

Consequences of incorporating sustainability business models into operations of small and medium-sized firms in Ghana

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Doctoral Thesis Summary

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Consequences of incorporating sustainability business models into operations of small and medium-sized firms in Ghana

Význam začlenění obchodních modelů udržitelnosti do řízení malých a středních firem v Ghaně

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Degree course: 6208V038 Management and Economics

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Zlín, December 2023

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Published by **Tomas Bata University in Zlín** in the Edition **Doctoral Thesis Summary**.

The publication was issued in the year 2024

Keywords: Business Models for sustainability, SMEs' sustainability performance, Market readiness, Business case drivers, Value creation, Value proposition

Klíčová slova: Obchodní modely udržitelnosti, výkonnost malých a středních podniků v oblasti udržitelnosti, připravenost trhu, hnací síly obchodního případu, vytváření hodnoty, návrh hodnoty

Full text of the doctoral thesis is available in the Library of TBU in Zlín.

ISBN 978-80-7678-225-9

ABSTRACT

Concerns about the sustainability of the earth and its resources have grown over the last three decades. Individuals and organizations continue to warn about the risk to life if drastic changes are not instituted. For this reason, Small and Medium Enterprises are encouraged to incorporate sustainability into their business practices, hence, sustainable entrepreneurship. For many, this expectation is reasonable because evidence suggests that the collective effect of SMEs' activities has a detrimental impact on the earth, exactly like large firms.

There are some strategies for implementing sustainable entrepreneurship. However, many researchers suggest business models for sustainability (BMfS) as the most effective way business organizations can achieve or enhance their sustainability performance. The goal of this concept is for firms to include sustainability considerations and actions in all their processes fully. Here, the firm embraces sustainability as part of its long-term goals by including it from the product development stage to the point when it gets to the final user. This approach differs from the current situation, where most firms try to achieve sustainability by investing in selected activities or projects.

With the aid of quantitative methods, this thesis studied the possible consequences of implementing BMfS in Ghana among SMEs. To main aim was to ascertain the perceptions of managers and owner-managers about the direct and indirect effects of implementing BMfS. The thesis has four research questions (and objectives) and eight hypotheses. Data was carefully collected using a questionnaire and then thoroughly analysed with statistical techniques into descriptives, reliability and validity tests, hypotheses testing (direct and indirect relationships), and the strengths and effects of the connections. All these were achieved using two software, mainly Microsoft Excel and SmartPls 3.

It was found that there the respondents perceived that was a strong direct relationship between the independent variables and the dependent variable. Similarly, it was perceived that market readiness (the moderator variable) impacted the direct connection, albeit weak and insignificant. However, the mediator variable did not have any effect on the relationship. From the findings, a thorough discussion involving the extant literature ensued. This resulted in connecting and positioning the work with related works. Additionally, some theoretical and practical implications were also realised from the discussions. Finally, suggestions for future studies relating to the variables were also provided.

ABSTRAKT

V posledních třech desetiletích vzrostly obavy o udržitelnost Země a jejích zdrojů. Nedojde-li k zavedení drastických změn, organizace i jednotlivci nadále varují před

rizikem pro život. Z tohoto důvodu jsou také malé a střední podniky vybízeny, aby do svých obchodních praktik začlenily udržitelnost, proto udržitelné podnikání. Pro mnohé je toto očekávání pochopitelné, protože stávající důkazy naznačují, že kolektivní účinek činností malých a středních podniků má na Zemi podobné škodlivé účinky jako velké podniky.

Existuje spousta strategií pro zavádění udržitelného podnikání. Nicméně, řada výzkumných pracovníků navrhuje obchodní modely udržitelnosti (OMU) jako nejúčinnější prostředek, pomocí kterého mohou obchodní organizace dosáhnout udržitelnosti nebo zlepšit svou výkonnost v této oblasti.

Záměrem tohoto konceptu je, aby firmy do všech svých procesů plně zahrnovaly hlediska a příslušná opatření udržitelnosti. Tím, že je firma zahrne od fáze vývoje produktu až do okamžiku, kdy se tento produkt dostane ke konečnému uživateli, firma přijímá udržitelnost jako součást svých dlouhodobých cílů. Tento přístup je zcela odlišný od současné situace, kdy se většina firem snaží dosáhnout udržitelnosti investováním do vybraných aktivit nebo projektů.

Tato disertační práce zkoumala pomocí kvantitativních metod možné důsledky zavedení OMU v malých a středních podnicích v Ghaně. Hlavním cílem bylo zjistit, jak manažeři a vlastníci firem vnímají přímé a nepřímé dopady implementace OMU. Práce má čtyři výzkumné otázky (a cíle) a 8 hypotéz. Pomocí dotazníku byla data pečlivě shromážděna a poté důkladně analyzována statistickými technikami na deskriptivní testy, testy spolehlivosti a validity, testování hypotéz (přímé a nepřímé vztahy) a síly a účinky vztahů. Vše bylo zpracováno pomocí dvou softwarů, Microsoft Excel a SmartPls 3.

Bylo zjištěno, že respondenti vnímali silný přímý vztah mezi nezávisle proměnnými a závisle proměnnou. Podobně bylo vnímáno, že připravenost trhu (moderátorská proměnná) měla vliv na přímý vztah, i když slabý a nevýznamný. Mediátorská proměnná však neměla na vztah žádný vliv. Z těchto zjištění se rozvinula rozsáhlá diskuse zahrnující i současnou literaturu. Výsledkem bylo propojení a začlenění této práce mezi související díla. Z diskuzí navíc vyplynuly i některé teoretické a praktické důsledky. Závěrem byly poskytnuty návrhy pro budoucí studie týkající se proměnných.

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1 INTRODUCTION

Current literature on sustainable entrepreneurship points to Business Models for Sustainability (BMfS) as the route to enhancing sustainability performance (Ludeke-Freund 2019; Ludeke-Freund & Dembek 2016; Schaltegger, Hansen, & Ludeke-Freund 2016). The concept of sustainable business models was pioneered by Stubbs and Cocklin (2008). According to them: “*organizations will only be sustainable if the dominant neoclassical model of the firm is transformed, rather than supplemented, by social and environmental priorities*” (Stubbs & Cocklin, 2008, p.2). This position undermines the idea that sustainability performance is possible through contributions by firms to social and environmental causes, which has primarily been the conventional approach to sustainability.

Researchers argue that business models provide the key to business success (Bocken et al., 2014; Zott et al., 2011), they extend this argument to mean that sustainability-oriented business models are more successful at delivering sustainability performance to firms. Bocken et al. (2013) insist that sustainability-oriented models create value for various stakeholders relating to economic, social, and environmental issues. Logically, a business model specifically designed to achieve sustainability is more likely to enhance firms’ sustainability performance.

2 CURRENT STATE OF THE ISSUES DEALT WITH

The arguments for BMfS are still at the conceptual stage (Owusu Yeboah et al. 2020) with very scanty empirical work especially involving large samples. It makes it very difficult to ascertain its viability and applicability. This situation makes it impossible for both researchers and businesses to appreciate how it operates and reap the benefits (if any) associated with it. Also, it creates numerous theoretical gaps in the arguments. As an emerging field, it places some responsibility on researchers interested in the subject to investigate it further to develop additional and relevant theories to fully support and develop it (Schaltegger et al. 2012; Owusu Yeboah & Novak, 2020).

Another gap in BMfS is how it directly impacts firms’ sustainability performance and whether it is a better alternative to the status quo, i.e., corporate social responsibility and corporate philanthropy, which are the primary means of attaining sustainability (Boachie Mensa & Owusu Yeboah, 2015). BMfS deals with incorporating sustainability goals into all of the firms’ activities, making it a deliberate business goal. It is necessary for researchers to ascertain whether BMfS has implication for firms’ sustainability performance and the extent to which it does. (Boachie Mensah & Owusu Yeboah, 2015; Di Domenico et al. 2021; Dolega et al. 2021; Arrigo et al. 2021).

As have been mentioned, very few empirical works exist to support the conceptual arguments. Hence, there is very scanty evidence on the practical usefulness of BMfS. Additionally, empirical studies expose the challenges that are present in the actualization

of the concept. When researchers identify these issues, it can help to improve the constructs of the study. That is another gap that researchers must address.

There is also a gap in this area concerning the role of interacting variables. According to Namazi and Namazi (2016), this involves moderators and mediators which explore the exact conditions under which a phenomenon operates. Moderators and mediators make it easier to respond to issues like “when,” “how,” and “why,” which may concern the relationship between the two main variables. By incorporating it into the study it helps to better appreciate the relationship between the main variables.

Concerning these issues, the current work aimed to introduce market readiness as a mediator. This construct explains the extent to which consumers are willing to support any firm innovation in this instance, sustainability performance through BMfS. This will make it possible to determine the strength of the relationship between the main variables, as seen in some studies (Kosiba et al., 2020; Vaccaro et al., 2012). Additionally, the researcher applied a mediator, business case drivers (Schalttegger et al., 2016). The purpose of this variable was to mediate (explain the process) between (Kenny, 2014) BMfS and sustainability performance.

2.1 Research objectives

The primary purpose of this thesis was to examine the relationship between BMfS and firms’ sustainability performance. The following specific objectives were formulated to achieve the specific goal:

RO1. To ascertain the perceived relationship between BMfS and SMEs’ sustainability performance.

RO2. To determine the effect of perceived market readiness on the relationship between BMfS and SMEs’ sustainability performance.

RO3. To explore the perceived impact of (business case drivers) BCDs (if any) on the relationship between BMfS and SMEs’ sustainability performance.

RO4. To Identify the perceived challenges associated with the implementation of BMfS among SMEs.

3 THEORETICAL AND CONCEPTUAL BASES FOR THE WORK

3.1 Theoretical and conceptual basis for the work

3.1.1 Sustainability-oriented theory

Lozano et al. (2015) proposed the sustainability-oriented theory. It supports the arguments for this work in three ways. First, the suggestion is that BMfS should be explored with different theories and disciplines (Sharma, Starik & Husted, 2007) to ensure a broader concept application. This reasoning makes the theory appropriate in the

BMfS discussion and enables researchers to apply the BMfS concept in other fields and from different perspectives.

Second, Abdelkafi and Täuscher (2015) argue that researchers should analyse BMfS using the systems perspective. This work believes that such a view would better enable the firm to achieve its sustainability goals by 1) satisfying all the dimensions, 2) working with all relevant stakeholders, and 3) using all available resources, whether tangibles or intangibles. This perspective is a holistic approach supported by the sustainability-oriented theory of the firm.

Third, there is a need to analyze BMfS from a multilevel perspective (Collins & Saliba, 2020; Starik & Kanashiro, 2013). Although sustainability has a long-range objective of supporting the earth (Brundtland Report), BMfS focuses solely on the firm, giving it a micro perspective. With the aid of the sustainability-oriented theory, it is possible for firms to better engage with their stakeholders so that they can achieve the multilevel perspective that is being suggested. The principal argument for the BMfS approach is to incorporate sustainability into the business's core operations (Abdelkafi & Täuscher, 2016; Lüdeke-Freund & Dembek, 2017), a position that is consistent with the sustainability-oriented theory.

3.1.2 Natural resource-based Theory

The natural resource-based theory (NRBT) was birthed from the need to enhance the resource-based view (Hart, 1995). The problem, according to Hart (1995) and Hart and Dowell (2011), with RBV is that it does not accommodate the role of the natural environment in achieving competitive advantage. The author proposed the NRBT to remedy this situation by including the natural environment in gaining a competitive advantage. Hart (1995) argues that the natural environment has a role in firms' ability to attain and sustain competitive advantage; the environment can create opportunities or constraints in gaining competitive advantage.

The theory addresses the pertinent issues in sustainability and BMfS. It shows that firms should integrate environmental and social consciousness in all activities. It further highlights the need for firms to implement strategies to ensure sustainability for the firm, the environment, and society. NBRV wholly supports the arguments of this thesis since it captures the essence of sustainability.

3.1.3 Stakeholder theory

The theory has been applied to sustainability by researchers such as Sangle and Ram Babu (2007) and Wallis (2006), with Horisch et al. (2014) establishing deep connections between the theory and sustainability. First, they insist that by expanding the firm's responsibility to include other stakeholders, both stakeholder theory and sustainability performance focus on social, environmental, and economic issues. Second, another point of convergence between stakeholder theory and sustainability is how they treat ethical problems. The authors explain that both ideologies call for the inclusion of ethical issues in business practice so that value creation can be attained responsibly or sustainably.

Third, the authors establish profit-making as another similarity between the theory and sustainability. According to them, both concepts highlight the need for firms to make profits. Finally, the long-term perspective of stakeholder theory is also shared by sustainability performance, according to the authors.

The overall aim of this thesis was to determine the relationship between sustainable business models and sustainability performance. Considering the connections made by Horisch et al. (2014), the stakeholder theory provides a theoretical guide and support for this work, as described by Lederman and Lederman (2015). Besides, the argument by the stakeholder theory that firms should cater to social and economic concerns is consistent with the sustainability indicators used in the thesis, namely economic, social, and environmental (Calik & Bardudeen, 2016; Warhurst, 2002). The stakeholder theory also supports the mediator variable, i.e., business case drivers, since the theory is not anti-profit. The argument for business case drivers is that there should be motivating factors for embarking on sustainability projects (Carroll & Shabana, 2010; Salzman et al., 2005).

3.1.4 Theory of planned behavior

Several researchers have used this theory to study human motivations for adopting certain attitudes and behaviours (International Burch University et al., 2016; Kiriakidis, n.d.; Ma et al., 2020; Stewart, 1982; Sun et al., 2020). It proposes that attitude, subjective norms, and perceived behavioural control result in the intention to perform a given activity, consequently leading to changes in human behaviour. The argument is that the following conditions should prevail: (1) a person's attitude and those relevant (or essential) should be positive towards a *specific change* (2) the person believes that they have the power to make the change in question (3) the individual is motivated to take the necessary steps to achieve the desired change. The three variables have been described as the bases for changes observed in human behaviour (Ajzen, 1991; Ajzen, 2011). Like the other theories that have been employed in this thesis, this theory (TPB) has also been applied to sustainability from the consumers' perspective, where it was proven that the idea is sound when discussing customers' readiness to support sustainability goals (Chen & Tung, 2014; Dezdar, 2017).

3.2 Conceptual arguments

3.2.1 Development of the conceptual framework

Based on the summary literature review provided, a framework was developed for the thesis. The conceptual framework illustrated the relationships among the variables of the study. The conceptual framework for the study is shown in Figure 1.

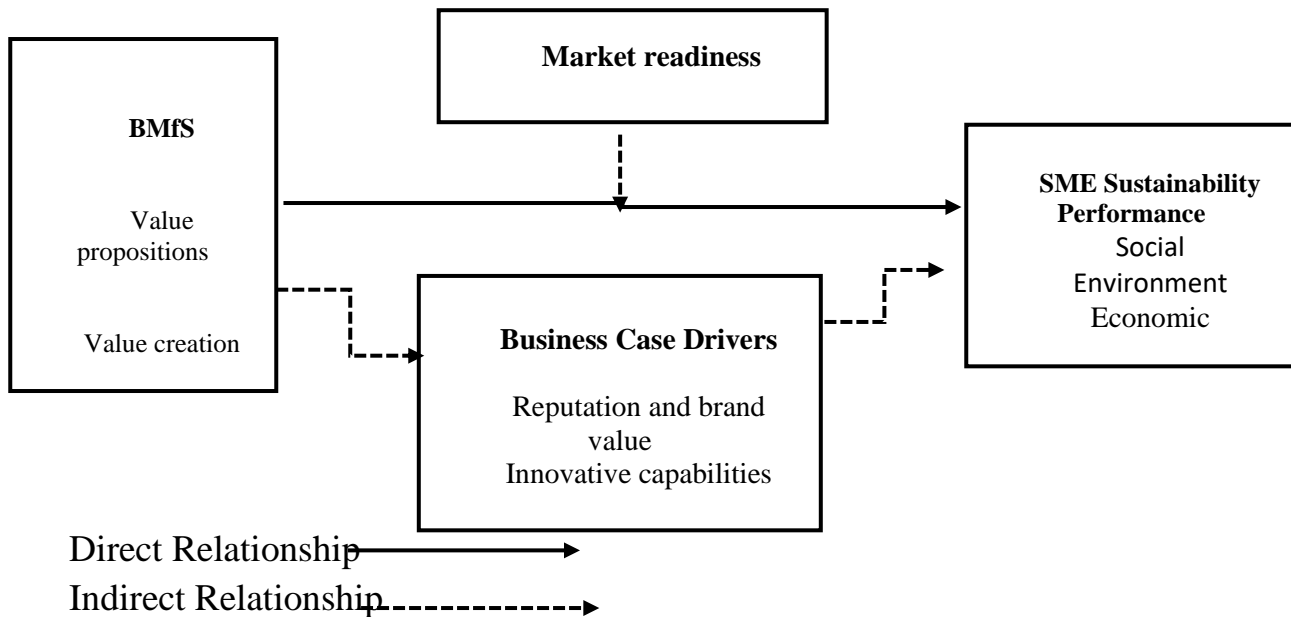


Figure 1: The conceptual framework for the study (Source: Author's Construct)

The framework shows a direct relationship between BMfS along with value proposition (VP), Value creation (VC), and SME Sustainability Performance (SP). Market Readiness (MR) is illustrated as moderating the direct relationship between BMfS and SMEs SP. Similarly, BCD and innovative capabilities (IC) and reputation and brand value (RBV) also have direct relationships with SP; however, BCD further mediates the relationship between BMfS and SMEs' SP.

3.3 Discussion of related constructs

3.3.1 BMfS and SMEs' sustainability performance

Stubbs and Cocklin (2008) are the pioneers of sustainability in business through *sustainable business models*. They argue that firms must operate "a model where sustainability concepts shape the driving force of the firm and its decision making." According to them, when social and environmental goals are secondary to economic goals, the firm becomes ineffective in its sustainability goals (Freeman & Gilbert Jr., 1992; Shrivastava, 1995); hence, the need to establish sustainable business models.

The BMfS argument suggests that existing businesses must completely overhaul their business goals, activities, operations, processes, and programs to attain sustainability. Firms would have to follow the "unfreeze-change-refreeze" approach as suggested by Lewin (1947) in Hussain, Lei, Akram, Haider, Hussain, & Ali (2018). This requires a paradigm shift in their approach concerning their goals and the value they aim to provide for their stakeholders. According to BMfS proponents, firms must incorporate goals,

tactics, and strategies to achieve economic, social, and environmental outcomes (Abdelkafi & Täuscher, 2015).

Value propositions constitute a significant dimension of BMfS (Schaltegger, Ludeke-Freund, & Hansen, 2012). Payne et al. (2017, p.1) explain it as “a strategic tool facilitating communication of an organization's ability to share resources and offer a superior value package to targeted customers.” Value propositions describe what a business promises to give to its customers or how it intends to satisfy its customers’ needs. The second dimension of BMfS is value creation (Schaltegger, Ludeke-Freund, & Hansen, 2012). Value refers to both the benefits of using a product/service and (or) the monetary measure for it (Antonopoulou & Begkos, 2020; Owusu Yeboah et al., 2020; Shulga & Busser, 2020). According to Singaraju (2016), value contributes to customer loyalty, another vital ingredient to firm success. This requires that businesses work assiduously to create value for consumers.

Ribeiro et al. (2018) assessed the impact of business models on sustainability and its impact on sustainability performance. The sustainable business model was to address food waste in a developed country through a non-profit cooperative. The findings confirmed the usefulness of sustainable business models and their positive impact on all the sustainability performance indicators. Of course, as a non-profit organization, it was not saddled with the challenges that for-profit firms face.

Another empirical work on BMfS was conducted at Bark House; the study found that the firm was implementing sustainability practices by working with stakeholders, changing market perceptions and behaviour, and refining its core operations. The study concluded that the firm was reaping economic benefits through customer loyalty and higher returns even during economic recessions (Collins & Saliba, 2020). This study also gives evidence of the success of BMfS concerning sustainability performance.

Horisch et al. (2015) explored the effects of sustainability management tools on the environment. This study is also of interest to the thesis because the focus of the study, like this thesis, was on sustainability tools, something very similar to BMfS. The work was conducted in an industrialized country and surveyed the largest firms in those countries. The findings proved that such tools are effective in achieving environmental sustainability. This also provides some support for BMfS.

Considering the conceptual arguments and the empirical works, the thesis argued that there is a basis for connecting BMfS and sustainability performance. The thesis therefore, formulated the following hypotheses:

H1a: There is a direct relationship between value propositions and SMEs’ sustainability performance.

H1b: There is a direct relationship between value creation and SMEs’ sustainability performance.

H1c: There is a direct relationship between overall BMfS and SMEs' sustainability performance.

3.3.2 Market (consumer) readiness and SME sustainability performance

Market readiness is defined as the market's (consumers') willingness to change and accept innovation that the firm introduces. The thesis argued that the market's readiness is a major determining factor in firms' sustainability performance; hence, its incorporation into the model. The market (consumers) is an important stakeholder that plays a significant role in various aspects of the firm's activities (van der Werff, Thøgersen & de Bruin, 2018). So, its readiness is a relevant variable in firms' sustainability.

The theory of planned behaviour provides the rationale for assessing the role of market readiness in the relationship between BMfS and sustainability. The theory explains that attitude, subjective norms, and perceived behavioural control contribute to human behavioural intention. When all these are positive, the result is that humans are more likely to yield to a specific behaviour (Ajzen, 1991; Ali et al., 2019). In similar regard, the thesis argued that market readiness could play a vital role in sustainability when; 1. the market (customers) has a favourable attitude, and they are willing to support firms that are involved in sustainability endeavours, 2. subjective norms create the atmosphere that sustainability is vital, and 3. the market perceives that accepting sustainability is rational and lies within its control. Many studies on these constructs (attitude, subjective norms, and perceived behaviour) and the theory of planned behaviour show that consumers are willing to support sustainability efforts (Albayrak, Aksoy & Caber, 2013; Chen & Tung, 2014; Kim et al. 2013; Tan, Ooi & Goh, 2017; Wang, Wang & Guo, 2017; Webb et al., 2013). Since it is possible to relate the theoretical constructs to the market in general, the thesis hypothesizes that market readiness indirectly affects BMfS and sustainability.

On the bases of the preceding arguments, it was hypothesized that:

H2: "Market readiness moderates the relationship between BMfS and SME sustainability performance."

3.3.3 Business case drivers and sustainability

Business case drivers are motivators for undertaking sustainability models. As the name suggests, they drive sustainability performance by providing instrumental value to firms. In putting forth this argument, Schaltegger et al. (2012) provide three conditions that they should satisfy: 1. contribute to solving societal or environmental problems; 2. create a positive business effect, and 3. be made by a management activity intended for societal, environmental, and economic benefits. These drivers influence the relationship between the firm's sustainable initiatives and its consequence, i.e., sustainability performance (Schaltegger et al., 2012; Abdelkafir & Täuscher, 2015). The influence of business case drivers on economic performance is theoretically and empirically well-

known. However, empirical works on its mediating role are probably non-existent. The current study focused on two business case drivers –innovative capabilities and reputation and brand values (Cohen & Winn, 2007; Hansen et al., 2010; van Marrewijk, 2003). These were selected based on theoretical and conceptual studies that indicate that these mediators can enhance the linear relationship between BMfS and SME sustainability. Hence, it was hypothesized that:

H3a: There is a direct relationship between Reputation and Brand Value and SMEs' sustainability performance.

H3b: There is a direct relationship between Innovative Capabilities and SMEs' sustainability performance.

H3c: There is a direct relationship between Business Case Drivers and SMEs' sustainability performance.

H3d: Business Case Drivers mediate the relationship between BMfS and SME sustainability performance.

4 METHODOLOGY

4.1 Research Design

The thesis was executed using the quantitative approach, which involves collecting and analyzing data quantitatively (Creswell, 2003; Leedy & Ormrod, 2001; Williams, 2007). The nature of the thesis inquiry also made it an exploratory work. This is because the work's constructs and relationships are largely under-explored. Besides, practically no study in the area covers this thesis's scope and nature. These provided a tangible basis for developing this thesis in this manner.

4.2 Study area, population, and sample for the study

The study involved several firms across all sectors, classified as small to medium-sized firms in Ghana. Ghana was selected because it satisfied the conditions of the study. i.e., a developing economy. Ghana is a sub-Saharan West African nation with several similarities with most of its neighbours. The population for this study was all Small to medium-sized manufacturing firms in the manufacturing hub of Ghana. This is the Greater Accra Region which houses almost all the major firms in the country. Given the analysis for the study, the researcher targeted a minimum of 200 respondents for the thesis. These respondents were to be owners, managers, or owner-managers. The reasons for this minimum number of respondents was: one, the researcher relied on the sample size calculator provided by Soper (2015; 2019). The recommended sample size considers the effect size, the desired statistical power, the number of predictors, and the alpha level. In the thesis, these are 0.15, 0.8, 7, and 0.05, respectively. The calculator computed 103 as the minimum sample size for the study. The researcher could use a sample size of 103 or higher based on this method. This method of determining the sample size has been

argued for and used in works such as Borenstein, Cohen, Rothstein, Pollack, and Kane (1992) and Cohen (1992). The second factor was the suggestion by Kline (2011), Peng & Lai (2012), and Schumacker and Lomax (2004). According to them, a sample size of about 100-200 is useful for PLS-SEM analyses. Third was the suggestion by researchers such as Vesey and Salooje (1987) and Tinsely and Tinsely (1987), who entertained the belief that the robustness of PLS allows for small sample sizes between 100-150. These three factors collectively resulted in targeting about 200 respondents for the thesis

4.3 Research instruments

4.3.1 Questionnaire

A survey instrument served the purpose of validating the findings of existing qualitative studies that argue that sustainable business models influence firms' sustainability performance (Ludeke-Freund 2019; Ludeke-Freund & Dembek, 2016; (Schaltegger et al., 2016; Stubbs and Cocklin (2008). The questionnaire was self-administered and consisted primarily of close-ended items. These were carefully formulated to capture all the research questions (or objectives). Also, the instrument captured items relating to all the study variables. These items were measured on the agreement scale ranging from 1 to 7, with 1 being the least in agreement and 7 being the highest in agreement. The items for BMfS, i.e., value propositions and value creation, were from Bocken (2014), and Claus (2017), Dijkman et al. (2015). Concerning sustainability performance, items from Calik and Bardudeen (2016) were adapted to make them suitable for the current thesis. The research relied on Yusof and Mohd Shafiei (2011) for the items for market readiness. Finally, the items for BCD were developed from Schaltegger et al. (2012).

4.3.2 Pre-test

The researcher identified forty-five (45) SMEs in the second-largest city in Ghana. These SMEs shared similar characteristics with the population of interest and were in opposition to providing responses and reactions like the population of interest. The findings show that all the indicators loaded significantly based on the suggested benchmark values. The composite reliability was between 0.844-0.938 compared to the suggested >0.60 (Bagozzi & Yi 2012), Cronbach Alpha of 0.754-0.925 as against >0.70 , and the AVE also ranged between 0.540 to 0.679 against the suggested 0.50 (Fornell & Larcker, 1981; Hair, Babin, & Anderson, 2010). These results indicated that the instrument was reliable for the study. Discriminant validity was also verified using the Fornell-Larcker criterion.

4.3.3 Data collection and preparation

The researcher work with the Ghana National Chamber of Commerce and Industry, the National Board for Small-Scale Industries, and the Association of Ghana Industries. Their role was primarily to link the researcher to credible SMEs since it was impossible

for the researcher to do this, especially considering their numbers, locations, and dispersion. A request was made to the associations to send three reminders after the questionnaires had been emailed to the respondents. The first reminder was sent two weeks after the instruments were initially emailed. The second was sent two weeks after the first reminder, with the last reminder also being sent two weeks after the second. By the end of the sixth week, the total number of responses that had been collected was less than the targeted figure. Additional reminders were sent to the SMEs; by the end of the third month, 238 were received. However, 217 out of the number were deemed useful for the studies.

The 217 respondents were 113 (52.07%) men and 104 (47.93%) women. These were either managers or owner-managers, with over 80% having a University education. 90% of the managers were between the ages of 20 years and 40 years, with just under 9 percent falling outside that bracket. There were 31 (14.29%) firms with employees above 100, 50 (23.04%) with employees from 31-100, and 136 (62.67%) with employees from 6-30.

5 EMPIRICAL RESULTS

5.1 Data analysis

Primary data was collected, cleaned, coded, and converted into a form appropriate for statistical analysis. PLS-SEM was chosen because of its ability to handle complex models (Chatterjee et al., 2021). Additionally, Shackman (2013) identifies other reasons that make using PLS-SEM appropriate. These are the ability to use it when dealing with exploratory studies. Two, PLS-SEM's usefulness when dealing with small samples. Third, PLS-SEM's usefulness when normality assumptions cannot be made. The second part of the analysis for this work was achieved using Microsoft Excel, where aspects of the data was analysed into frequencies and graphs for clearer understanding.

5.2 Test for reliability

The statistical analysis commenced with assessing the measurement model for reliability (Hair Jr, Howard, & Nitzl, 2020). To ascertain this, it was necessary to report statistics such as the Cronbach Alpha, Composite reliability, and average variance extracted (Hair et al. 2017). The threshold values for determining a good model are > 0.70 for Cronbach alpha and >0.60 for composite reliability (Bagozzi & Yi 2012). As for the average variance extracted (AVE), the generally accepted threshold value is .50, even though others argue that a lower figure is acceptable (Fornell & Larcker, 1981; Hair, Babin, & Anderson, 2010).

The results showed that all the figures were above the suggested benchmark values. BMFS recorded overall Cronbach Alpha, RHO, Composite Reliability, and AVE loadings of 0.871, 0.902, 0.902, and 0.584, respectively. Additionally, its indicators reported 0.881, 0.884, 0.914, and 0.680 for VP and 0.847, 0.848, 0.908, and 0.767 for

VC. Besides they each loaded significantly as follows: VP1(0.733), VP2(0.845), VP3(0.814), VP4(0.877), VP5(0.847), VC1(0.839), VC2(0.873), and VC3(0.913). Likewise, the construct MR also reported Cronbach Alpha (0.807), RHO (0.826), CR (0.874), and AVE (0.636); additionally, the individual loadings ranged were 0.766, 0.722, 0.792, and 0.900. It can be concluded that the measurement model met all the reliability criteria, suggested by scholars.

5.3 Test for discriminant validity

The Fornell-Larcker cross-loading criterion (Fornell & Larcker, 1981) and Heterotriat-Monotrait (HTMT) Ratio (Henseler et al., 2015) were employed. The Fornell- Larcker criterion, the reports the square-roots of the AVEs of the latent variables which are highlighted and aligned diagonally in the output table. These figures are higher than those in their respective rows and columns. The HTMT output shows that the figures do not exceed 0.9, as Henseler et al. suggested (2014). It was concluded that it meets the conditions for ensuring discriminant validity. The results are displayed in Tables 1 and 2.

Table 1 Test for discriminant validity Fornell-Larker (Actual)

	BCD	BMFS	ECO	ENV	IC	MR	RBV	SOC	SP	VC	VP
BCD	0.774										
BMFS	0.572	0.764									
ECO	0.715	0.582	0.828								
ENV	0.039	0.007	0.046	0.879							
IC	0.767	0.450	0.622	0.040	0.794						
MR	0.629	0.565	0.753	0.028	0.452	0.797					
RBV	0.704	0.450	0.754	0.026	0.500	0.521	0.800				
SOC	0.684	0.652	0.761	0.011	0.551	0.743	0.527	0.837			
SP	0.713	0.667	0.737	0.085	0.619	0.702	0.677	0.720	0.767		
VC	0.456	0.757	0.507	0.032	0.395	0.571	0.323	0.636	0.603	0.876	
VP	0.558	0.746	0.539	-0.017	0.418	0.482	0.462	0.565	0.606	0.645	0.825

Source: Author's processing from Smart PLS 3 software

Table 2 Test for discriminant validity (HTMT Ratio)

	BCD	BMFS	ECO	ENV	IC	MR	RBV	SOC	SP	VC
BMFS	0.668									
ECO	0.709	0.672								
ENV	0.059	0.800	0.055							
IC	0.564	0.558	0.801	0.070						
MR	0.766	0.658	0.612	0.050	0.593					
RBV	0.690	0.519	0.888	0.035	0.644	0.616				
SOC	0.845	0.781	0.725	0.038	0.727	0.721	0.636			
SP	0.858	0.705	0.566	0.608	0.709	0.851	0.694	0.855		
VC	0.559	0.694	0.615	0.064	0.509	0.688	0.388	0.779	0.649	
VP	0.658	0.060	0.627	0.042	0.522	0.565	0.541	0.683	0.633	0.745

Source: Author's processing from Smart PLS 3 software

5.4 Hypotheses testing using partial least square-structural equation modelling (PLS-SEM)

Following the preliminary analyses described above, the structural model was assessed. The data and hypotheses testing was done with the aid of **SmartPLS 3** software; with this software, the partial least square-structural equation modelling was achieved. The PLS-SEM algorithm was based on the default settings with the t statistic and the significant level for each path in the model being: $t > 1.96$ and $p \leq 0.05$.

In assessing the structural model, the thesis implemented four critical steps. These involved 1. assessing collinearity issues. The threshold value for assessing collinearity in a model is using the VIF statistic. Here the rule is that the VIF for each construct should not be more than five (Cassel, Hackl, & Westlund, 1999). In the case of the thesis, the VIF for each construct was less than 5, with the highest being 3.3. This indicates that the measurement model does not suffer from collinearity issues. This result is presented in Table 3.

Table 3 Factor loadings and multicollinearity (VIF)

Variables	Proxy	Loadings	VIF
BMfS	VP1	0.736	1.645
	VP2	0.848	2.550
	VP3	0.816	2.483
	VP4	0.875	3.326
	VP5	0.841	2.855
	VC1	0.828	1.712
	VC2	0.881	2.411
	VC3	0.916	2.834
MR	MR1	0.766	1.583
	MR2	0.722	1.476
	MR3	0.793	2.432
	MR4	0.900	3.033
BCD	IC1	0.824	1.574
	IC2	0.772	1.235
	IC3	0.782	1.523
	RBV1	0.817	1.897
	RBV2	0.857	1.913
	RBV3	0.766	1.734
	RBV4	0.754	1.479
	SP	SOC1	0.882
SOC2		0.815	1.639
SOC3		0.812	1.790
EVN1		0.891	3.041
EVN2		0.876	2.111
EVN3		0.880	3.881
EVN4		0.870	3.573

	ECO1	0.724	1.474
	ECO2	0.852	2.205
	ECO3	0.864	2.185
	ECO4	0.864	2.237

Source: Author's processing from Smart PLS 3 software

2. The significance and relevance of the structural model must also be determined as the next step. This is the actual testing of the hypotheses where the relationships are tested to determine whether they are significant or not hence acceptance or rejection. Some tests are used for the decision. They are the t statistic, p-value, and confidence interval. The rule of thumb is that the t statistic should be more than 1.96, with the p-value being less or equal to 0.05 (Hartman, Kros, & Waske, 2018). Finally, the confidence intervals also indicate whether to accept or reject the hypothesis. The thesis presented two broad relationships: direct effects and indirect effects.

Direct effect: The results of the PLS bootstrapping indicate six hypotheses from the direct relationships were accepted. The decision was based on the t statistic, p values, and confidence intervals. The relationships that were accepted are VC -> SP, VP -> SP, BMFS -> SP. These hypotheses were all statistically significant at the given thresholds (t-value > 1.96 (or p-value <0.05). However, the remaining three were not; H3a RBV -> SP (t value=0.814; p value=0.416), H3b IC -> SP (t value=0.793; p value=0.426), H3c BCD -> SP (t value=0.803; p value=0.422). Table 10 provides full details of the output.

Indirect effect: The outcome from the analyses indicates that the moderation effect was possible; however, this did not hold in the mediation analysis case. Using the same basis for the direct impact, H2: MR*BMFS -> SP (t value=2.869; p value=0.004). A look at the p-value gives an idea of the impact of the moderator; however, because the t-value and the confidence interval (Bias=0.000; 2.5%=0.001; 97.5%=0.007) satisfy the conditions for accepting the hypothesis, this was also accepted. The situation was different for the mediator because all the indices did not hold up. For H3d: BMFS -> BCD -> SP (t value=0.804; p value=0.422), the t value was lower than 1.96; similarly, the p-value was higher than 0.05, so the decision was to reject. The full results are presented in Table 4. Additionally, the estimated research model is shown in Figure 4

Table 4 Path analyses of the structural model(Direct and Indirect)

Hypotheses	Paths	Original Sample (β)	Sample Mean (M)	Standard Deviation STDEV	T-Values	p Values	Confidence Interval BC			Decision
							Bias	2.5%	97.5%	
H1a	VP -> SP	0.019	0.019	0.004	5.077	0.000	0.000	0.011	0.026	Accept
H1b	VC -> SP	0.012	0.012	0.002	5.302	0.000	0.000	0.007	0.017	Accept
H1c	BMfS -> SP	0.029	0.029	0.006	5.068	0.000	-0.001	0.017	0.039	Accept
H2	MR*BMFS -> SP	0.004	0.004	0.001	2.869	0.004	0.000	0.001	0.007	Accept
H3a	RBV -> SP	-0.005	-0.004	0.006	0.793	0.428	0.000	-0.016	0.005	Reject
H3b	IC-> SP	-0.003	-0.003	0.004	0.814	0.416	0.000	0.011	0.004	Reject
H3c	BCD -> SP	-0.007	-0.006	0.009	0.803	0.422	0.000	-0.025	0.008	Reject
H3d	BMFS -> BCD -> SP	-0.001	-0.001	0.001	0.804	0.422	0.000	-0.002	0.001	Reject

Source: Author's processing from Smart PLS 3 software

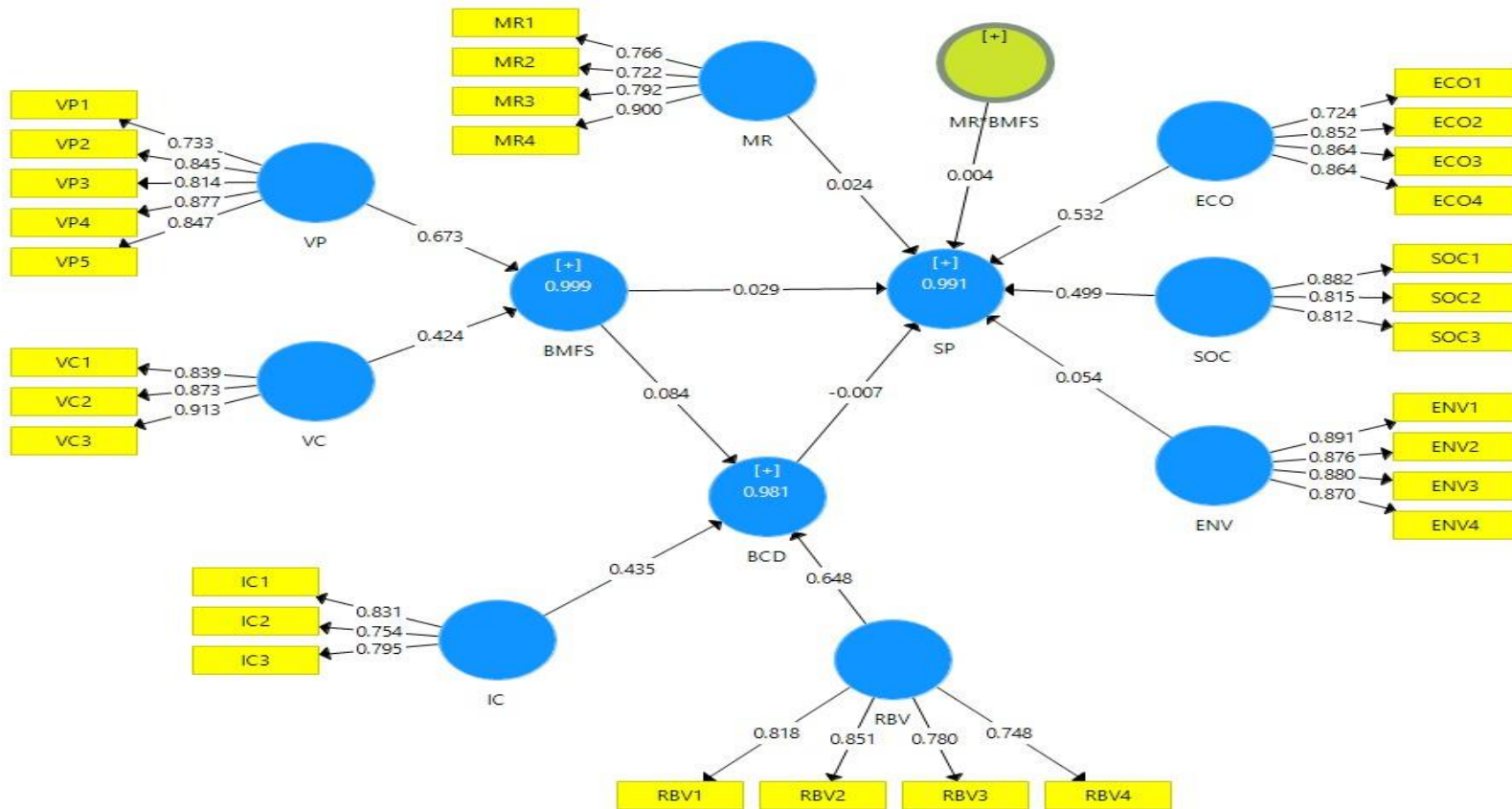


Figure 2 Estimated research model

Source: Author's processing from Smart PLS 3 software

3. The next important step in the PLS analysis discusses the R^2 (or the coefficient of determination). The R^2 represents the proportion of change indicated in the dependent variable as a result of the impact of the independent variable. According to Fernando (2020), it means a statistical measure showing the change in the dependent variable that is explained due to the impact of the independent variable. The rule of thumb in R^2 according to Hair et al. (2011; 2013), is as follows: $R^2= 0.20$ (Weak), $R^2=0.50$ (Moderate), and $R^2= 0.75$ (Substantial).

The thesis PLS bootstrapping produced R^2 s for each relevant variable to determine the extent of the impact of the independent (exogenous) variables. From the findings (BCD $R=0.451$; $R^2=0.430$, and SP $R=0.524$; $R^2=0.513$) the independent variables substantially impacted the dependent variables.

4. This work's final statistic of interest is the f^2 (effect size). This figure represents a change when an exogenous variable is removed from the model. In simple terms, it determines the differences in the impact of the independent variables on the dependent variable. It could also be understood that it essentially helps to ascertain the exact contribution of change in the structural model by the independent variable. The rule of thumb for f^2 according to Cohen (1988), is as follows: $0.02 \leq f^2 < 0.15$ (Small), $0.15 \leq f^2 < 0.35$ (Medium), and $f^2 \geq 0.35$ (Large) The results based on Cohen's scale prove that the relationships were quite significant, falling within the moderate to strong category VP -> SP (0.158), VC -> SP (0.251), BMfS -> SP (0.470), MR*BMfS -> SP (0.004), RBV -> SP (0.015), IC -> SP (0.012), and BCD -> SP (0.001). There was an unexpected outcome with the moderating effect. Even though the decision was to accept the hypothesis, due to its t and p values, the f^2 proved that the impact was very minimal. It had an f^2 of 0.004 which is far less than 0.02 indicating a weak effect size.

5.5 Presentation of Analysis of perceived challenges associated with BMfS

The last section of the instrument highlighted responses on challenges that SMEs. These outputs were processed using Microsoft Excel. Their results are presented as follows.

The first question was the extent to which the SMEs thought that BMfS was expensive. The output indicates that 14 respondents perceived that such business models might not be costly. However, 203 (93.55%) believed they could be expensive, with responses (18 people 8.29%, ten people 4.56%, 14 people 6.45%, 68 people 31.34% and 93 people 42.86%) ranging from "in agreement" to "highest in agreement" regarding the cost associated with sustainable business models.

The second question was whether the owner-managers/managers perceived that sustainable business initiatives required re-training of their employees. Similarly, a considerable section of the respondent, numbering 199 representing about 91.71% (4 people 1.84%, 14 people 6.45%, 19 people 8.76%, 15 people 6.91%, 73 people 33.64%, and 92 people 42.40%) supposed it was necessary. Their responses were from the category “in agreement” to “highest in agreement.” However, only 18 people (8.29%) did not agree with this assertion. They indicated either “least in agreement” or “somehow in agreement.”

Third, the issue of BMfS or sustainability initiatives resulting in complicated stakeholder relationships was asked. The results reflected a similar trend where 198 (91.24%) respondents agreed that stakeholder relationships could become complex with sustainable business models. Only a few totalling 19 (8.76%), did not agree to this challenge.

The fourth questionnaire item in this category was on whether sustainability issues could compete with business goals. The respondents affirmatively indicated so, with 198 (91.24%) agreeing with this. Four (1.84%) people agreed, five (2.30%) indicated somehow in agreement, 25(11.52%) said high in agreement, 60 (27.65%) expressed very high in agreement, and 105 (48.39%) the majority chose highest in agreement. Conversely, 18 (8.30%) respondents also assumed that sustainability issues might not affect business.

6 DISCUSSION OF RESEARCH FINDINGS

The results of the thesis indicate that consistent with the proposed hypotheses and in the context of this work, i.e., business owners and managers of SMEs operating in a developing country setting perceived that BMfS impacts SME sustainability performance. A complete discussion of all eight hypotheses in line with the main research questions are presented in this section.

RQ1. What is the relationship between BMfS and firms’ sustainability performance?

Considering that extant literature measures BMfS using VP and VC, it was necessary to incorporate these into the empirical study. The arguments in this work was that firms must build BMfS by investing in VP and VC activities, such as working with their stakeholders to develop products that will satisfy and address their needs, support their stakeholders all through the value creation process and offer options that are better than what the competition provides (Bocken, 2014; Clauss, 2017; Dijkman et al., 2015). The relevance of VP and VC is further deepened by arguments from Baldassarre et al. (2017), who claim that VP is the core of business models.

The work highlights the need for SMEs to critically examine the role of VP and VC in attaining sustainability. The findings support the argument that sustainability performance can best be achieved when fully incorporated into firms’ activities. This position draws attention to the role of value chain analysis in organisational performance

(Porter, 1985), which requires that organisational performance can only be achieved when the entire value chain is examined. This argument can be juxtaposed with sustainability as well. This means that firms interested in attaining sustainability may need to incorporate sustainability strategies into their value offers for their current and prospective markets. Isolating it as a separate function and introducing programs as it is done in CSR and corporate sustainability may not produce the expected results as already suggested by some researchers.

The final hypothesis on the relationship between BMfS and SP also proved positive and significant. The respondents perceived that a business was more likely to succeed if it developed business models focused on sustainability. The findings support the conceptual arguments on the subject. It further supports the empirical works that were earlier discussed in this work. This result is quite interesting because the studies discussed dealt with businesses with different characteristics from those used in the thesis. Besides, the thesis also involved firms in a developing economy. This gives the impression that irrespective of the kind, nature, background, and place of the business, managers and owner-managers may need to develop sustainable business models if they intend to work towards sustainability.

Regarding the first research question, the study concludes that, there is a positive relationship between BMfS and sustainability performance. This positive relationship includes the main variables and the sub-variables of the independent variable. Hence, BMfS and all its components, i.e., VP and VC, affect SME sustainability performance even in a developing country like Ghana.

RQ2. What is the effect of perceived market readiness on the relationship between BMfS and SMEs' sustainability?

The results from the study show that, in theory, the respondents perceived market readiness as relevant in the BMfS- sustainability discussion. This implies that with the presence of market readiness, the impact of BMfS on SME sustainability is more significant. The simple explanation of the result is that once a firm has interested consumers willing to accept sustainability goals, their sustainable business models will contribute to sustainability performance.

Market readiness in sustainability performance issues is quite dicey because sustainability goals carry additional costs. They could increase production costs and, ultimately, the cost and price of items. This burden imposed by sustainability models may harm market readiness and cause customers to lose interest in sustainability goals. Existing literature on pricing explains that business profitability depends on price cost margin (Nanda & Panda, 2018). For most SMEs, their markets expect that they set optimal prices for their offerings. This requires fixing reasonable and affordable market prices (Chen et al., 2019). However, this is almost impossible for SMEs and even more so for SMEs that aim at sustainability goals. Abokyi et al. (2020) report that simplistic

pricing mechanisms generate little profit for businesses; hence, adding added costs may result in worse consequences. With sustainability goals imposing additional costs, SMEs may face survival risks. For firms to continue to be operational, they must encourage their markets to appreciate their sustainability efforts so that they can support them by continually patronizing their offerings irrespective of the price. This explains the relevance of market readiness in sustainability performance. It is, therefore, not surprising that even though theoretically, market readiness positively impacted sustainability performance in the study, practically, it did not.

RQ3. How do business case drivers impact the relationship between BMfS and SMEs' sustainability performance?

Another critical aspect of the thesis was the role of the mediating variables. For decades, researchers have argued that sustainability performance will likely occur if firms establish business cases for sustainability. These are some benefits that serve as motivators for engaging in sustainability goals. The basis of the argument is that such drivers mitigate the economic burdens of sustainability goals (Eden, 1994; Lazano, 2013; Schaltegger & Burritt, 2018; Schaltegger et al., 2012; van Marrewijk, 2003). However, the thesis has provided empirical support against such assumptions involving business case drivers.

The final test of business case drivers was based on its role in the relationship between BMfS and sustainability performance. This was done by testing *H3d*. Based on the literature on business case drivers, the thesis stated that overall business case drivers (innovative capabilities, reputation, and brand value) result in BMfS ensuring SME sustainability performance. This position was rejected because the presence of the BCDs did not produce the anticipated results. The respondents perceived that BCDs do not result in achieving or realizing SME sustainability performance.

This finding is consistent with the arguments by Williamson, Lynch-Wood, and Ramsay (2006) on the drivers of sustainability performance. According to it, the business case for sustainability did not produce the expected sustainability outcomes in SMEs. They suggested instituting regulatory standards covering business activities as the surest path to SME sustainability. Similarly, even though Epstein and Roy (2003) also argue for business cases for sustainability, the paper indicates that businesses are unable to prove these business cases for sustainability, showing that this approach to ensuring sustainability performance is not realistic for especially SMEs.

RQ4. What are the challenges of implementing BMfS among SMEs?

A discussion of current literature on BMfS and sustainability presented a number of challenges that firms and especially SMEs, are likely to face when implementing such programs. According to Álvarez Jaramillo, Zartha Sossa, & Orozco Mendoza (2019), the significant challenge for their sustainability was funding closely followed by the

economic environment. This combination makes attempting to implement sustainability goals and BMfS specifically quite ambitious. Similarly, Tura, Keranen, and Patala (2019) captured financial or economic challenges as economic tension in their “darker side of sustainability paper.” According to them, financial constraints are usually; the investments firms must commit to sustainability-oriented programs. Typically, such investments do not have financial paybacks, and in instances when these do, the payback period could be long. This results in another problem where sustainability competes with other business goals.

The paper also mentioned structural challenges involving reduced power positions regarding stakeholder relationships and increased external controls. Instituting goals means opening the firm up for further scrutiny. Besides, it also requires that the firm ensure that its stakeholders emulate their example in sustainability practices (Tural et al., 2019). The final thing the paper mentions is behavioral tensions; these are internal issues that work against instituting sustainability or BMfS. A significant source of internal resistance may be from employees; this is because it is vital to equip employees with new ways of attaining sustainability goals. However, as the paper explains, employees are reluctant to learn new sustainability-related skills and resist such purposes.

All these issues were fully captured in the instrument in the section for challenges such as expenses, re-training employees, complicated stakeholder relationships, and competing with business goals. The results indicated that all the SME managers fully agreed that these potential challenges could impede sustainability implementation. These results are not only in consonant with the current literature in developed economies but also in a developing country like Ghana, where SME managers perceive all these factors as roadblocks to sustainability.

7 CONTRIBUTIONS OF THE STUDY

7.1 Theoretical implications

Generally, this work has highlighted the need for more researchers to study sustainability performance, especially in the SME context. It has created awareness in the sustainability literature that this gap must be filled to achieve global sustainability. Even though there are several opportunities for ensuring sustainability, the thesis has chosen to focus on SME sustainability by discussing a radical approach to reaching sustainability performance, i.e., BMfS. The outcome of the study has supported the need for this study.

The work supports the growing assertion that BMfS contributes to sustainability performance, as posited by some scholars. Beyond the conceptual and a few empirical works, the thesis has proven that investments in BMfS contribute to sustainability. This has expanded the quantity and quality of the discussion on the topic. The thesis has provided an additional reference for an empirical study on the subject, an extensive literature review connecting the variables, and sound reasons why such a study should

be undertaken. The uniqueness of this contribution is also in the setting where perceptions of SMEs in a developing context were sought. This work is vital given that the general sustainability discussion has occurred within the context of large well-to-do firms operating in developing countries. This contribution is quite valid as it further deepens the BMfS discussion and creates the needed awareness among researchers to invest resources into studying it.

Another essential contribution is the framework that guided the study. The thesis built the framework based on three widely used theories in sustainability studies using existing conceptual and logical arguments. This formed the foundation for this scientific inquiry. Additionally, as with most scientific studies, the work expanded on the fundamental relationship between the independent and the dependent variables by introducing two variables for mediating and moderating purposes. This was done to ascertain the impact of these variables on the main variables. Despite the arguments in the extant literature, especially concerning the mediators, the outcome proved otherwise in the context of the study. This illustrates the need for researchers to be cautious when selecting their variables, as the evidence may not necessarily support the literature. Of course, in this instance, the results claim that SMEs in Ghana did not perceive that business case drivers were relevant for sustainability performance. Irrespective of the outcome, including the indirect effect, presents another distinctive feature of this work since no study has examined the variables in this manner.

Additionally, the discussion has vastly contributed to a thorough appreciation of the possible reasons for the outcome of the thesis using existing literature. For example, additional possibilities and explanations have been provided why some hypotheses were not accepted. This was possible because this work pulled several related works together to help provide a better discussion of the phenomenon under study. Regarding SME sustainability and BMfS, this work has provided a rich pool of credible resources for future studies. The significant contribution here is that the work has provided insights into how other researchers can go about their scientific inquiries regarding how they can approach their literature review and discussions.

An interesting aspect of this work is market readiness, which has seen little interest in business research. The current work has illustrated its perceived usefulness in sustainability performance among SMEs in Ghana. The result has created some theoretical basis for including it in BMfS and sustainability discussions, and based on the findings, this conclusion seems quite reasonable. This work has uncovered a “new variable” (market readiness) that can be included in the sustainability discussion. Besides, this outcome suggests that other variables may need to be investigated for use in sustainability discussions, along with fitting theories that can support them.

Referring to the challenges, the work has provided some scientific perspectives on a few major sustainability problems. The work used a quantitative approach in analysing the problems based on the responses. This validates existing work mainly based on

qualitative methodology and provides a good starting point for future scientific results on challenges associated with sustainability.

Finally, this work has ventured into sustainable business models even though minimal empirical work is available. It has explored and explained it by highlighting some direct and indirect relationships that can affect it. The scientific approach used in this work provides confidence in further exploring the BMfS ideology along with its measurement variables as suggested in existing literature, including this thesis. The outcome of this work contributes to the theoretical argument that studies in BMfS are not mere trends but a strategy that can be established in business research.

7.2 Practical implications

This thesis presents a few practical implications for firms interested in BMfS. First, the work shows that firms must build their value proposition strategies if they are interested in instituting BMfS. The value proposition for such SMEs could include offering products that satisfy and address customers' needs, expanding their markets even with their existing products, and maintaining or exploring distribution channels that their customers prefer. This means that the key to starting BMfS is focusing on customer needs and satisfying them to the best of their abilities.

The second practical thing that can contribute to BMfS is ensuring value creation. As explained in this thesis, value creation represents the benefits (unique) of the product. It is actualizing the value propositions that the firm has highly advertised. This complements the BMfS process since it fulfills the promised value proposition. As shown in this work, this would include quality products, excellent customer service (before, during, and after sales), offering competitive prices, and delivering competitive processes to customers.

The third is how business drivers influence BMfS and sustainability performance. The outcome of this work shows that it may be unnecessary for firms to invest in business drivers to enhance their sustainability performance since there is no practical value. This does not mean that business case drivers in themselves are ineffective; they may have been because of the nature of the current studies.

The final practical value of this thesis is the outcome of market readiness. Even though the initial result showed that it has theoretical relevance, the work indicates that it has no practical value to firms regarding sustainability performance.

7.3 Policy implications

The study's findings suggest that SMEs can be successful in terms of sustainability goals if they implement sustainability business models. Despite this, some studies reveal SMEs essentially care about their economic goals. With this in mind, stakeholders must abandon the voluntary and ethical expectations about sustainability performance. It is

therefore vital to ensure compliance. A significant way by which compliance is achieved is through laws, policies, and regulations. There should be clear expectations about how SMEs would incorporate sustainability business models into their activities. This could be tied to the conditions of their operating license; without it, they would not be allowed to commence their activities.

Policies should however, consider the “special needs” of SMEs to maintain the balance between economic, social, and environmental demands. Policies targeting SMEs could primarily focus on the first two aspects of NBRT: pollution prevention and product stewardship. These could be defined as simple tasks for SMEs without necessarily overwhelming them, especially for the new ones dealing with teething issues. Over time, as the SMEs grow, additional demands could be made regarding their sustainability business models.

8 CONCLUSIONS, LIMITATIONS, AND FUTURE RESEARCH DIRECTION

8.1 Conclusion

From the entire work, it was perceived that BMfS is vital to enhancing SME sustainability performance. SMEs in Ghana and, by extension, other developing economies in sub-Saharan Africa with or without sustainability focus largely agreed that when instituted, BMfS could result in achieving sustainability goals. Additionally, it was perceived that all the critical elements of BMfS could directly contribute to sustainability performance. This potentially makes it a vital variable in sustainability works. The first research question was answered from the hypotheses related to this relationship. It was perceived that there was a direct relationship between BMfS and SMEs’ sustainability performance.

Second, concerning market readiness, the hypothesis supported the perception that it influences the direct relationship. However, after further scrutiny, it was determined that the perceived impact was statistically insignificant. From this position, the answer to the research question is that market readiness has minimal perceived relevance in the relationship. Yet, further studies may need to ascertain the conditions under which that may be possible.

Third, contrary to the popular notion in BMfS literature, it was perceived that BCDs did not explain sustainability performance within the context of this study. This was an unexpected result considering the level of support it has in the literature. It must be stated that only two of the BCDs were used in the study, so it does not necessarily mean that they all cannot explain BMfS and sustainability performance. However, about this work and the conditions set for it, the answer to the research question is the perceived impact of BCDs on the relationship between BMfS and SMEs’ sustainability performance. It was found that it was not impactful.

The final issue regarding the study's focus was the challenges associated with BMfS. The aim was to establish whether the SMEs perceived the listed problems as relevant. The answers were unequivocal; BMfS implementation has perceived challenges.

8.2 Limitations of the study

Even though the thesis uses the phrase “developing country context,” it does not mean that the work represents the situation in all developing countries. This work was conducted in Ghana, so it tells the Ghanaian story. However, it is anticipated that considering Ghana's substantial similarity with most sub-Saharan African countries, the results are relatable to those countries. The results may give some ideas about what may pertain in such developing countries. However, it cannot be generalized to all other developing states that do not share substantial similarities with Ghana and its sub-Saharan neighbours. Second, data were collected based on the perceptions of the managers/owner-managers of the SMEs that acceded to our request to participate in the study. The work reflects the thoughts and ideas of the respondents, not their practices, concerning BMfS and sustainability performance. Because if that, it would not be fair or proper to suppose that the conclusions reached in the study would be the same had the study examined actual BMfS practices. Another limitation of this work is the number of BCDs that were used. The two selected were based on appropriateness for the study. It would also be suitable to conclude that all BCDs in the extant literature are not helpful for sustainability performance.

8.3 Suggestion for future work

First, this work focused on SMEs in a developing country setting. The private sector is not limited to SMEs and includes large holding firms. These firms can respond to the issues that were discussed in the work. There is no doubt that there is an urgent need for studies in sustainability in developing countries, so it is suggested that another examination is conducted using larger firms. There is also the possibility of other Africans doing a similar study in other African countries so that the findings of this work could be validated. This is important because one of the goals of this work was to provide some perspectives from developing economies, mainly from Africa.

As already indicated, the work was limited to assessing the perceptions of SMEs. It was impossible to study actual happenings in BMfS since sustainability practices are not very well established in Ghana and Africa. Even though perceptions can reflect reality, it is better to assess validity. It hence suggested that a different set of respondents are used for this study to capture actual responses on BMfS. Determining whether the outcome will be similar in such a study is essential.

Even though it is not unusual, there is a need to explore further the discrepancy between the theoretical and practical contributions of marketing readiness. It is essential to bring some finality or at least probe it to provide a better explanation. This can be resolved through further studies.

Finally, the thesis work disproves the role of two business case drivers in sustainability performance. This does not conclude on the relevance of business case drivers because (1) there are more than two, and (2) there are overwhelming theoretical and conceptual arguments in favour of BCDs in sustainability performance. This only makes it imperative to continue empirical studies on BCDs and their impacts on achieving sustainability performance.

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Consequences of incorporating sustainability business models into operations of small and medium-sized firms in Ghana.

Dear Sir/Madam,

I wish to request your participation in this research project kindly. This research instrument is designed to determine how business models designed for sustainability can impact firms' sustainability performance. I wish to assure you that the purpose of the research is academic work, and any information provided by participants will be treated with the utmost confidentiality and anonymity. You are also informed that participation is voluntary, and no right or wrong answer exists. Please know that it will take approximately 10-15 minutes of your time.

Thank you for your assistance.

SECTION A: Demographic Information

Please tick the appropriate answer.

1. **Gender:** a. Male b. Female
2. **Educational level:** a. Diploma b. Degree c. Post Graduate
3. What is your position in the organization: Owner Manager Manager
- 3b. If manager, kindly indicate your level: Lower Middle Senior
4. **Nature of Business:** Service Agriculture Manufacturing/Production Construction Trading
5. **Age of business:** a. Less than 1 year b. 1-5 c. 6-10 years d. 11-15 years e. 20-25 years f. More than 25 years
6. **Size of SME:** a. Small (6-30 employees) b. Medium-sized (31-100 employees) c. Large (over 100 employees)
7. **Target market or segmentation:** Consumer markets Business markets Government markets
8. Does your SME consciously incorporate sustainability strategies? Yes No

SECTION B

Please indicate the extent of Agreement. Where 1 = Least in Agreement and 7 = Highest in Agreement

Statements	1	2	3	4	5	6	7
BMS							
<i>VP</i>							
Our products should be in line with the demands of existing customers.							
We should aim for products that address the problems of our customers.							
We should constantly seek new customers for our products and services.							
We should regularly utilize distribution channels that support our customers.							
We should maintain customers by addressing the needs of our target markets.							
<i>VC</i>							

We should ensure that we provide our customers with quality products.							
We should support our customers before, during, and after-sales.							
We should offer competitive product prices to our customers.							
FSP							
ECO							
We may increase our annual sales if we are sustainable.							
We may avoid regulatory fines if we are sustainable.							
We may increase our investments in R&D if we are sustainable.							
We may save on costs by being sustainable.							
ENV							
We should reduce our packaging materials.							
We should reduce our energy consumption.							
We should focus on using renewable resources.							
We should have specific strategies for protecting the environment.							
SOC							
We should recruit people from the community.							
We should ensure employee empowerment.							
We should create opportunities for both internal and external communication.							
BCD							
RBV							
We think integrity is a core feature of our relationship with our stakeholders.							
We perceive that we have a reputation for competence.							
We think that our stakeholders believe that we are a modern and trendy organization.							
We believe in incorporating elegance and prestige in our offerings.							
IC							

We believe we can develop new products with unique technical specifications and functionalities.							
We perceive that our firm sees creating new products and services as critical tools.							
We perceive that our firm develops in-house solutions to improve our manufacturing processes.							
MR							
We think that even when our products have slightly higher prices (due to sustainability), it would attract customers.							
We think that even when our products have far higher prices (due to sustainability), it would attract customers.							
We think that low-income groups would be interested in buying from us if we are sustainable.							
We think that medium-income groups would be interested in buying from our firm if we are sustainable.							
Challenges							
We think that instituting sustainable business initiatives are expensive.							
We think that instituting sustainable business initiatives requires re-training employees.							
We think that instituting sustainable business initiatives results in complicated stakeholder relationships.							
We think that instituting sustainable business initiatives compete with business goals.							

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Owusu Yeboah, A. Y., Kwarteng, M. A., & Novak, P. (2023). Social media marketing, value creation and firm's sustainability performance: a study among young consumers. *Aslib Journal of Information Management*.

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AUTHOR'S PROFESSIONAL CURRICULUM VITAE

Adwoa Yeboaa Owusu Yeboah [MSc (Project Management), MCom (Marketing), MCIM, PGDE, BCom]

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Department of Marketing and supply Chain Management, University of Cape Coast, Ghana.

Faculty of Management and Economics, Tomas Bata University in Zlin, Zlin, Czech Republic.

Work History

Assistant Lecturer

09/2016 to date

School of Business | University of Cape Coast

- Develop and implement lesson plans that cover Marketing, Entrepreneurship, Business Management, and Project Management courses.
- Complete and submit reports to Head of Department detailing course activities and plans.
- Taught four or five undergraduate classes and one post graduate class per semester.

- Maintain in-depth knowledge of my subject areas to facilitate the achievement of optimum academic results among students.
- Provide guidance and support to students to facilitate academic excellence.
- Distribute course syllabus and respond to student questions and concerns regarding standards, material, grading, and progression.
- Maintained regular office hours to help students with questions and provide educational support.
- Integrate technology into classroom instruction including videos and other online content.
- Mark and moderate assignments, exam scripts, and other assessment materials based on tests requirements; assessing students' skills through practical assignments and in-class tests to enhance performance.

Senior / Principal Research Assistant

School of Business | University of Cape Coast

01/2009-08/2016

- Assisted lecturers to administer examinations, assess results and issue fair grades.
- Organised industry-academia conferences and seminars to expose students to the requirements and expectations of industry.
- Assisted lecturers in their research activities.
- Helped students explore concepts through challenging assignments and stimulating class discussions.
- Facilitated workshops, tutorials, and seminars with opportunities to stimulate students' critical thinking and analysis.

Tutor/Senior Tutor

College of Distance Education | University of Cape Coast

08/ 2007 - Date

- Teach management courses.
- Plan lessons to target subject weaknesses and build skills within strengths.
- Customise tutoring to suit individual competencies, enabling paced academic progression.
- Manage pupil behaviour and set firm boundaries to facilitate efficient lessons.
- Set clear targets and deliver feedback to achieve student goals.
- Develop course modules.
- Assess and grade students' tests performance.

Skills

- | | |
|------------------------------|-----------------------------|
| • Lecture delivery | Exam invigilation |
| • Academic workshop delivery | Tutorial delivery |
| • Seminar delivery | Individual academic support |
| • Academic mentoring | Relevant computer skills |

Education

Doctor of Philosophy | Management and Economics
Tomas Bata University in Zlin, Zlin, Czech Republic

2020-Date

Master of Science | Project Management 2018
University of Cape Coast, Cape Coast.

Master of Commerce | Marketing 2014
University of Cape Coast, Cape Coast.

Postgraduate Diploma in Education | Management 2013
University of Cape Coast, Cape Coast.

Bachelor of Commerce | Accounting and Management 2007
University of Cape Coast, Cape Coast.

Professional Qualifications

MCIM | Postgraduate Diploma in Professional Marketing 2017
Chartered Institute of Marketing, UK

ACIM | Diploma in Professional Marketing 2015
Chartered Institute of Marketing, UK

Affiliations

Chartered Institute of Marketing, Ghana

Research Projects

Team Leader :IGA/FaME/2021/004 SME Innovation Performance, Firm Sustainability Performance, and Influence of Pandemic on Entrepreneurial Well-being. Tomas Bata University in Zlin, Czech Republic.

Team Member: IGA/FaME/2023/006 Environmental sustainability orientation, dynamic capability, entrepreneurial orientation, and small and medium-sized enterprises' green innovation. Tomas Bata University in Zlin, Czech Republic.

Languages

Twí | Native

English |Fluent

Czech| Basic

Adwoa Yeboaa Owusu Yeboah, Ph.D.

**Consequences of incorporating sustainability business models into
Operations of Small and Medium-Sized Firms in Ghana**

Význam začlenění obchodních modelů udržitelnosti do řízení malých a středních
firem v Ghaně

Doctoral Thesis Summary

Published by: Tomas Bata University in Zlín,
nám. T. G. Masaryka 5555, 760 01 Zlín

Edition: published electronically

1st edition

Typesetting by: Adwoa Yeboaa Owusu Yeboah

This work has not undergone any proofreading or editorial review

Publication year: 2024

ISBN 978-80-7678-225-9

