance of natural resource systems. *Conservation Ecology*, 5(2).
- Campos, A.D.L.O., Villani, C., Davis, B., & Takagi, M. (2018). *Ending extreme poverty in rural areas—Sustaining livelihoods to leave no one behind*. Rome: FAO.
- Carter, S., Shaw, E., Lam, W., & Wilson, F. (2007). Gender, entrepreneurship, and bank lending: The criteria and processes used by bank loan officers in assessing applications. *Entrepreneurship Theory and Practice*, 31(3), 427–444.
- Cavada, M. C., Bobek, V., & Maček, A. (2017). Motivation factors for female entrepreneurship in Mexico. *Entrepreneurial Business and Economics Review*, 5(3), 133–148.
- Chambers, R. (2011). Sustainable livelihoods: An opportunity for the world commission on environment and development.
- Chan, & Idris, N. (2017). Validity and reliability of the instrument using exploratory factor analysis and Cronbach's alpha. *International Journal of Academic Research in Business and Social Sciences*, 7(10), 400–410.
- Chapman, R., Slaymaker, T., & Young, J. (2003). *Livelihoods approaches to information and communication in support of rural poverty elimination and food security*: Citeseer.
- Chelliah, J., & Lee, H. (2011). Inter-generational changes in entrepreneurial values of Chinese Australians. *Journal of Global Business Management*, 7(2), 1.
- Chen, F. F. (2007). Sensitivity of goodness of fit indexes to lack of measurement invariance. *Structural Equation Modeling: A Multidisciplinary Journal*, 14(3), 464–504.
- Chikazhe, L., Jecha, F., Nyagadza, B., Bhebhe, T., & Manyeruke, J. (2022). Mediators of the effect of corporate social responsibility on product uptake: Insights from the insurance sector in Harare, Zimbabwe. *International Journal of Business and Emerging Markets (IJBEM)*, 436–453.
- Chin, W. W. (1998). Commentary: Issues and opinion on structural equation modeling. *MIS Quarterly*, vii–xvi.
- Chitongo, L. (2019). Rural livelihood resilience strategies in the face of harsh climatic conditions. The case of ward 11 Gwanda, South, Zimbabwe. *Cogent Social Sciences*, 5, 1, doi: [10.1080/23311886.2019.1617090](https://doi.org/10.1080/23311886.2019.1617090).
- Ciappei, C., Laudano, M. C., Zollo, L., & Rialti, R. (2016). Evaluating the quality of entrepreneurial education analysing its ability to increase entrepreneurial attitude and intent of students. *Paper presented at the Toulon-Verona Conference "Excellence in Services"*.
- Collier, J. E. (2020). *Applied structural equation modelling using AMOS: Basic to advanced techniques*. Routledge.
- Croson, R., & Gneezy, U. (2009). Gender differences in preferences. *Journal of Economic Literature*, 47(2), 448–74.
- Deshpande, S., & Sethi, S. (2009). Women entrepreneurship in India. *International Research Journal*, 2(9), 13–17.
- DFID, U. (1999). *Sustainable livelihoods guidance sheets*. London: DFID, 445.

- DFID. (2000). Sustainable livelihoods guidance sheets. *Department for International Development*. Available from: www.livelihood.org/info/info_guidancesheets.htm.
- Dube, L., & Guveya, E. (2016). Factors influencing smallholder crop diversification: A case study of Manicaland and Masvingo provinces in Zimbabwe. *International Journal of Regional Development*, 3(2), 1–25.
- Eisenberger, R., Jones, J. R., Stinglhamber, F., Shanock, L., & Randall, A. T. (2005). Flow experiences at work: For high need achievers alone? *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, 26(7), 755–775.
- Elam, A. B., Brush, C. G., Greene, P. G., Baumer, B., Dean, M., Heavlow, R., & Association, G.E.R. (2019). Women's entrepreneurship report 2018/2019.
- Erenstein, O., Hellin, J., & Chandna, P. (2010). Poverty mapping based on livelihood assets: A meso-level application in the Indo-Gangetic Plains, India. *Applied Geography*, 30(1), 112–125.
- Fafchamps, M. (2001). Networks, communities and markets in Sub-Saharan Africa: Implications for firm growth and investment. *Journal of African Economies*, 10(suppl_2), 109–142.
- Fairlie, R. W., & Robb, A. M. (2009). Gender differences in business performance: Evidence from the characteristics of business owners survey. *Small Business Economics*, 33(4), 375–395.
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics: and sex and drugs and rock 'N' roll* (4th ed.). Los Angeles, London, New Delhi: Sage.
- Fosić, I., Kristić, J., & Trusić, A. (2017). Motivational factors: Drivers behind women entrepreneurs' decision to start an entrepreneurial venture in Croatia. *Scientific Annals of Economics and Business*, 64(3).
- Goby, V. P., & Eroglu, M. S. (2011). Female entrepreneurship in the United Arab Emirates: Legislative encouragements and cultural constraints. *Paper presented at the Women's Studies International Forum*.
- GOI (2006). *Urban local self-government in India*. Mittal Publications.
- Greblikaite, J., Sroka, W., & Grants, J. (2015). Development of social entrepreneurship in European union: Policy and situation of Lithuania and Poland. *Transformations in Business and Economics*, 14.
- Gupta (2010). Evaluation of governance: A study of the government of India's outcome budget. *Journal of Development Effectiveness*, 2(4), 566–573.
- Gupta, & Mirchandani, A. (2018). Investigating entrepreneurial success factors of women-owned SMEs in UAE. *Management Decision*.
- Guta, D. D., Jara, J., Adhikari, N. P., Chen, Q., Gaur, V., & Mirzabaev, A. (2017). Assessment of the successes and failures of decentralized energy solutions and implications for the water–energy–food security nexus: Case studies from developing countries. *Resources*, 6(3), 24.
- Haan, H. C. (2004). *Small enterprises: Women entrepreneurs in the UAE*: CLMRI.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, 19(2), 139–152.
- Hair, J., Sarstedt, M., Ringle, C., & Mena, J. (2011). An assessment of the use of partial least squares structural equation modelling in marketing research. *Journal of the Academy of Marketing Science*, 1–20.
- Hair, J. F., Hult, G.T.M., Ringle, C. M., Sarstedt, M., & Thiele, K. O. (2017). Mirror, mirror on the wall: A comparative evaluation of composite-based structural equation modeling methods. *Journal of the Academy of Marketing Science*, 45(5), 616–632.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24.
- Hayes, A. F. (2013). Introduction to mediation, moderation, and conditional process analysis. A.
- Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: Guilford Press.
- Hayford, P., & Kloke-Lesch, A. (2013). Africa partnership forum evaluation report: a forum puts itself to the test. Bonn, New York: Authors (accessed 20 November 2022).

-
- Hayrapetyan. (2016a). Factors that drive female entrepreneurship in Armenia.
- Hendratni, A., & Sukmaningrum, P. S. (2018). Role of government support and incubator organization to success behaviour of woman entrepreneur: Indonesia women entrepreneur association. *Polish Journal of Management Studies*, 17.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135.
- Hisrich, R. D., & Brush (1986). Characteristics of the minority entrepreneur. *Journal of Small Business Management*, 24, 1.
- Hu, Z. G., Higashiyama, T., Yoshimura, M., Yap, Y. K., Mori, Y., & Sasaki, T. (1998). A new nonlinear optical borate crystal K₂A₁₂B₂O₇ (KAB). *Japanese Journal of Applied Physics*, 37(10A), L1093.
- Humphrey, J., & Schmitz, H. (1998). Trust and inter-firm relations in developing and transition economies. *The Journal of Development Studies*, 34(4), 32–61.
- Hundera, M. B. (2019). *Role conflict, coping strategies and female entrepreneurial success in sub-Saharan Africa: CentER*. Tilburg University.
- Ibrahim, N., & Mas'ud, A. (2016). Moderating role of entrepreneurial orientation on the relationship between entrepreneurial skills, environmental factors and entrepreneurial intention: A PLS approach. *Management Science Letters*, 6(3), 225–236.
- Jacob, M., & Ganguli, M. (2016). Epidemiology for the clinical neurologist. *Handbook of Clinical Neurology*, 138, 3–16.
- Jesurajan, S.V.A., & Gnanadhas, M. E. (2011). A study on the factors motivating women to become entrepreneurs in Tirunelveli district. *Asian Journal of Business and Economics*, 1(1), 1–14.
- Kabonga, I. (2020). Reflections on the 'Zimbabwean crisis 2000–2008' and the survival strategies: The sustainable livelihoods framework (SLF) analysis. *Africa Review*, 12(2), 192–212. doi: [10.1080/09744053.2020.1755093](https://doi.org/10.1080/09744053.2020.1755093).
- Kabonga, I., & Kwashirai, Z. (2021). Entrepreneurship among university students in Bindura, Zimbabwe. *Cogent Social Sciences*, 7, 1. doi: [10.1080/23311886.2021.2004674](https://doi.org/10.1080/23311886.2021.2004674).
- Kabonga, I., Kwashirai, Z., & Dube, E. (2021). Internal savings and lending schemes (ISALS) and the empowerment of women in rural shamva, Zimbabwe. *Rural Society*, 30(2-3), 101–118, doi: [10.1080/10371656.2021.2006991](https://doi.org/10.1080/10371656.2021.2006991).
- Kabonga, I., Zvokuomba, K., & Nyagadza, B. (2021). The challenges faced by young entrepreneurs in informal trading in Bindura Zimbabwe. *Journal of Asian and African Studies (JAAS)*, 56(Issue 8) 1780–1794.
- Kabonga, I., Zvokuomba, K., Nyagadza, B., & Dube, E. (2021). Swimming against the tide: Young informal traders' survival strategies in a competitive business environment in Zimbabwe. *Youth and Society*, 1–20.
- Kaviarasu, S. J., HendryRuban, A., & Francis, C. (2018). Women entrepreneurship in Indian context: A critical study of its challenges and solutions. *International Journal of Scientific Research and Reviews*, 2295–2303.
- Kelley, D., Singer, S., & Herrington, M. (2016). *Global entrepreneurship monitor. Global report, global entrepreneurship research association*. Regents Park, London: London Business School.
- Kepler, E., & Shane, S. (2007). *Are male and female entrepreneurs really that different?*. Washington, DC: Office of Advocacy, US Small Business Administration.
- Khan, M. S., Breitenecker, R. J., & Schwarz, E. J. (2015). Adding fuel to the fire. *Management Decision*.
- Khupe, T., Nyathi, M., & Ruparanganda, W. (2017). Gender Budgeting: Prospects and Constraints in the Eyes of the Women Informal Retail Traders in Zimbabwe.
- Khurshid, J. (2018). *Development of psychological integral model for women entrepreneurship in South asia (evidence from Pakistan): A mediated and moderated model*. Islamabad: Capital University of Science and Technology.

- Kirk, J., & Belovics, R. (2006). Counseling would-be entrepreneurs. *Journal of Employment Counseling*, 43(2), 50–61.
- Kirkwood, J., & Campbell-Hunt, C. (2007). Using multiple paradigm research methodologies to gain new insights into entrepreneurial motivations. *Journal of Enterprising Culture*, 15(03), 219–241.
- Knutsson, P. (2006). The sustainable livelihoods approach: A framework for knowledge integration assessment. *Human Ecology Review*, 13(1), 90–99.
- Kritz, M. M., & Gurak, D. T. (1989). Women's status, education and family formation in sub-Saharan Africa. *International Family Planning Perspectives*, 100–105.
- Kuzilwa, J. A. (2005). The role of credit for small business success: A study of the national entrepreneurship development fund in Tanzania. *The Journal of Entrepreneurship*, 14(2), 131–161.
- Laudano, M. C., Zollo, L., Ciappei, C., & Zampi, V. (2019). Entrepreneurial universities and women entrepreneurship: A cross-cultural study. *Management Decision*.
- Loras, J., & Vizcaíno, J. (2013). Is technical training an obstacle to entrepreneurship? *Management Decision*.
- Lyon (1999). *Manifestoes: Provocations of the modern*. New York: Cornell University Press.
- Lyon, Lumpkin, G. T., & Dess, G. G. (2000). Enhancing entrepreneurial orientation research: Operationalizing and measuring a key strategic decision making process. *Journal of Management*, 26(5), 1055–1085.
- Mandongwe, L., & Jaravaza, D. C. (2020). Women entrepreneurial intentions in subsistence marketplaces: The role of entrepreneurial orientation and demographic profiles in Zimbabwe. *Cogent Business and Management*, 7(1), 1818365.
- Mansor, N. (2005). Woman in business: Determinants for venturing in Malaysians SMEs. *Studia Universitatis Babeş Bolyai-Negotia*, 50(2), 41–55.
- Mashapure, R., Nyagadza, B., Chikazhe, L., Msipah, N., Ngorora, G.K.P., & Gwiza, A. (2022). Challenges hindering women entrepreneurship sustainability in rural livelihoods: Case of Manicaland province. *Cogent Social Sciences*. doi: [10.1080/23311886.2022.2132675](https://doi.org/10.1080/23311886.2022.2132675).
- Maysami, R. C., & Goby, V. P. (1999). Female business owners in Singapore and elsewhere: A review of studies. *Journal of Small Business Management*, 37(2), 96.
- Maziriri, E. T., Nyagadza, B., & Chuchu, T. (2022a). Framing key innovation abilities on capability and the performance of women entrepreneurs: The moderating role of entrepreneurial education. *European Journal of Management Studies (EJMS)*, Emerald Insight, Bingley.
- Maziriri, E. T., Nyagadza, B., & Chuchu, T. (2022b). Innovation conviction, innovation mindset and innovation creed as precursors for need for achievement and women entrepreneurial success. *European Journal of Innovation Management (EJIM)*, Emerald Insight. doi: [10.1108/EJIM-03-2022-0156](https://doi.org/10.1108/EJIM-03-2022-0156).
- Maziriri, E. T., Nyagadza, B., Maramura, T. C., & Mapuranga, M. (2022). 'Being an entrepreneur like Mom and Dad': Using narrative analysis to understand how couplepreneurs stimulate an entrepreneurial mindset on their kids. *Journal of Entrepreneurship in Emerging Economies (JEEE)*. Available from: <https://www.emerald.com/insight/content/doi/10.1108/JEEE-05-2022-0153>.
- Maziriri, E. T., Nyagadza, B., Mapuranga, M., & Maramura, T. C. (2022). Habitual Facebook use as a prognosticator for life satisfaction and psychological well-being: Social safeness as a moderator. *Arab Gulf Journal of Scientific Research (AGJSR)*, Emerald Insight, Bingley. doi: [10.1108/AGJSR-04-2022-0011](https://doi.org/10.1108/AGJSR-04-2022-0011).
- McClelland, E., Swail, J., Bell, J., & Ibbotson, P. (2005). Following the pathway of female entrepreneurs: A six-country investigation. *International Journal of Entrepreneurial Behavior and Research*.
- McQuitty, S., & Wolf, M. (2013). Structural equation modeling: A practical introduction. *Journal of African Business*, 14(1), 58–69.
- Mehta, S., & Hill, N. S. (2001). Noninvasive ventilation. *American Journal of Respiratory and Critical Care Medicine*, 163(2), 540–577.
- Meyer (2018). Research on female entrepreneurship: Are we doing enough?. *Polish Journal of Management Studies*, 17.

-
- Mfaume, R. M., & Leonard, W. (2004). Small business entrepreneurship in Dar es Salaam-Tanzania: Exploring problems and prospects for future development.
- Miah, J., Khan, S., Misto, O. F., & Karim, R. (2018). Women entrepreneurship of sylhet city, Bangladesh: Challenges & opportunities. *Journal of Management and Organizational Studies*, 5(3), 17–28.
- Moses, C., & Mordi, C. (2010). Women entrepreneurship development in Nigeria: The effect of environmental factors. *BULETINUL Universitatii Petrol-Gaze Din Ploie~ Ti*, 62(4), 43–52.
- Mulawarman, L., Hasan, H., & Sharif, S. M. (2020). Motivations and challenges of women entrepreneurs: The Indonesian Mumpreneur perspective. *European Journal of Molecular and Clinical Medicine*, 7(6), 3060–3074.
- Muzuva, P., & Hlungwani, P. M. (2022). Impact of COVID 19 on livelihoods of female entrepreneurs in Marondera urban. *Cogent Social Sciences*, 8, 1. doi: [10.1080/23311886.2022.2136607](https://doi.org/10.1080/23311886.2022.2136607).
- Naser, K., Mohammed, W. R., & Nuseibeh, R. (2009). Factors that affect women entrepreneurs: Evidence from an emerging economy. *International Journal of Organizational Analysis*.
- Nasir, M., Iqbal, R., & Akhtar, C. (2019). Factors affecting growth of women entrepreneurs in Pakistan. *Pakistan Administrative Review*, 3(1), 35–50.
- Ndofirepi, T. M. (2020). Relationship between entrepreneurship education and entrepreneurial goal intentions: Psychological traits as mediators. *Journal of Innovation and Entrepreneurship*, 9, 2. doi: [10.1186/s13731-020-0115-x](https://doi.org/10.1186/s13731-020-0115-x).
- Ng, L., & Jenkins, A. S. (2018). Motivated but not starting: How fear of failure impacts entrepreneurial intentions. *Small Enterprise Research*, 25(2), 152–167.
- Ngorora, G., & Mago, S. (2013). Challenges of rural entrepreneurship in South Africa: Insights from nkonkobe municipal area in the eastern cape province. *International Journal of Information Technology and Business Management*, 16(1), 1–11.
- Nguyen, C. (2018). Demographic factors, family background and prior self-employment on entrepreneurial intention-Vietnamese business students are different: Why? *Journal of Global Entrepreneurship Research*, 8(1), 1–17.
- Norusis, M. J. (1992). SPSS for windows: Base system user's guide, release 5.0: SPSS Incorporated.
- Nunnally, J. C. (1978). An overview of psychological measurement. *Clinical Diagnosis of Mental Disorders*, 97–146.
- Nyagadza, B., Kadembo, E. M., & Makasi, A. (2020). Structurally validated scale of appraising the link between corporate storytelling for branding & internal stakeholders' corporate brand perceptions. *Cogent Business and Management*, 6(1), 1–25.
- Nyagadza, B., Gwiza, A., & Hove, P. K. (2022). Workplace diversity, equality and inclusivity in Zimbabwean labour market. *Cogent Social Sciences*, 8(1), 1–14.
- Nyagadza, B., Mazuruse, G., Muposhi, A., & Chigora, F. (2022). Effect of hotel overall service quality on customers' attitudinal and behavioural loyalty: Perspectives from Zimbabwe. *Tourism Critiques: Practice and Theory (TCPT)*. doi: [10.1108/TRC-12-2021-0026](https://doi.org/10.1108/TRC-12-2021-0026).
- Ofori-Kuragu, J. K., Owusu-Manu, D.-G., & Ayarkwa, J. (2016). The case for a construction industry council in Ghana. *Journal of Construction in Developing Countries*, 21(2), 131.
- Okeke-Uzodike, O.U.E. (2019). Sustainable women's entrepreneurship: A view from two BRICS nations. *Journal of International Women's Studies*, 20(2), 340–358.
- Okello, D. (2020). Gender effect of entrepreneurial orientation on dairy farming career resilience in Kenya. *Cogent Food and Agriculture*, 6(1), 1863565.
- Olomi, D. R. (2001). *Entrepreneurial motivation in a developing country context: Incidents antecedents and consequences of growth-seeking behaviour among Tanzanian owner-managers*. Dar es Salaam: University of Dar Es Salaam.
- Osterholm, M. T., & Hedberg, C. W. (2015). Epidemiologic principles. *Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases*, 146.

- Othman, N. H., Pazil, A.H.M., Zaib, S.Z.M., Jin, C. W., Attaullah, S. A., & Mahadi, N.F.D. (2016). Influence of work experience and education towards business performance among entrepreneurs. *International Business Education Journal*, 9(1), 78–87.
- Otto, I. M., Reckien, D., Reyer, C. P., Marcus, R., Le Masson, V., Jones, L., . . . Serdeczny, O. (2017). Social vulnerability to climate change: A review of concepts and evidence. *Regional Environmental Change*, 17(6), 1651–1662.
- Ozgen, E., & Baron, R. A. (2007). Social sources of information in opportunity recognition: Effects of mentors, industry networks, and professional forums. *Journal of Business Venturing*, 22(2), 174–192.
- Patil, P. A., & Deshpande, Y. M. (2021). *Women entrepreneurship: A journey begins research Anthology on Challenges for Women in leadership roles*. IGI Global, 36–56.
- Petridou, E., & Glaveli, N. (2008). Rural women entrepreneurship within co-operatives: Training support. *Gender in Management: An International Journal*.
- Raman, K., Anantharaman, R. N., & Jayasingam, S. (2008). Motivational factors affecting entrepreneurial decision: A comparison between Malaysian women entrepreneurs and women non entrepreneurs. *Communications of the IBIMA*, 2(12), 85–89.
- Rambe, P., & Mosweunyane, L. (2017). A poverty-reduction oriented perspective to small business development in South Africa: A human capabilities approach. *African Journal of Science, Technology, Innovation and Development*, 9(3), 289–302.
- Rambe, P., & Ndofirepi, T. M. (2021). Explaining social entrepreneurial intentions among college students in Zimbabwe. *Journal of Social Entrepreneurship*, 12(2), 175–196.
- Raosoft, I. (2004). Sample size calculator. Available from: <http://www.raosoft.com/samplesize.html>.
- Ratten, V. (2011). Social entrepreneurship and innovation in sports. *International Journal of Social Entrepreneurship and Innovation*, 1(1), 42–54.
- Richardson, I. E. (2004). *H. 264 and MPEG-4 video compression: Video coding for next-generation multimedia*. John Wiley & Sons.
- Rutashobya (1995). Women in business in Tanzania. *Business Management Review*, 7(1), 22–32.
- Sahasranamam, S., & Sud, M. (2016). Opportunity and necessity entrepreneurship: A comparative study of India and China. *Academy of Entrepreneurship Journal*, 22(1), 21.
- Saleem, M. A. (2017). The impact of socio-economic factors on small business success. *Geografia-Malaysian Journal of Society and Space*, 8(1).
- Saunders, Lewis, P., & Thornhill, A. (2009). *Research methods for business students*. New York: Pearson.
- Schlaegel, C., & Koenig, M. (2014). Determinants of entrepreneurial intent: A meta-analytic test and integration of competing models. *Entrepreneurship Theory and Practice*, 38(2), 291–332.
- Schumacher, A., Erol, S., & Sihn, W. (2016). A maturity model for assessing Industry 4.0 readiness and maturity of manufacturing enterprises. *Procedia Cirp*, 52, 161–166.
- Serrat, O. (2017). Understanding and developing emotional intelligence. In *Knowledge solutions* (pp. 329–339). Singapore: Springer.
- Shadrack, E., & Warsanga, W. B. (2020). Women managed Micro-Enterprises and households' welfare in Mimerani mining township, Tanzania. *East African Journal of Social and Applied Sciences [EAFJ-SAS]*, 2(1), 89.
- Shaila, S. (2012). Motivational factors instrumental in the emergence of women entrepreneurship. *Aweshkar Research Journal*, 13(1), 70–76.
- Shukla, S., Parray, M. I., Siingh Chatwal, N., Bharti, P., & Dwivedi, A. K. (2018). Global entrepreneurship monitor 2016/2017: India report.
- Sospeter, N. G., Rwelamila, P. D., Nchimbi, M., & Masoud, M. (2014). Review of theory and practice literature on women entrepreneurship in the Tanzanian construction industry: Establishing the missing link. *Journal of Construction in Developing Countries*, 19(2), 75.

-
- Stoian, D., Donovan, J., Fisk, J., & Muldoon, M. (2012). Value chain development for rural poverty reduction: A reality check and a warning. *Enterprise Development and Microfinance*, 23(1), 54–69.
- Sullivan, Halbrendt, Wang, & Scannell (1997). Exploring female entrepreneurship in Rural Vermont. *Economic Development Review*, 15(3), 37–42.
- Suttie, A., Yann, S., Phalla, Y., Tum, S., Deng, Y.-M., Hul, V., . . . Horwood, P. F. (2018). Detection of low pathogenicity influenza A (H7N3) virus during duck mortality event, Cambodia, 2017. *Emerging Infectious Diseases*, 24(6), 1103.
- Tabares, A., Londoño-Pineda, A., Cano, J. A., & Gómez-Montoya, R. (2022). Rural entrepreneurship: An analysis of current and emerging issues from the sustainable livelihood framework. *Economies*, 10(6), 142.
- Tacoli, C. (1999). Understanding the opportunities and constraints for low-income groups in the peri-urban interface: The contribution of livelihood frameworks.
- Takayindisa, F. M., Thobejane, T. D., Mukwevho, M. H., & Nyathi, L. (2019). Economic effects of drought within family settings: The case of Masvingo, Zimbabwe (from 2000 to 2016). *Journal of Gender, Information and Development in Africa (JGIDA)*, 8(2), 131–149.
- Tawodzera, G., & Chigumira, E. (2018). Food poverty in epworth, Zimbabwe. *Urban Food Systems Governance and Poverty in African Cities*, 249, 18.
- Tomos, F., Djebarni, R., Rogers, A., Thomas, A., Clark, A., & Balan, O. C. (2015). Mixed research methods: Former and new trends in women entrepreneurship research. *Paper presented at the ECRM2015- Proceedings of the 14th European Conference on Research Methods 2015: ECRM 2015*.
- Thompson (2009). *Performance affects: Applied theatre and the end of effect*. Springer.
- Tore, N. G., Gumussoy, M., & Oskay, D. (2019). Validity and reliability of the Turkish version of the cold intolerance symptom severity questionnaire. *Turkish Journal of Medical Sciences*, 49(4), 1221–1227.
- Toroka, E., & Wenga, P. (1997). Tanzania experience with SME development, A paper presented at a national workshop on micro and small enterprises research. *Economic and Social Research Foundation (ESRF)*. November, 11–12.
- Ummah, & Gunapalan, S. (2012). Factors influencing on entrepreneurial success.
- Verheul, I., Thurik, R., Grilo, I., & Van der Zwan, P. (2012). Explaining preferences and actual involvement in self-employment: Gender and the entrepreneurial personality. *Journal of Economic Psychology*, 33(2), 325–341.
- Vossenbergh, S. (2013). Women Entrepreneurship Promotion in Developing Countries: What explains the gender gap in entrepreneurship and how to close it. *Maastricht School of Management Working Paper Series*, 8(1), 1–27.
- Wagner (2007). Exports and productivity: A survey of the evidence from firm-level data. *World Economy*, 30(1), 60–82.
- Wiklund, J., & Shepherd, D. (2005). Entrepreneurial orientation and small business performance: A configurational approach. *Journal of Business Venturing*, 20(1), 71–91.
- Yurtkoru, E. S., Acar, P., & Teraman, B. S. (2014). Willingness to take risk and entrepreneurial intention of university students: An empirical study comparing private and state universities. *Procedia-Social and Behavioral Sciences*, 150, 834–840.
- Zaidi, N. H., & Munir, A. (2014). Participation of women in sugarcane farming system-A case study of Bijnor district (western Uttar Pradesh). *Economic Affairs*, 59(3), 449–457.
- Zaki, I. M., & Rashid, N. H. (2016). Entrepreneurship impact on economic growth in emerging countries. *The Business and Management Review*, 7(2), 31.
- Zeb, A., & Ihsan, A. (2020). Innovation and the entrepreneurial performance in women-owned small and medium-sized enterprises in Pakistan. *Paper Presented at the Women's Studies International Forum*.
- Zollo, L., Laudano, M. C., Ciappei, C., & Zampi, V. (2017). Factors affecting universities' ability to foster students' entrepreneurial behaviour: An empirical investigation. *Journal of Management Development*.

Zungura, M., & Nyemba, E. (2013). The implications of the quota system in promoting gender equality in Zimbabwean politics. *International Journal of Humanities and Social Science*, 3(2), 204–212.

Further reading

Agarwal, & Lenka, U. (2014). A conceptual framework on women entrepreneurs: Problems and prospects. *Advances in Economics and Business Management*, 1(3), 155–159.

Agarwal, & Lenka, U. (2015). Study on work-life balance of women entrepreneurs–review and research agenda. *Industrial and Commercial Training*.

Agrawal, R. (2017). Contributions made by women Entrepreneurs in augmenting socio-regional-economic growth of emerging market economy. *Journal of Women's Entrepreneurship and Education*, 1-2, 87–100.

Agrawal, R. (2018). Constraints and challenges faced by women entrepreneurs in emerging market economy and the way forward. *Journal of Women's Entrepreneurship and Education*.

Ali, & Mahamud, H. A. (2013). Motivational factors and performance of women entrepreneurs in Somalia. *Journal of Education and Practice*.

Becker, J.-M., Rai, A., Ringle, C. M., & Völckner, F. (2013). Discovering unobserved heterogeneity in structural equation models to avert validity threats. *MIS Quarterly*, 37(3), 665–694.

Brush (1992). Research on women business owners: Past trends, a new perspective and future directions. *Entrepreneurship Theory and Practice*, 16(4), 5–30.

Brush, & Cooper, S. Y. (2012). Female entrepreneurship and economic development: An international perspective. *Entrepreneurship and Regional Development*, 24(1-2), 1–6.

Brush, C. G., De Bruin, A., Gatewood, E. J., & Henry, C. (2010). Women entrepreneurs and the global environment for growth: A research perspective.

Schumacher, R. E., & Lomax, R. G. (2010). *A beginner's guide to structural equation modeling* (3rd ed.). New York: Routledge.

Sullivan, & Meek (2012). Gender and entrepreneurship: A review and process model. *Journal of Managerial Psychology*.

wal, & Lenka, U. (2014). A conceptual framework on women entrepreneurs: Problems and prospects. *Advances in Economics and Business Management*, 1(3), 155–159.

Appendix

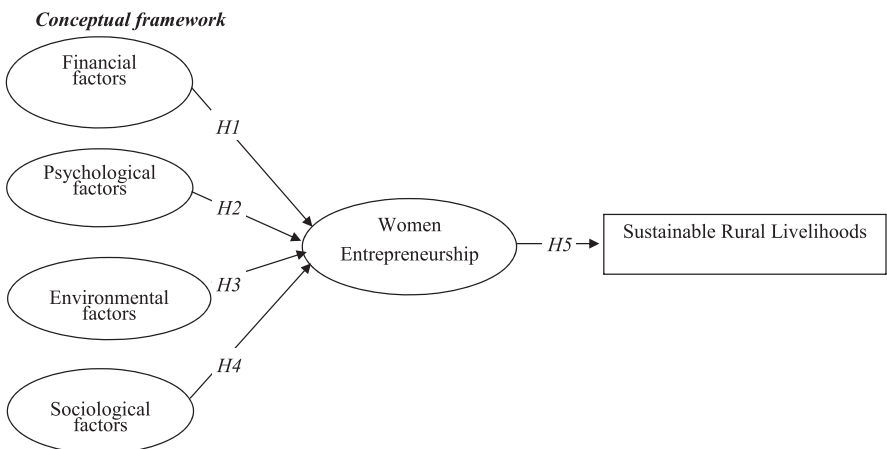


Figure A1.
Conceptual framework

Source(s): Researchers (2020)

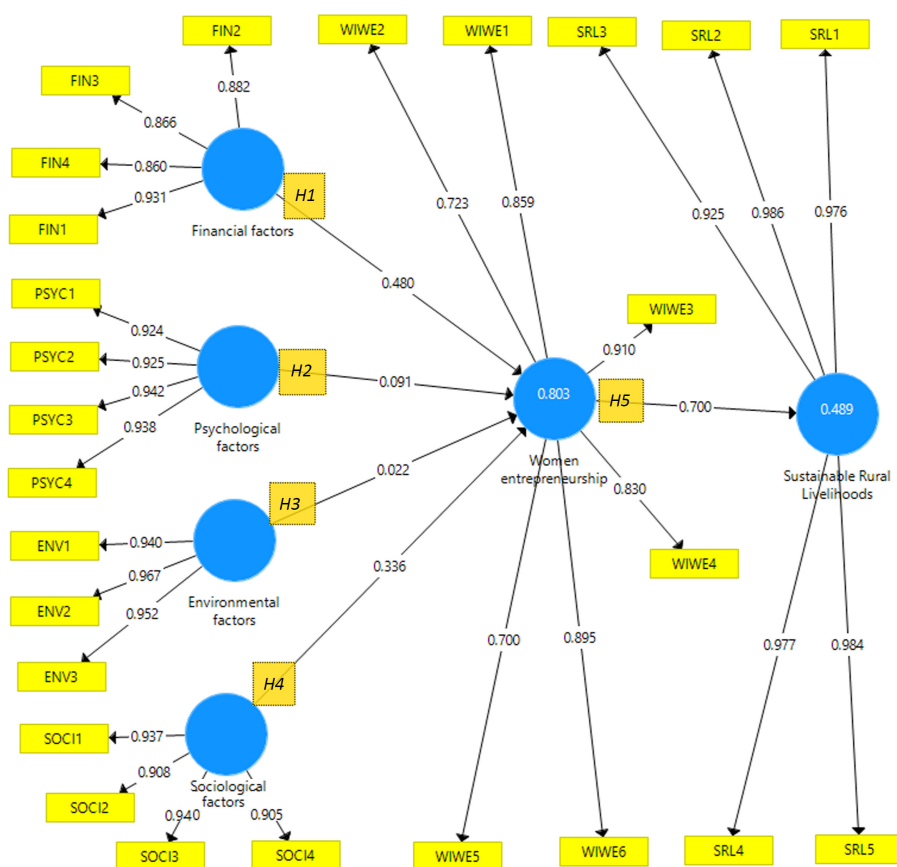


Figure A2.
Research structurally
validated model

Source(s): Research (2022)

About the authors

Rahabhi Mashapure is a full time lecturer and a chairperson in the department of Agribusiness and Management at Marondera University of Agricultural Sciences and Technology (MUAST). She holds a Master's Degree of Philosophy (MPhil) in Business Management and Entrepreneurship (Women Entrepreneurship and Sustainable Rural Livelihoods) (CUT); BSc Honors Degree in Business Management and Entrepreneurship (CUT). Currently, is pursuing a Doctor of Philosophy (DPhil) in Business Management and Entrepreneurship (Entrepreneurship Digitalization for Sustainable Women Entrepreneurship) with the same university.

Brighton Nyagadza is a full time lecturer and a chairperson department of marketing (digital marketing) at Marondera University of Agricultural Sciences and Technology (MUAST), Zimbabwe, full member of the Marketers Association of Zimbabwe (MAZ), an Associate of The Chartered Institute of Marketing (ACIM), United Kingdom and Power Member of the Digital Marketing Institute (DMI), Dublin, Ireland. He has published several book chapters in Routledge books of Taylor & Francis Publishers, New York (USA), Emerald Insight, United Kingdom (UK), Lexington books of the Rowan & Littlefield Publishers, Maryland (USA) and in reputable international journals such as *Journal of Digital Media & Policy* (Intellect), *Sustainable Technology & Entrepreneurship* (Elsevier), *Journal of Fashion Marketing & Management* (Emerald), *European Journal of Management Studies* (Emerald), *Journal of Entrepreneurship in Emerging Economies* (Emerald), *Journal of Environmental Media* (Intellect),

European Journal of Innovation Management (Emerald), *Africa Review* (Brill), *Tourism Critiques: Practice & Theory* (Emerald), *Journal of Asian & African Studies* (SAGE), *PSU Research Review* (Emerald), *Youth & Society* (SAGE), *Quality Assurance in Education* (Emerald), *The Marketing Review* (Westburn), among others. Brighton sits on various corporate and academic boards including the *Mashonaland East Province Zimbabwe National Development Strategy (NDS) Committee (2021-2025)* – *ICT & Human Capital Development* cohort. Brighton Nyagadza is the corresponding author and can be contacted at: brightonnyagadza@gmail.com

Lovemore Chikazhe (Ph.D, M.Sc, B.Tech and PGDHE) holds a Doctor of Philosophy in Marketing and is a lecturer at Chinhoyi University of Technology (CUT), Zimbabwe. He has authored numerous peer-reviewed articles and much of his research is quantitative in nature. His focus areas are services marketing, marketing management and business management.

Gideon Mazuruse is a full time Mathematics and Statistics lecturer under the Teaching and Learning Institute (TLI) at Marondera University of Agricultural Sciences and Technology (MUASt), Zimbabwe. He holds MSc Statistics and Operations Research (NUST), BSc Hons in Statistics and Operations Research (GZU), BSc Mathematics and Computer Science (GZU), Post Graduate Diploma in Education (ZOU).

Precious Hove is currently a Dean in the faculty of Agribusiness and Entrepreneurship at Marondera University of Agricultural Sciences and Technology (MUASt), Zimbabwe. She holds a PhD in Business Management obtained from Witwatersrand in 2020, an MSc in strategic management obtained from Chinhoyi University of Technology (CUT) in 2009, a BCom Hons in Business Management obtained from Midlands State University (MSU) in 2004 and a Diploma in Education (DipEd) obtained from University of Zimbabwe in 1998. She is an author of several journal articles.