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What are the critical success factors for small farming businesses? Evidence from Zambia

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ABSTRACT

Small farming businesses play a cardinal role in most countries, as they contribute to food security, employment creation, and rural development. However, small farming businesses face a number of challenges that have potential to hinder their performance. The purpose of the study is to identify critical success factors for small farming businesses in Zambia. The study employed an exploratory approach that involved multiple cases of six small farm owners. Additionally, four experts from the agriculture industry were also involved in the study. Semi-structured interviews were used to collect data, which was analyzed thematically using Atlas.ti software. Seven common dimensions emerged as critical success factors. These critical success factors include entrepreneurial characteristics, availability of financial resources, farm management practices, adoption of technology, knowledge, networking, and government support. The study provides implications that can help with development of the small farming businesses in Zambia.

KEYWORDS

Critical success factors; Developing countries; small farming businesses; Zambia

Introduction

Agriculture stands as the bedrock of many countries, contributing to economic stability, food security, and sustainable development (Adobor, 2020; Kurniawansyah & Agustia, 2017; Maniriho et al., 2021). Within the agriculture sector, small farms constitute the majority of farms globally (Bisht et al., 2020; Lowder et al., 2016). Collectively, they account for 50 to 70 percent of global food production (Giller et al., 2021). Small farms play a pivotal role in the provision of food security and stimulation of rural economies (Cherotich et al., 2019; Maican et al., 2021; Ramos Sandoval et al., 2018).

In developing countries, particularly sub-Saharan Africa (SSA), agriculture has become a top priority on the developmental agenda during the last decade (Adu-Baffour et al., 2019; Pawlak & Kołodziejczak, 2020). A significant

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portion of the African population resides in rural areas, where agriculture is the main economic activity (Mubanga & Umar, 2020: Middelberg et al., 2020). In SSA, the agricultural sector employs a majority of the labor force (Ngoma et al., 2021), and accounts for approximately 20 percent of Gross Domestic Product (Wang et al., 2023). Within this sector, small farming businesses (SFBs) have emerged as key players. They contribute to the majority of food production, job creation, and improved rural livelihoods (Giller et al., 2021; Saha et al., 2022). SFBs are thus regarded as economic engines, spurring economic growth and alleviating poverty in developing countries (Adobor, 2020; Cherotich et al., 2019).

Notwithstanding their importance, SFBs in developing countries are faced with a myriad of challenges, including lack of capital, high cost of inputs, and market constraints (Saha et al., 2022). These hurdles can adversely affect their performance and drive SFBs back into subsistence mode (Saha et al., 2022). European Union (2022) suggests that addressing issues that pertain to farmers is important to achieve significant progress toward economic, social, and environmental performance. Given the important role that SFBs play, it becomes important to study and understand factors that contribute to their success. Scholars argue that gaining insights into factors that influence the success of farmers, such as SFBs, is important for devising effective support mechanisms (Ragbir et al., 2014; Rissing, 2019). This raises the question: What factors influence the success of SFBs in a developing country context, particularly SSA?

It can be noted that, despite their significance, a notable gap exists in the literature pertaining to the critical success factors (CSFs) of SFBs in the developing country context and more so in SSA. The broader discussions on CSFs have concentrated on small businesses in general or other segments, neglecting the SFBs context (Hui & Leong, 2016; Rodrigues et al., 2021). In addition, limited studies have been done focusing on SSA (Lekhanya & Mason, 2014). Contemporary scholars have argued that extant research on CSFs is characterized by fragmented and contradictory findings (Alfoqahaa, 2018; Gyimah & Adeola, 2021; Qing et al., 2021); moreover, CSFs may not be standard for all enterprises and contexts (Lampadarios, 2016). Therefore, researchers have called for more research on CSFs that is more context-specific (Alfoqahaa, 2018; Qing et al., 2021). To address this gap, our study aims to identify CSFs in the specific context of SFBs in a developing country context of Zambia.

Zambia's economy is predominantly agrarian, with a significant proportion of its population engaged in smallholder farming (Middelberg et al., 2020). SFBs, which constitute an important segment of the agriculture sector, can be argued to be the lifeline for economic and rural development in Zambia. They play a pivotal role in the nation's economy through their contributions to agricultural output, supporting rural livelihoods, and

fostering rural development (Middelberg et al., 2020). Specifically, they contribute to income generation, food security, and help alleviate poverty (European Union, 2022; World Food Programme, 2020). However, these SFBs are faced with numerous challenges, such as limited access to finance, limited markets, and inadequate farming inputs (Makondo et al., 2014). The challenges have potential to impede their performance and sustainability.

Zambia serves as an apt representative in this study because it exemplifies the developing country context, and particularly SSA, where the economies are largely agrarian, with a large rural population (Maniriho et al., 2021; Middelburg et al., 2020). To add on, Zambia's agricultural landscape encapsulates the broader socioeconomic and environmental characteristics typical of developing countries, particularly in SSA (Ngoma et al., 2021). This makes it a suitable representative for the study's exploration of CSFs of SFBs. Using the theoretical lenses of resource-based view (RBV) and resource dependence theory (RDT), this study will endeavor to uncover the CFSs from the perspective of the small farm owners as well as experts from the agricultural sector in Zambia.

This study contributes to small business literature in the context of developing countries, particularly SSA. Specifically, we identify CSFs of SFBs and develop a model of their interrelationships. Understanding the CSFs of SFBs offers a blueprint for policy makers, practitioners, and development agencies seeking sustainable solutions for SFBs in similar contexts. By uncovering the CSFs, the study provides valuable insights that can be used by small farm owners and/or managers to make informed decisions and strategies. Small farm owners can direct their efforts on specific interventions that have potential to improve the overall performance of farm enterprises. Furthermore, findings from this study can help direct policy formulation as well as assist government and other stakeholders to create targeted interventions aimed at supporting the SFBs based on the identified CSFs.

Theoretical background

This study adopts RBV and RDT as overarching theoretical frameworks to explore the CSFs for SFBs in the developing context of Zambia.

RBV

RBV is one of the most influential theories in management and small business research. RBV was first introduced by Wernerfelt (1984) and J.B. Barney (1986) expanded it further. The theory contends that an organization's performance or success is dependent on internal resources and capabilities (J. Barney, 1991; González-Rodríguez et al., 2018). RBV defines a firm by the

resources it integrates (Ismail et al., 2014) and explains why some firms consistently have superior performance over others (J. Barney, 1991). Xin et al. (2023) asserted that RBV helps to address the age-old question of why some companies fail while others succeed. RBV's perspective of the firm is that the firm's strategy and success hinge on its resource profile (Coates & McDermott, 2002).

RBV categorizes resources into tangible and intangible resource that includes all assets, capabilities, organizational processes, firm attributes, information, and knowledge (J. Barney, 1991). Specifically, tangible resources refer to financial resources, physical resources, human resources, and technological resources, while intangible resources include knowledge, skills, reputation, and capabilities (J. Barney, 1991; Radzi et al., 2017). These resources are within the control of the firm and enhance efficiency and effectiveness. Various scholars have utilized RBV as the framework for examining CSFs within the context of small enterprises (González-Rodríguez et al., 2018; Radzi et al., 2017).

Previous studies have also used RBV to explain the performance of small farms. For instance, Olthaar et al. (2019) used the RBV theory to analyze the relationship between resources and capabilities, and performance in small farms. The authors argued that small farms deploy resources differently, and thus performance differs among the small holder farmers. Within the context of SFBs, RBV underscores the significance of leveraging tangible and intangible resources to achieve farm success; hence, it serves as a useful framework that enables us to pinpoint the essential internal resources and capabilities critical for the success of SFBs.

RDT

Complementing the RBV, which focuses on internal resources, RDT recognizes the influence of external resources and the interdependence between firms and other players in the external environment (Pfeffer & Salancik, 1978). The environment provides what is referred to as "critical" resources required by the organization (Tehseen & Ramayah, 2015). Through networking, firms acquire a diverse range of resources, such as information and physical resources from the external environment, to attain sustainability (Kijkasiwat et al., 2021). These resources, acquired externally, contribute to the performance of the firm.

RDT posits that small businesses depend on the external environment and their dependency on external entities for resource acquisition (Hessels & Terjersen, 2008; Pfeffer & Salancik, 1978). Small farms in developing countries have limited access to resources such as financial resources, technology, and farming inputs (Makondo et al., 2014; Qing et al., 2021). Given the inherent dependency of SFBs on external resources, RDT provides a theoretical

foundation for analyzing how these enterprises navigate their external environment to achieve success. By applying RDT, this study can explore how SFBs build relationships with external players, such as fellow farmers, extension officers, government, and other stakeholders, to secure access to critical resources important for their operations. Overall, RDT offers a valuable framework for understanding the dynamics of resource dependencies and their implications for the success of SBF in the developing context.

CSFs in small businesses and the SFB context

One of the earliest definitions of CSFs was provided by Rockart (1979) who defined CSFs as the limited number of areas that provide superior performance for the organization. Over the past years, there has been an increase in the number of studies focusing on CSFs in the context of small businesses (Giardino et al., 2022; Musinguzi et al., 2023; Simpson et al., 2012). Research on the CSFs of small businesses has identified a wide range of factors, ranging from the internal and external factors that can be attributed to the success of the enterprise.

There is no consensus on what contributes to small business success (Qing et al., 2021). For instance, Sadeghi (2018) revealed that policies and regulations, technological factors, and an entrepreneur's characteristics were the most important success factors for small businesses. Rodrigues et al. (2021) revealed that CSFs for small businesses were strategic planning, manager/management capacity, entrepreneurship and innovation, human resources, networks/partnerships, and financing. On the other hand, Chit et al. (2023) said that the CSFs were innovative capacities, institutional connectedness, governance, and management experience across all small businesses. A summary of CSFs identified from a literature review is presented in Table 1.

Table 1. Critical success factors for small businesses based on literature review.

No.	CSFs	Authors
1	Entrepreneurial characteristics	Duarte Alonso and Kok (2021); Fatoki (2018); Hussain et al. (2023); Ritchie et al. (2013); Seraj et al. (2022); Shakeel et al. (2020); Sroka et al. (2023); Wattanakomol and Silpcharu (2023)
2	Management skills	Chit et al. (2023); Ganyaupfu (2013); Lo et al. (2016); Rezaei-Moghaddam and Izadi (2019); Sadeghi (2018); Sroka et al. (2023)
3	Knowledge/trainings	Haase and Franco (2016); Ngo et al. (2019); Ragbir et al. (2014)
4	Strategic planning	Gyimah and Adeola (2021); Musinguzi et al. (2023); Ritchie et al. (2013)
5	Availability of financial resources	Al-Tit at el. (2019); Alom et al. (2016); Chit et al. (2023); Hui and Leong (2016); Hussain et al. (2023); Lekhanya and Mason (2014); Murad et al. (2019); Qing et al. (2021); Radzi et al. (2017); Sroka et al. (2023)
6	Technology	Adobor (2020); Al-Tit et al (2019); Anggadwita and Mustafi (2014); Lo et al. (2016); Paoloni et al. (2022); Radzi at el., (2017); Sadeghi (2018)
7	Business networks	Al-Tit et al. (2019); Eggers et al. (2013); Hui and Leong (2016); Lin et al. (2022); Ruwhiu et al. (2021)
8	Government support	Adeola and Gyimah (2020); Al-Tit at el., (2019); Hussain et al. (2023); Izadi and Rezaei-Moghaddam (2019); Kurniawati and Yuliando (2015); Lampadarios (2016); Ragbir et al. (2014); Ritchie et al. (2013); Sadeghi (2018); Stillitano et al. (2016); Tošović-Stevanović et al. (2021)

A few studies have also been done focusing on success factors in agri-businesses. For instance, Ragbir et al. (2014) conducted a study on success among vegetable farmers in Trinidad. The authors highlighted the influence of innovation, extension service, and knowledge as factors contributing to successful farming. The study emphasized knowledge as a key resource, adding that it was important for farmers to be up to date with modern farming practices. Knowledge can be acquired through technical trainings or interactions with extension officers (Adobor, 2020; Khanal & Mishra, 2016).

Literature has also highlighted networking as a contributing factor to improved performance of farms. Ghauri et al. (2023) explained that networking creates a platform for knowledge sharing and creating opportunities for farmers, thereby improving their sustainability. Farmers who belong to cooperatives benefit from lower cost of inputs, high-quality inputs, and innovative ideas and thus increase chances of their survival (Lin et al., 2022).

Access to finance has been identified as an important resource in farming ventures. Khanal and Omobitan (2020) claimed that access to agricultural credit is an important factor, as it provides farmers with capital, thereby assisting them to meet financial obligations throughout the various stages of the production cycle. For this reason, Ngo et al. (2019) advised that government should develop the rural banking system to make accessible loans easier for small farms.

Adobor (2020) also pointed out the important role that government and other institutions play in fostering success for aquaculture farmers in Ghana. He explained that farmers must be exposed to training and skill transfer from the beginning and throughout the process of their farming activities. Government support through provision of services, such as extension support and subsidies, play a positive role on the performance of small farms (Adobor, 2020; Ragbir et al., 2014). Kawsar et al. (2013) posited that farmers who have more contact with extension services and obtain updated information have an opportunity to reduce certain problems in their farming activities and thus increase production.

Paoloni et al. (2022) conducted a study on agri-food firms in Italy and concluded that innovation technology was a key factor in enhancing performance and the company's competitiveness. The authors revealed that technology was responsible for improving the production cycle and minimizing costs. This confirms Stillitano et al. (2016)'s findings that adoption of technology is important in small farms because of its ability to reduce costs. The lack of appropriate management of a new technology can negatively affect farmer-entrepreneurs and their businesses (Adobor, 2020).

Most recently, Sroka et al. (2023) conducted a study on peri-urban farms surrounding Polish cities to identify success factors. The study revealed that

managers' capabilities, such as motivation, knowledge, skills, and extensive networking, were instrumental in ensuring their success. Other factors identified by the study were availability of financial resources, location factors, business model implemented, and external factors.

While existing literature offers insights into CSFs for small businesses in general and a few within the agricultural context, the results often remain fragmented and inconsistent, highlighting the necessity for more context-specific research (Alfoqahaa, 2018; Qing et al., 2021). Despite the growing emphasis on agriculture and the role of SFBs in developing contexts such as SSA, little attention has been paid to understand the specific CSFs for SFBs in this context. In this regard, this study seeks to identify the CFSs of SFBs and explore the interrelationships among the factors in Zambia.

Top of form methodology

Study design

This study adopted an exploratory qualitative research design using a multiple case study approach (Alkarney & Albraithen, 2018; Yin, 2018). A qualitative approach was suitable, as our study aimed at obtaining an in-depth insight into the dynamic and context-specific factors that contribute to the success of SFBs in a real-life context (Saunders et al., 2019; Yin, 2018). Moreover, a qualitative approach focuses on the why, how, and what kinds of questions, which aligns seamlessly with the exploratory nature of this study. A multiple case strategy was deemed appropriate for several reasons. First, multiple cases allow for exploration of more than one case, leading to rich empirical descriptions (Saunders et al., 2019; Zhang et al., 2013). Second, using multiple cases allows for comparison of results across cases while at the same time enhancing the external validation of the findings (Couto & Ferreira, 2017; Ritchie et al., 2013).

Case selection and sampling

The study was conducted in the Chibombo and Chongwe districts because these are recognized as some of the strong farming districts in Zambia (Mulenga et al., 2021). Cresswell and Creswell (2018) explained that sample size in a qualitative study can depend on the research design being used; however, case studies can include about four to five cases. Therefore, a total of six SFBs were selected and considered adequate for this study. Moreover, data saturation was reached, as no new additional information was brought out after the 11 interviews involving the farm owners and experts (Saunders et al., 2019). Because crop production dominates agricultural activities among

small farms (Mulenga et al., 2021), the selected SFBs in our study had crop production as a major component of their farm.

The SFBs were purposively selected in consultation with the local district offices, called district agricultural coordination offices (DACOs), and the camp extension officers. Involvement of the DACOs and extension officers was important because these have the knowledge of the prominent SFBs in the district and local community (Korneta, 2019). Purposive sampling technique was used to identify cases that would best answer the research questions and meet the objectives of the study (Saunders et al., 2019). To begin with, the selected SFBs had been in existence for more than five years (Elmassah et al., 2022; Gyimah & Adeola, 2021; Popoola, 2022). Second, the SFBs were registered with DACOs as actively participating in farming at the time of the research. Furthermore, all the selected SFBs can be considered to be leading farms in the districts, as they are managed by lead farmers.

Lead farmers are those farmers deemed as leaders in the farming communities and are usually selected in their communities based on characteristics such as farming expertise, innovation, active farming, and hard work. They are sometimes referred to as model farmers, progressive farmers, or exemplary farmers and often take up the task of knowledge sharing with other farmers in their communities (Khaila et al., 2015; Ragasa, 2020; Simpson et al., 2015). The lead farmers own SFBs that are recognized and regarded as significant in their communities (Morgan et al., 2020). In a similar study by Korneta (2019) on CSFs involving Polish agricultural distributors, the study selected eight experts that were deemed significant in the industry to identity the CSFs. In this study, the six cases selected can be deemed significant in the communities and thus are valuable subjects for exploration and analysis of CSFs in the SFBs context.

The key respondents from the selected SFBs were the farm owners. This is because these can be regarded as the ones with the most knowledge and firsthand experience about farm operations. Besides, the farm owners are most likely to be the ones in charge of making operational decisions. This makes them good candidates for this research as they are in a good position to identify and articulate factors that in their opinion make their farms successful. Similar studies focusing on CSFs in small businesses used small business owners, chief executive officers, and managers as key respondents for the same reason (Musinguzi et al., 2023; Shakeel et al., 2020). Table 2 shows details about the SFBs as well as the respondents.

In order to obtain a comprehensive perspective on the subject matter, the study also included four experts purposively selected from the agricultural sector. The experts included one senior agricultural official, two extension camp officers, and a senior official from a nongovernmental organization (NGO). The NGO represented helps to improve market access for small holder farmers by providing a linkage between the private sector and the small holder farmers in Zambia. The diverse group of participants in this

Table 2. Description of the cases and small farm owners.

Small farm owner	Gender	Farming experience	Education	Farm location	Workers/Type	Farm size
Case 1	Female	22 years	Grade 11	Mwalumina Camp	Family labor	3 ha
Case 2	Male	8 years	Grade 12	Kapete Camp	Family labor	5.2 ha
Case 3	Female	16+ years	Grade 11	Njolwe Camp	Three workers	20 ha
Case 4	Female	27 years	Grade 12	Plougmans camp	Seven workers	5 ha
Case 5	Female	12 years	Grade 12	Plougmans Camp	Six workers	5 ha
Case 6	Male	22 years	Grade 9	Nanswinsa Camp	Two workers	7 ha

Table 3. Description of the agricultural experts.

Experts	Gender	Job position	Work experience	Organization
Expert 1	Female	Extension camp officer	10	Ministry of Agriculture
Expert 2	Female	Extension camp officer	26	Ministry of Agriculture
Expert 3	Male	Senior agricultural officer	32	Ministry of Agriculture
Expert 4	Male	Operation director	12	NGO—Agriculture

study provided a holistic understanding of the subject matter. Similar studies have also incorporated different groups of respondents to understand success factors in the small business context (Alkarney & Albraithen, 2018; Ruwhiu et al., 2021; Zang et al., 2013). Table 3 provides a summary of the details of the experts interviewed in this study.

Data collection

Semi-structured interviews were used to obtain insights from SFB owners and experts. The interviews were conducted face to face at the SFB's premises and in offices for the experts. All the participants were initially contacted via telephone to ask for their willingness to participate in the interview. Thereafter, an interview appointment was made based on the participant's preference of time and day. Before the interview, all the participants were informed of the themes for the interview. Providing interview themes helped the participants to prepare for the interview and also improve the credibility of the study (Saunders et al., 2019). An interview guide was prepared and used in the semi-structured interviews (Cresswell & Creswell, 2018). Semi-structured interviews allowed for the comparison of data from the participants on each theme that was used in the interview.

All interviews with the experts from the agricultural sector and four of the farm enterprise owners were conducted in English. Two interviews with the SFB owners were conducted in the local language (Nyanja), with which the researcher is very well conversant. These interviews were translated into English by the researcher at the time of transcribing. The semi-structured interviews were recorded with the participants' consent and then transcribed into a written document to enable data analysis. The interview sessions ranged

from 40 minutes to 60 minutes. The interviews were conducted over a period of 2 months, covering August and September.

As our study was guided by the case study data collection principles outlined by Yin (2018), we employed multiple sources of evidence. Hence, in addition to interviews, we obtained access to farms' internal documents, such as diaries, budgets, and sales records (Couto & Ferreira, 2017; Zhang et al., 2013). Furthermore, on-site farm visitations were conducted, which allowed for direct observation. This facilitated the capturing of visual data through pictures and videos wherever possible (Zhang et al., 2013). The use of diverse data sources enabled us to have a comprehensive understanding of the phenomenon under investigation. Moreover, it was necessary to corroborate and augment evidence from multiple sources (Yin, 2018). We then created a case study database to systematically manage and organize our multiple data. The database comprised data collected from all sources, including interview transcripts, farm documents, and data from observations made during on-site visits (Wang et al., 2021; Yin, 2018).

Ethical considerations were observed in this study. Prior to data collection, approval was granted by the Ministry of Agriculture to collect data from the farmers in the study area. In addition, an informed consent was obtained from all study participants and a consent form was signed before the interview (Saunders et al., 2019). Furthermore, the participants were also assured of their anonymity and confidentiality of their identities (Alkarney & Albraithen, 2018).

Data analysis

Data analysis was guided by the process outlined by Cresswell and Creswell (2018). The process involved five stages: (a) organizing and preparing the data, (b) reading and looking at all the data, (c) coding the data (d), generating themes, and (e) representing. To help with the management, organization, and analysis of the data, a computer-assisted qualitative data analysis software, Atlas.ti, was used. The transcribed interviews, farm documents, and pictures gathered from the sites were all imported into the software for analysis.

The study ensured validity and reliability through the incorporation of multiple sources of evidence, creation of the case study database, and establishing chain of evidence (Yin, 2018). The use of multiple sources of evidence facilitated data triangulation, as the information obtained from interviews was verified through site visits and documents (Zhang et al., 2013). Furthermore, member checking was also carried out (Saunders et al., 2019). This was done through sending back the transcribed interviews to the eight interviewees (whose interviews were in English) so as to verify the accuracy of the details. All the interviewees confirmed that the transcribed interviews were a true

representation of the facts stated during the interviews. In addition, if additional clarification was required during the analysis stage, the participants were contacted (Ritchie et al., 2013). To achieve the chain of evidence we ensured that there was a traceable link from the research aim to the findings and other parts of the study and vice versa (Yin, 2018).

Results and discussion

The results revealed seven main themes that are identified as the CSFs, with 17 subfactors. The CSFs are grouped in categories: entrepreneurial characteristics, availability of resources, adoption of technology, farm management practices, knowledge, networking, and government support. Our results resonate with the RBV theory by highlighting the significance of the internal resources and capabilities in driving the success of SFBs. On the other hand, the role of government support and networking aligns with the RDT, as they underscore the importance of external relationships and dependencies in accessing resources beyond the SFBs' boundaries. The CSFs are explained in detail below.

Availability of finacial resources

One of the key success factors pointed out by the farm owners and experts was the availability of financial resources. This is consistent with prior literature that indicated that the principal factor distinguishing more successful from less successful small businesses is their access to finance (Lekhanya & Mason, 2014; Sroka et al., 2023). Under this factor, two subthemes were revealed: access to loan facility from the formal financial institutions and village banking. Some of the participants in our study (farm owners) had an opportunity to obtain a loan facility from the formal financial institution and almost all the farm owners were members of their local village banking groups. This suggests that the SFBs had some form of access to finance.

One interesting discovery was that the concept of village banking emerged as an important source of financial support and capital for the SFBs (Adeola & Gyimah, 2020). The findings suggest that village banking was instrumental in facilitating the farms' operations in terms of securing farming inputs, and enabling expansion (Hui & Leong, 2016; Khanal & Omobitan, 2020). The SFBs' collaborative efforts to obtain financial resources resonate with RDT. By participating in village banking, SFBs join hands with external forces to create a collective platform for financial resource acquisition (Hessels and Terjersen, 2008; Tehseen & Ramayah, 2015). Moreover, their efforts to obtain bank loans underscores their external dependencies on financial institutions, thereby demonstrating a strategic approach to managing resource constraints (Pfeffer & Salancik, 1978).

Knowledge (Trainings)

Knowledge emerged as a prominet theme from all participants. The subthemes of knowledge acquisition and knowledge application came out strongly as CFSs from both the small farm owners' and experts' perspectives. The knowledge acquisition was mainly done through trainings (Khanal & Mishra, 2016; Ragbir et al., 2014). All the farm owners indicated that they had attended various training programs organized by different stakeholders such as the NGOs and camp officers from the DACO's offices. The trainings exposed them to new technological practices and agricultural skills (Ragbir et al., 2014). The participants further emphasized that knowledge acquisition should be accompanied by knowledge application in order to improve the performance of SFBs. All the farm owners explained that they practiced what they learned from the trainings.

In line with the RBV, SFBs' knowledge acquisition implies skills and information relevant for agricultural production (J. Barney, 1991). SFBs that focus on knowledge aquisition and application as a resource are more likely to enhance their performance through informed strategic decision making and the adoption of modern practices (Khanal & Mishra, 2016; Ragbir et al., 2014).

Farm management practices

Farm management practices emerged as a crucial factor in the context of SFBs. Farm management practices encompassed subfactors such as business planning, marketing planning, recordkeeping, and crop diversification strategy. These farm management practices underscore the importance of internal capabilities within the SFBs that can enhance their competitiveness and achieve superior performance (J. Barney, 1991; González-Rodríguez et al., 2018).

From the findings, most participants frequently mentioned the importance of planning for their farm operations. Planning included early preparation of the field and securing farm inputs ahead of the farming season. Another specific form of planning that was highlighted by the farm owners was market planning. Market planning ensured that the right crops were being grown at the right time, ensuring alignment with demand and market availability (Tošović-Stevanović et al., 2021).

Most of the participants indicated the importance of recordkeeping as a way to monitor their financial performance. Some farm owners acknowledged that they had learned the aspect of recordkeeping via trainings attended. This finding aligns with Gyimah & Adeola (2021) who found that small businesses that carry out recordkeeping increase

their chance of success. This contradicted Shakeel et al. (2020) who found that recordkeeping was not significant in the success of the women-owned small businesses in Pakistan. Another strategy that was practiced and acknowledged by the farm owners in this study was the crop diversification strategy. Crop diversification was highly acknowledged by all the farm owners as a way to increase their crop output, expand their income base, and for increased chances of business sustainability (Ritchie et al., 2013).

Adoption of technology

Adoption of technology was cited as an important factor by all participants. This finding is in agreement with past studies that state that technological factors provide more added value to the performance of small farms (Adobor, 2020; Paoloni et al., 2022; Sroka et al., 2023). Most of the farm owners embraced the new agricultural practices, such as conservation agriculture and irrigation systems. The findings indicate that the SFBs adopted the recommended technologies as a result of the trainings that they attended, which provided them with the knowledge (Cherotich et al., 2019; Khanal & Mishra, 2016).

However, our findings regarding the importance of technological factors contradict Anggadwita and Mustafi's (2014) study in Indonesia. The authors revealed that the small business owners preferred traditional methods of conducting their activities. In this study, all the SFBs practiced contemporary farming techniques, such as conservation agriculture, which is meant to mitigate the effects of climate change, thereby improving their yield (Adobor, 2020).

Networking

Networking proved to be a popular theme among the partcipants. Findings indicate that small farm owners were actively involved in networking activities such as engaging in informal social interactions with other farmers and belonging to groups such as cooperatives. Through networking, the SFBs enhanced their access to various resources, such as information, knowledge, support, and farming inputs (Ghauri et al., 2023; Lin et al., 2022; Ruwhiu et al., 2021). According to Lin et al. (2022), farmers who belong to cooperatives benefit from lower cost and high-quality inputs that can enhance their performance.

Contrary to our expectations, the findings also revealed the dark side of informal social interactions. This is where the informal social networks could be used as channels to discourage or say unpleasant things to fellow farmers, especially if they were viewed as competitors. This aspect

challenges the conventional positive view of networking within the theoretical frameworks used in this study (J. Barney, 1991; Pfeffer & Salancik, 1978). Consequently, our findings suggest the significance of assessing the quality of interactions within these networks if they are to be of benefit to the SFBs.

Entrepreneurial characteristics

Our findings further revealed the presence of common characteristics among the farm owners. These included: farming background, being financially disciplined, resilience, and motivation. These shared characteristics demonstrate the importance of human capital resources in driving the performance and competitiveness of the SFBs (J. Barney, 1991; Ismail et al., 2014; Sroka et al., 2023).

Most of the small farm owners had a background in farming before they embarked on their own farming businesses. Having a farming background gives the farm owner an added advantage by way of farming experience (Shakeel et al., 2020). Furthermore, farm owners may have acquired essential agricultural knowledge, potentially influencing their farming practices, and decision making, a resource potentially lacking among those without a farming background. This study, therefore, agrees with previous studies that small businesses whose owners have a background in their type of business have a higher probability of achieving better performance (Elmassah et al., 2022; Ritchie et al., 2013).

The findings also indicated that most small farm owners had a driving force, which we can call motivation, that pushed them into farming (Sroka et al., 2023). In this study, some participants were driven into farming by push factors such as death of a spouse or retrenchment. These push factors motivated the small farm owners to get into the farming business. On the other hand, other small farm owners were driven into farming based on their passion for the activity, which can be viewed as a pull factor (Duarte Alonso & Kok, 2021).

Interestingly, the findings also revealed that some farm owners possessed financial discipline, as this could be deduced by how they managed to save monies meant for farming inputs in the face of financial pressures. Faced with competing needs and scarce resources, saving money is not an easy task for SFBs. Financial discipline was necessary to avoid misappropriation of the funds meant for farming activities.With financial discipline, the farm owners are able to attend to the requirements of their farm enterprises.

Another characteristic that was revealed by the findings was resilience. Some participants had encountered misfortunes (thefts and bush fires) in their businesses that could potentially put them out of business, but they pulled through. This aspect demonstrates resilience. Literature asserts that

entrepreneurial resilience can be linked to individual and organizational success (Fatoki, 2018; Seraj et al., 2022).

Government support

Government support plays an important role when it comes to smallholder farming. This support is demonstrated through the provision of extension services and government sudsidy. All the small farm owners acknowledged that they had received extension services from camp officers who provided trainings on various issues. These trainings are a great source of professional advice for the SFBs (Adobor, 2020; Adeola & Gyimah, 2020). Most of the experts confirmed the availability of extension services and explained that they offer trainings that focus on agricultural skills and adoption of new technology. It can therefore be concluded that extension services contribute to the SFB's knowledge acquisition and subsequent adoption of technology.

This study agrees with past studies that state that small businesses that seek professional advice are more likely to succeed because they have few chances of making mistakes (Adeola & Gyimah, 2020; Ritchie et al., 2013). However, the findings revealed the inadequacy of the extension services that cater to a large number of small farms in communities, thus compromising the quality of the service. To be effective, extension services require adequate support from the government and other stakeholders (Ragbir et al., 2014).

The issue of subsidy, also known as the Farmer Input Support Program (FISP), was commonly raised by the participants. However, the findings were somewhat contradictory. Some farm owners who received FISP wished that they could receive more and on-time delivery, as this helped them in their farming activities. This finding is similar to previous research that states that public subsidies can positively contribute to the performance of small farms (Stillitano et al., 2016). On the other hand, some other farm owners felt that FISP was making farmers more dependent on the government. This view was also shared by experts who felt that the subsidy was not serving its intended purpose. This negative view about government subsidies can be related with the findings of Tošović-Stevanović et al. (2021) who found that investment subsidies did not have a significant impact on the performance of small farms in Serbia.

By and large, our findings revealed that even though the SFBs made efforts to independently acquire some farming inputs, government support was still crucial. Some experts advised that government should focus on providing good policies that will motivate farmers and guide the agricultural sector as a whole (Sadeghi, 2018). Ultimately, the aspect of government support affirms earlier studies on RDT by highlighting the reliance of SFBs on external entities to acquire critical resources such as farming inputs and extension services (Kijkasiwat et al., 2021; Tehseen & Ramayah, 2015).

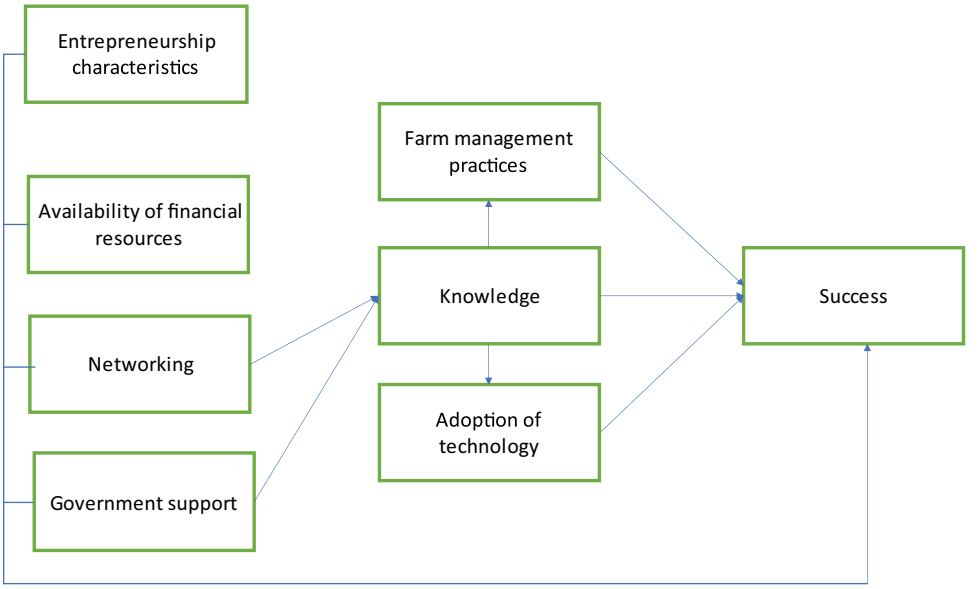

Figure 1. Model for CSFs for SFBs.

The model developed in Figure 1 illustrates the CSFs identified and their interrelationships among them within the specific context of SFBs in the developing country of Zambia. At the core of the model is the knowledge factor, which can be seen as influencing other factors, such as farm management practices and adoption of technology. The findings have revealed that the farm owners implemented some of the farm management practices and adopted technology as a result of the knowledge acquired via training. Furthermore, the findings also revealed that the networking and government support of extension services contributed to the acquisition of the knowledge relevant for farming. In summary, the model shows how all the identified factors and their interrelationships contribute to the success of the SFBs.

Figure 1 illustrates the CSFs and the interrelationships between them as interpreted from the data.

Conclusion and implications

This article aimed at identifying CSFs for SFBs in a developing country context of Zambia. The study revealed seven dimensions of CSFs, namely: entrepreneurial characteristics, availability of financial resources, farm management practices, adoption of technology, knowledge, networking, and government support. Each of the seven dimensions had a total of 17 subfactors. Our findings align with both the RBV and RDT perspectives that SFBs can achieve success through leveraging their internal and external resources. This article

developed a model of CSFs and their interrelationships (Figure 1) based on the most important factors as revealed by the study.

The findings provide a number of implications for SFB owners and/or managers and stakeholders, such as government and the private sector. First, SFBs must invest in knowledge acquisition. To obtain knowledge, SFB owners and/or managers should endeavor to attend various trainings organized by extension officers or other stakeholders. On the other hand, the government and stakeholders must provide periodic training programs that focus on new agricultural practices and technologies as well as emphasize management practices such as business planning, market planning, and recordkeeping.

Second, SFB farm owners and/or managers should network with other like-minded people by attending events, such as agricultural shows and field days. Additionally, it would be beneficial for policy makers and stakeholders to create platforms that facilitate networking activities between SFBs and large farms. This will have the potential to provide opportunities for shared learning, resource pooling, and collective problem solving. Moreover, these collaborative efforts can birth open innovation initiatives enabling SFBs to benefit by capitalizing on emerging opportunities within the agricultural sector.

Regarding access to finance, the government and private sector should provide financial products specifically tailored for SFBs that will ensure affordable and easy accessibility. Furthermore, the government must invest in extension services so that an extension service is not overstretched managing large numbers of farmers, as this has the potential to compromise their services. A subsidy is helpful to farmers but the government needs to implement policies that ensure that farmers graduate from a subsidy to give them a chance for new entrants in the sector.

Future research avenues

There are a few limitations to this study that could be viewed as suggestions for future direction. First, it is important to note that CSFs vary by region, crop type, and type of farm. Therefore, future studies should explore CSFs of SFBs in these specific contexts. Second, this study identified CSFs that can serve as a foundation for subsequent qualitative and quantitative analyses of larger data sets. Furthermore, the results of this study can be used as an input in a quantitative survey to investigate the strength of the relationships provided in the model developed. Future studies can examine the relationship of the CSFs identified in this study to economic performance variables of SFBs, such as profitability, sales revenue, or return on assets ratio.

Additionally, it might be interesting for future studies to explore collaborative frameworks between SFBs and stakeholders such as government, NGOs, and large farms (Giardino et al., 2022). For instance, future research can

explore how collaborations between SFBs and large farms can influence the competitiveness, innovativeness, and overall success of SFBs. Research could also investigate the feasibility, benefits, and challenges associated with SFBs embracing open innovation initiatives, considering knowledge exchange, technology transfer, and collaborative problem solving. Insights from such research could inform policy interventions and strategic initiatives aimed at fostering symbiotic relationships between SFBs and large firms and/or other stakeholders.

Disclosure statement

No potential conflict of interest was reported by the authors.

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