REMOVING BARRIERS OF INNOVATION AMONG SMES IN GHANA

By

ABOAGYE-GYAN, Richard

THESIS

Submitted to

KDI School of Public Policy and Management

In Partial Fulfillment of the Requirements

For the Degree of

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Abstract

Innovation among SMEs, in recent times, has become a significant issue in policy and academic circles. However, not much research works have been conducted on the barriers of innovation impeding the operations of SMEs in developing countries, including Ghana. Much of the research works conducted have been in the developed world context. This gap calls for a scholarly focus on the barriers associated with innovation that confront SMEs in their activities in developing nations, including Ghana. Also, there is a gap in the literature on the measures needed to remove the barriers. Apparently, scholars are unaware of the fact that the removal of the barriers is of utmost importance to the SMEs, as it can help make them innovative. What the above reflects is an incontrovertible need to conduct research works that focus on the barriers of SME innovation and the mechanisms required to deal with the barriers. This is concurred with the contention that barriers of innovation in the operations of SMEs and how to deal with such barriers are two areas that beg for more scholarly attention. To fill these gaps, this research applies qualitative methodology to examine the barriers that militate against innovation and the measures needed to remove them among SMEs in Accra, the capital of Ghana, a developing country, where 28 managers of SMEs were interviewed. There are economic, knowledge, market and reason factor barriers of innovation confronting the SMEs. Additionally, this research uncovers several measures of removing the barriers. Therefore, this research provides considerable contribution to knowledge in innovation and sets the ball rolling for similar scholarly works in the developing world.

Dedication

I dedicate this scholarly masterpiece to my late aunt Mama Lucy Adoma-Yeboah and my late grandfather Nana Kofi Ntow-Yeboah. God bless the dead!

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CHAPTER 1: INTRODUCTION

1.1 Background of the study

Innovation, according to the OECD (Oslo Manual), is "the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations" (2005, p. 46). It is regarded as an effective means by which Small and Medium-Sized Enterprises (SMEs) and other bodies can achieve development. It is very helpful in achieving economic growth and serves as a significant ingredient in the development of countries (Fagerberg, Mowery & Nelson, 2004; Nečadová & Scholleová, 2011; Piater, 1984). Therefore, innovation can be said to be an essential element in the operations of SMEs. This epitomises the need for scholarly attention on the policy instruments that relate to supporting the development and the extensive application of innovation in the operations of SMEs (Necadova & Scholloeva, 2011). This is of utmost significance because of the poor level of adoption of innovation among SMEs (Freel, 2000).

Nevertheless, the use of innovation in the activities of SMEs is not common in developing countries, especially those in Latin America and Africa (Piater, 1984; Wziatek-Kubiak, Peczkowski & Balcerowicz, 2010). The World Bank's report titled, *Many Firms, but Little Innovation* draws our attention to the low-level of innovation in the operations of SMEs because of the several barriers that confront them (Hadjimanolis, 1999; Lederman, Messina & Piater, 1984; Pienknagura & Rigolini, 2013). Aside the World Bank, it is rather unfortunate that other organisations have bemoaned the terrible nature of innovation adoption among SMEs in developing countries, due to the presence of such barriers in their activities (Hadjimanolis, 1999; Pienknagura & Rigolini, 2013). This sentiment is shared by many scholars (Freel, 2000; Xie, Zeng & Tam, 2010).

This is a testament to the availability of innovation barriers confronting SMEs in their operations, no wonder they find it very difficult to develop and practise (Xie et al., 2010). Additionally, SMEs tend to be confronted with more barriers than large enterprises (Hewitt-Dundas, 2006), one of the reasons they find it very difficult to innovate (Hussinger, 2010). Such barriers that militate against their ability to be innovative in their day to day activities account for the reason a high number of SMEs face several problems in their activities (Zeng, Xie & Tam, 2010). As such, for SMEs to develop and perform creditably well, the barriers they are confronted with need to be identified and removed.

1.2 Statement of problem

Innovation among SMEs, in recent times, has become a significant issue in policy and academic circles. However, not much research works have been conducted on the barriers of innovation impeding the operations of SMEs in developing countries, including Ghana (Oduro, 2020; Oduro & Nyarku, 2018; Wziatek-Kubiak, Peczkowski & Balcerowicz, 2010). Much of the research works conducted have been done in developed countries. Keegan et al. (1997), for example, study innovation barriers of firms in the developed world context. Also, Piatier (1984) comprehensively explores innovation barriers, focusing on only developed countries. This unfortunate gap in the literature causes analysts and scholars to call for a scholarly focus on the barriers of innovation confronting SMEs in their operations in developing nations, including Ghana (Oduro, 2020; Wziatek-Kubiak et al., 2010).

In addition, there is a gap in the literature on the measures needed to remove the barriers. Apparently, scholars are unaware of the fact that the removal of the barriers is of utmost importance, as it can help in the development of the SMEs by making them innovative. Demirbas (2010) notes that an effective means of offering financial assistance to SMEs, for

example, can prove enormously helpful in removing financial barriers of innovation confronting the SMEs. This implies that scholars need to turn their research eyes to examining the ways and means of combatting the barriers associated with innovation among SMEs.

What the above reflects is an incontrovertible need to conduct research works that focus on the barriers associated with innovation of SMEs and the mechanism required to deal with them. This is concurred by Lloyd-Reason & Mughan (2008) that analysis pertaining to the barriers associated with innovation among SMEs and how to deal with such barriers are two areas that beg for more scholarly attention. Also, it is imperative that qualitative methodology is applied in analysing the barriers as well as the mechanisms needed to deal with them (Dubouloz, Bocquet, Equey-Balzli, Gardet, & Gandia, 2021). This is particularly significant for Ghana, given the need for such a scholarly work, as no research of that nature has been conducted in the country (Oduro, 2020).

To be able to provide a cogent analysis of the issues in the study, the paper focuses on process and product innovation of manufacturing SMEs such as cream manufacturers, beverages, soap/detergents, water, food and paper/printing in the country.

1.3 Research significance, questions and objectives

Significance

Filling knowledge gaps in the literature

As has been shown, research pertaining to the barriers associated with innovation and the mechanisms to remove them is lacking in the developing world context (Demirbas, 2010; Oduro & Nyarku, 2018; Wziatek-Kubiak et al., 2010). From that perspective, this research aims at filling those gaps from a qualitative method standpoint in exploring the barriers associated with innovation among SMEs and the mechanisms needed to remove them in

Ghana. As such, it potentially contributes to policy development, in the country and beyond, since it provides the necessary information needed to remove the barriers associated with innovation confronting the operation of SMEs, based on Ghana, a developing country context. More importantly, given the dearth of research on the issues, this research can go a long way to fill knowledge gaps and serve as a guide for similar research works in other nations. This underscores the global impact of this research work since it can be useful to analysts, scholars, governments and policy-makers globally, in their bid to identify the barriers of innovation that confront the operations of SMEs and the mechanisms required to deal with such barriers.

Strengthening systems of innovation

Inasmuch as this research work targets the removal of barriers of innovation pertaining to the operations of SMEs, it has the potential of helping to contribute to the development of skills and knowledge needed in improving systems of innovation. Removal of such barriers among SMEs implies a bold step towards fostering and strengthening the systems of innovation in the country. It is particularly true, given that such enterprises face such barriers that hinder their ability to innovate, as a result of which their removal can prove very useful in strengthening innovation systems in Ghana (Lloyd-Reason & Mughan, 2008; Oduro, 2020). Exploring the barriers of innovation among SMEs in Ghana and how to remove them is of utmost importance, given that SMEs contribute to 70% of Ghana's GDP (Abor and Quartey, 2010).

Research questions and objectives

The following questions will be asked in the study:

a) What are the barriers of innovation that confront SMEs in their operations?
b) What measures must be taken to remove the barriers?

Thus, the following are the objectives of the study. First, it seeks to explore the barriers of innovation SMEs are faced with in their day to day activities in the country. Moreover, the

study aims to uncover the measures needed to remove the barriers, based on responses from the respondents.

1.4 Limitations of the study

First, there is the limitation of response bias. The responses were provided based on introspection and retrospection on the part of the interviewees. In such situations, respondents can provide under-assessment of over-assessment of issues. Therefore, the data, although very useful for this study, can be said to be subjective since they were obtained from the experiences, opinions and feelings of the respondents.

Additionally, there is the issue of geographical limitation. The study was conducted in Accra, Ghana's capital. It is just one of the myriad settlements in the country. Responses obtained elsewhere concerning the barriers that militate against SMEs' ability to innovate and how to remove such barriers can be different. Thus, the responses and data in this study, might not necessarily be the same as those obtained elsewhere. Therefore, the data here cannot be extrapolated to SMEs in other settlements in the country. However, the representativeness of the data in this study is unlikely to be affected negatively, given that Accra has a massive concentration of these manufacturing SMEs.

1.5 Structure of the thesis

Chapter 1 examines the background of the study and the statement of problem. Additionally, it looks at the study's significance, its questions and objectives. It also talks about the limitations of the study.

Chapter 2 presents the conceptual framework of the study. It also discusses studies on innovation conducted in Ghana. Studies on barriers to innovation among SMEs in developing

countries are also highlighted, underscoring the need for more research work to be conducted in such countries. The innovation paradox is also examined, unveiling the terribly low investment and poor attention developing countries offer innovation, despite its stark potential gains and benefits to them.

Chapter 3 focuses on the research methodology of the study. The ontology and epistemology research philosophies are discussed. The chapter also looks at data collection, sampling strategy and data analysis of the study, before examining the ethical considerations.

Chapter 4 presents analysis of the barriers of innovation among the SMEs in the country and how best to remove them. This will be done based on the conceptual framework presented in the second chapter of the study.

Chapter 5 focuses on discussion. Thus, how this study relates to previous studies on the issues will be examined.

Chapter 6, which is the final part of the study will reflect on its empirical contributions, theoretical contributions and implications for future research.

CHAPTER 2: CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

2.1 Conceptual framework

In the literature, the most common conceptualisation of the barriers to innovation is the one provided by Piatier (1984) – internal and external barriers. The internal barriers are those that originate inside a firm or enterprise that it can influence such as financial resources, human resource capabilities or corporate culture; and the external barriers refer to those that originate from the external environment that are completely or partially beyond the influence of the firm or enterprise (Madrid-Guijarro et al., 2009). It is noteworthy that the external barriers appear as the enterprise interacts with external actors such as customers, competitors or the government (Hölzl & Janger, 2014; Madrid-Guijarro et al., 2009).

However, other scholars have provided a different conceptualisation of the barriers to innovation. For example, Duarte et al (2017) provide a conceptualisation based on four main components: economic, knowledge, market and reason for innovation (with a sub-categorisation of the four components), as shown in the figure below.

Figure 1: Barriers of innovation

Economic factors	Knowledge factors	Market factors	Reasons to innovate
• lack of funds within the enterprise or group • lack of finance of sources outside the enterprise • innovation costs too high	• lack of qualified personnel • lack of information on technology • lack of information on markets • difficulty in finding cooperation partners for innovation	• market dominated by established enterprises • uncertain demand for innovative goods or services	• no need due to prior innovations by the enterprise • no need becausse of no demand for innovation

Source: Duarte et al. 2017 (page 249)

This conceptualisation is consistent with this study. As such, will provide the basis for the analysis. Thus, the framework above will provide the pathway for the analysis of the barriers to innovation among SMEs in Ghana.

It needs to be noted that enterprises are full of risks, obstacles and barriers to innovation (Duarte et al., 2017). Consequently, it behoves enterprises not to ignore these barriers but work around the clock to remove them (Keizer, Halman and Song, 2002) in order for such enterprises to innovate. In other words, enterprises that desire to innovate must do everything creatively and salubriously possible to remove all the barriers preventing them from innovating.

To be able to provide a cogent analysis for exploring the barriers of innovation in the activities of SMEs in Ghana and how to deal with them, this study employs the Duarte et al. (2017) conceptualisation above and analyses the barriers based on the four components. Additionally, it analyses how to remove the barriers identified based on the four components. This serves as the conceptual framework for this study, as represented diagrammatically below.

Figure 2: Conceptual framework
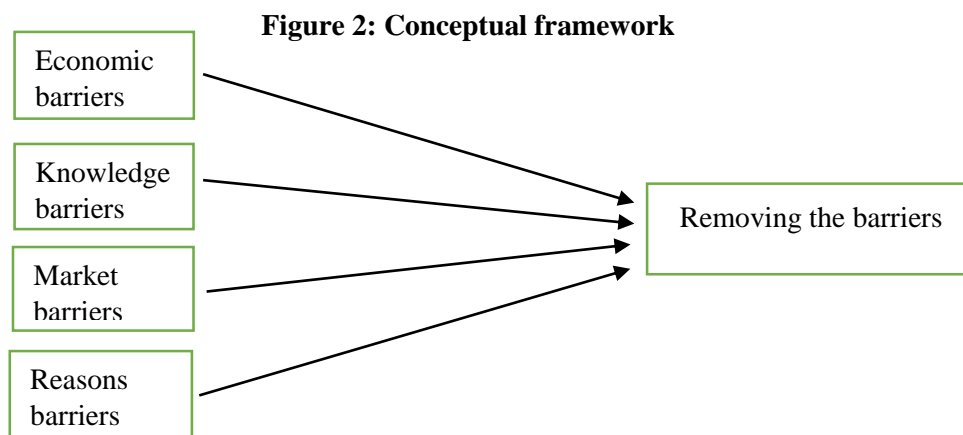
Source: Developed by the author for this study

2.2 Studies on innovation from Ghana

Schumpeter (1934) notes that innovation contributes positively to economic growth and further asserts that a new or improved product development leads to economic growth, and not adjustments in the prices of such a product. Therefore, it is important for scholars and researchers to conduct studies into the phenomenon in order to help countries tap that benefit. However, a few studies have been conducted on innovation among SMEs in Ghana.

For example, Asiedu (2016) uses quantitative methodology in exploring the forces that constrain innovation in the activities of SMEs in Ghana and states some policy recommendations needed to combat those forces The constraining forces of innovation among SMEs enumerated in the study are management time related factors, human resource factors, technical knowhow, poor management commitment to innovation, poor employee commitment and lack of trust. The recommendations provided are government and NGOs can educate the SMEs on time management and internal marketing strategies to help them manage their time well, how employers can get committed and the need to trust at the workplace.

Also, Oduro (2020) uses mixed methods – both qualitative and quantitative methodology – to explore the barriers to SMEs' open innovation adoption and enumerates the barriers as collaborative barriers: cooperation and coordination problems of operational functions and difficulty in finding the right partners; strategic barriers: opportunistic behaviour of partners and lack of strategic and resource fit; and organisational barriers: organisational inertia and lack of flexible internal procedures/structures. Additionally, centrally to existing findings, financial and knowledge barriers were revealed as driving factors and not barriers. The recommendations provided are the establishment of a platform where barriers can be mitigated collaboratively, making of efforts to achieve a strategic and resource fit and the establishment of useful and flexible structures.

Moreover, Oduro and Nyarko (2018) in their study of incremental innovations in Ghanaian SMEs find that the challenges facing the SMEs are lack of skilled personnel, lack of financial resources (cash flow) and poor level of infrastructure and technological knowhow. They recommend that training programmes must be organised for the workers of the SMEs, financial assistance is provided to the SMEs and frantic efforts must be made to develop technology.

In another study, using quantitative data, Asare finds in the Tema Metropolis of Ghana that the barriers to strengthening innovation performance among SMEs are human related, competition constraints, general and policy constraints (2014). Asare recommends that the government of the country and NGOs should do their best to support the SMEs and also provide them with the requisite financial assistance needed to embrace innovation.

In terms of innovation adoption, Domeher, Frimpong and Appiah (2014) study the banking sector based on quantitative methodology and find that perceived usefulness of financial innovation, availability of compatibility and lack of complexity increase the likelihood of the adoption of e-banking. The scholars, thus, recommend that it is incumbent on banks to focus on designing both useful and easy-to-use e-banking products that will attract existing and potential customers.

Moreover, Boahene, Snijders and Folmer (1999) have examined the adoption of agricultural innovation (hybrid cocoa farming) in Ghana, based on the multidisciplinary model. They find that in the adoption of hybrid cocoa, social networks, access to bank loans, education, contact with extension officers, availability of hired labour all positively affect innovation adoption. Also, farmers' social status contributes immensely towards obtaining a bank loan, which also has a positive effect on innovation adoption. The implication of this study is that lack of access to bank loans, poor education, lack of contact with extension officers and unavailability of hired labour can serve as barriers to innovation.

Lastly, using a quantitative methodology, Doss and Morris (2001) find that gender-linked differences in the adoption of chemical fertiliser inputs and modern maize varieties result from gender-linked differences in the ability to access complimentary inputs. According to these scholars, measures ensuring better access to complimentary inputs such as labour, land and extension services for women must be embraced, rather than ensuring widespread and equitable adoption of improved technologies, that may not necessarily require changes in the research system.

2.3 Barriers of innovation among SMEs in developing countries

Because of the significance of innovation in spurring up economic growth and helping SMEs to grow faster (Kleinknecht, Oostendorp & Pradhan, 1997; Schumpeter, 1934), it has gained prominence in policy and academic circles. However, the attention of scholars has been on developed countries, with research on the barriers to innovation among SMEs in developing countries being disturbingly low, although a number of factors have been enumerated as the barriers to innovation in such countries (Oduro & Nyarku, 2018; Wziatek-Kubiak, Peczkowski & Balcerowicz, 2010).

In a study by Kamalian, Rashki and Arbabi in Iran, they enumerate the barriers of innovation among SMEs as insufficient economic resources, excessive economic risks, unavailability of funds, high cost associated with innovation, lack of qualified or skilled personnel in the SMEs and lack of response on the part of consumers in motivating the SMEs to embrace innovation (2011). The study is significant as it points to where work needs to be done for SMEs in the country to be innovative, in order to achieve its benefits.

In India, the barriers to innovation identified are lack of skilled manpower, high cost associated with innovation and shortage of technical know-how (Sharma, 2014). Additionally, funding

constraints, public policy issues, weak cooperation between SMEs and institutions responsible for innovation and shortage of skilled research and development (R&D) personnel are cited as the barriers to innovation in the country (Pachouri & Sharma, 2016).

In the context of Nigeria, Nassar and Dotun (2015), in their study find that the barriers to innovation are inadequate government assistance in influencing and helping SMEs, lack of skilled personnel, inadequate financial strength, resistance to change among the SMEs and inadequate information on innovative ideas.

In a study in Addis Ababa, Ethiopia, focusing on technological innovation, Talegeta finds that the barriers to innovation among SMEs are inadequate technological and market information, lack of government policy and regulation, inadequate research and development (R&D), high cost associated with innovation, lack of cooperation, organisational culture, inadequate finance and lack of skilled workforce (2014).

In a similar study in Cameroun, Tafor finds several hindrances that serve as barriers to innovation among SMEs, ranging from unstable internet connections of low bandwidth, lack of power supply and power outages, lack of understanding of the bottlenecks associated with government institutions and policies, terribly poor technical know-how to poor training mechanisms (2020).

In the case of Brazil, Mussi and Spuldaro (2008) find that the barriers to innovation among SMEs are limitation on access to market (e.g. concessions), the risk of excessive specialisation of human resources, limitation in the allocation of financial and human resources and super enhancement of production processes or services by the practitioners.

All the above points to the low-level of attention given to the phenomenon in the developing world context. It is in light of this that this present study aims to contribute to knowledge on the issue in the developing country context.

2.4 The innovation paradox

The innovation paradox refers to the condition of the coexistence of great potential gains from innovation in developing countries with low innovation investment by enterprises, and the surprising lack of stringent measures by governments to increase investments in innovation considerably (Cirera and Maloney, 2017). Myriad pieces of evidence point to the fact that despite the high expected returns in innovation, developing countries invest less in it and deprive themselves of its returns, wheras developed countries invest more in it and get high level of returns from it (Cirera and Maloney, 2017; Griffith, Redding and Van Reenen, 2004). This is surprising in the sense that, given its expected high returns, it is incumbent upon countries that wish to benefit from it to invest more in it. If developing countries are serious about benefitting from the returns on innovation, they should invest more in it.

Moreover, as established in the previous part of this paper, scholars and authors in developing countries do not show much interest in innovation among SMEs. Scholars and authors in developing countries can contribute positively to the issue by conducting more research in that area, a situation which can influence the governments of such countries to invest more in it, so as to tap its benefits. The scholars and authors, as a matter of urgency, must throw their research spotlight on, for example, the barriers of innovation among SMEs and the measures required to remove such barriers. This can go a long way to help in improving the level of innovation in such countries. The important issue here is that these scholars and authors can help in drawing the attention of their governments to innovation development and enhancement in their country and the need to invest in it. Suffice it to say that researchers, scholars and authors in developing countries where more investment is needed in innovation need not to turn a blind eye to the concept, for their countries to be deprived of the benefits of innovation.

Also, there is asymmetrical development of innovation in developing countries. According to Cirera and Maloney (2017), it is a mistake to narrowly focus innovation on R&D promotion or confine innovation development solely to a science and technology ministry. Thus, for them, the development of innovation by the use of just one ministry or through the promotion of only R&D is not helpful. That is exactly what developing countries do. For example, from 1993, the government of Ghana has established the Ministry of Environment, Science, Technology and Innovation, which is aimed at promoting R&D and the development of innovation. With already low investment in innovation among developing countries, the worse a developing country can do is to relegate the development of innovation to a single ministry. Developed countries do not relegate the development of innovation to a single ministry and do not narrowly focus innovation policies on R&D promotion (Fragkandreas, 2021). Therefore, developing countries should focus broadly on developing innovation (including investing heavily in R&D projects), making it a responsibility of several institutions and ministries, not a single one.

The above brings into focus National Innovation Systems (NIS). The NIS refers to a constellation of elements such as (including but not limited to) research institutions, markets, institutions, policies and individuals in a country and their relationships towards the development of innovation (Cirera and Maloney, 2017; Maloney, 2017). This has proven to contribute positively towards policy implementation and innovation development in developed countries, but developing countries do not make it a priority (Cirera and Maloney, 2017; Fragkandreas, 2021). What this implies is that given the significance of NIS and the high returns on innovation, developing countries need to focus on NIS development by making it a priority. That can go a long way to help developing countries in revamping innovation and benefiting from its returns.

Furthermore, neglecting innovation by developing countries means they are not serious about bridging the development gap between them and developed countries (Fragkandreas, 2021). Undoubtedly, if developing countries are serious about bridging the development gap, they should invest heavily in innovation and developing it. Low investment in innovation on the part of developing countries is a testament to the fact that they do not really want to develop. This is the reason Cirera and Maloney (2017) and Lucas (1988) argue that given innovation's returns and positive impact on growth, governments of developing countries should not think of anything else apart from innovation.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Research philosophy

Research philosophy refers to a set of beliefs about the nature of the reality being studied (Bryman, 2012). Thus, research philosophies explicate a system of beliefs around the generation of knowledge (Saunders, Lewis and Thornhill, 2016). What this implies is that the philosophical perspective of a researcher plays a crucial role in the research conducted and the knowledge generated. It is in light of this that it is argued that the research philosophy adopted contains significant assumptions about the way the world is viewed, and the assumptions underpin the research strategy and the methods chosen (Saunders, Lewis and Thornhill, 2009).

According to Cresswell, it is important for a researcher to identify the particular philosophical perspective in the research work, as it helps in informing the direction of the research (2007). Assumptions and viewpoints are different. Similarly, there are several research philosophies and paradigms (although ontology and epistemology will be considered in this research project), as shown in the research "onion" below.

Figure 3: The Research "Onion"
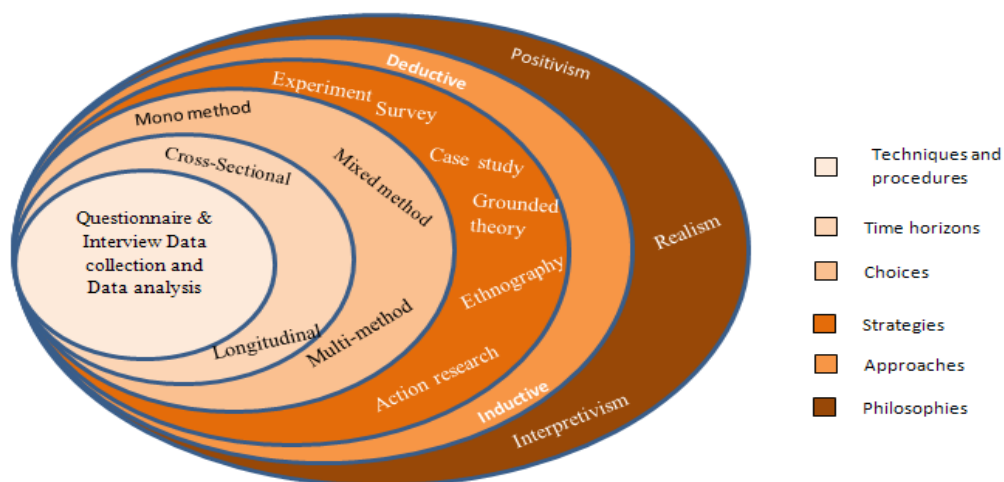
Source: Saunders, Lewis and Thornhill (2009: 108)

3.1.1 Ontology

Ontology is the theory of being, focusing on the beliefs about the real world being researched (Alrafi, 2007). For Bryman and Bell, it concerns social entities regarding what exists to be researched within the structure of reality (2011). A researcher's ontology can be objective or subjective, with objectivists perceiving social reality as external and existing independently of how it is seen, whereas subjectivists view social reality as being constructed from the perceptions and consequent actions of the people or actors involved (Saunders et al., 2016). Thus, ontology connotes assumptions we make about social entities, borne out of the beliefs we have concerning the phenomenon being investigated. This is the reason Kuhn puts it succinctly as a set of beliefs, assumptions and values that researchers have in common concerning the nature and conduct of research (1977). The implication is that ontology plays a significant role in research.

From this perspective, it has to be emphasised that this research explores the barriers to innovation in the activities of SMEs and how they can be removed in the context of Ghana and concerns the feelings and thoughts of people. Such complex and personalised issues are always influenced by several factors including the beliefs, experiences and perceptions of the people involved. Given that the personalised feature in research connotes perceptions, the ontological position is consistent with this research and the researcher's worldview.

3.1.2 Epistemology

Epistemology is the study of the nature and form of knowledge and how it can be obtained and communicated to others (Cohen, Manion and Morrison, 2007). For Crotty, it concerns the provision of a philosophical grounding for deciding what kinds of knowledge that are possible and how to ensure that they are both legitimate and adequate (1998). Thus, aside being a study of knowledge, it deals with beliefs that are justified, as well as knowledge that is deemed

necessary and sufficient, its sources, structures and limits (Steup, 2005). Thus, for these scholars, the acceptability, legitimacy and justification about knowledge is all that epistemology is concerned about. There are two epistemological approaches: positivism (which leans towards objectivism) and interpretivism (which also leans towards subjectivism) (Alrafi, 2007; Saunders et al., 2016).

Given that this research is concerned with the adequate and legitimate way of contributing to knowledge concerning barriers of innovation in the activities of SMEs and how they can be removed, based on the thoughts and feelings of (research) respondents, it follows the interpretivism epistemological approach. Thus, it is in consonance with subjectivism, as the respondents provide their "subjective" responses.

3.2 Data collection

Focusing on the right resources in a research project, undoubtedly helps in improving its quality (Dörnyei, 2007). In light of this, it is incumbent upon researchers to target the right resources in their work. To provide valid arguments and provide useful information, as a way of contributing to knowledge, this research was conducted based on useful resources.

Beside secondary sources of data such as journals, books (including e-books and e-journals) and government documents, primary data was collected in the study. Data were collected based on in-depth semi-structured interviews. The essence of conducting interviews was to help the researcher get the ideas, feelings and thoughts of the interviewees (Sutton & Austin, 2015). Additionally, it helps in providing understanding of the experiences of the interviewees, and it is enormously helpful when the respondents are required to provide further explanations and examples of their responses (Rubin & Rubin, 2005). This implies that the managers will be expected to share their experiences, ideas, feelings and thoughts in their responses regarding

the barriers and the mechanisms required to remove them, and were expected to offer examples, were appropriate.

The research was conducted in Ghana's capital of Accra; 28 managers of SMEs who are adults of 18 years and above were interviewed. Each interview lasted for about 20 minutes. Furthermore, only those who have been working for 12 months or more were considered. This was to select only respondents who have been in the industry for long and who were suitable to answer the questions. Based on this, useful insights from the managers were obtained.

3.3 Sampling strategy

Using an entire population in a research project is impossible and impractical because of time and financial constraints, as well as the large number of respondents to consider (Mangwa and Mangwa, 2017). Additionally, interviewing the entire population may be unnecessary since several respondents may be repeating the same information, as a result of which no new contribution would be made to knowledge (Gentles, Charles, Ploeg & McKibbon, 2015). Therefore, selecting a part of the population for a research project, aside being less daunting, can yield a useful and more comprehensive information.

Based on the above, the sampling technique deemed fit for the study was the convenience one. The convenience technique – a non-probability sampling method concerns the selection of respondents who satisfy three main criteria: one's accessibility, availability (time) and willingness to partake in research (Dörnyei, 2007). That is, the interviewees were those who were easily accessible, available and were ready to participate in the study.

3.4 Data analysis

With the respondents' consent, the interviews were recorded and transcribed. The interviewer took notes of the key issues identified by the respondents. The data analysis will be based on the transcriptions and notes. The transcription helped in the identification of analytical themes. This is because, "when you transcribe, you get analytical ideas" (Fielding and Thomas 2008: 257). These scholars go further to argue that despite that transcribing is time-consuming, its advantage is that there is no loss of data that could become significant later (*ibid*). The transcription helped prevent the loss of data in the study.

More importantly, the thematic method of analysis was used. This involves identifying the key themes in an interview and placing them in a framework to ensure comparison and contrasts in responses (Gomm 2008). Thus, the data were divided into categories in accordance with the questions and themes in the interview. Thus, the data were collated into economic factor barriers, knowledge factor barriers, market factor barriers and reason factor barriers. How to remove the barriers were also grouped in accordance with these four themes. The rationale for the choice of the thematic method is because of its benefits. According to Braun and Clark, the benefits of this approach is that it is so flexible that it cannot be tied to a particular theoretical position, as a result of which it can be used within different frameworks and can be used to do different things (2006). This proved enormously useful in analysing the barriers and their removal in the study.

3.5 Ethical considerations

In research, it is of utmost importance to identify ethical issues, especially from the point of view of the respondents (Mangwa & Mangwa, 2017). Such issues, as a matter of urgency, should take into consideration, all the several stakeholders connected to the research work, such as the readers, participants, government, supervisors and examiners (Punch, 2016). This

is particularly true in the sense that the respondents (or even the whole country) can be victimised or harmed just because of the responses in the research (Bryman and Bell, 2011). For instance, a research project can result in the implementation of draconian policies or laws that can wreak havoc on a particular group of people. All these were given a thorough consideration in this study, and significant measures were taken to prevent consequences for all those concerned. The measures include explaining the purpose of the study to the respondents, anonymity for the respondents and ensuring confidentiality.

Furthermore, the researcher was required to be honest, unbiased and objective (Shamoo & Resnik, 2015). This is necessary in the provision of rich information, which is very useful in contributing to knowledge. The implication is that dishonesty, biasness and lack of objectivity in research can negatively affect it and culminate in ill-generation of knowledge. Therefore, the researcher considered all these and engaged the respondents in an honest, unbiased and objective manner.

CHAPTER 4: RESULTS

4.1 Profile of the respondents

There several SMEs in Accra. However, managers from a few of them were interviewed. Out of the 28 managers interviewed, 25 were males, representing 89.3% of the respondents, whereas 3 were females, representing 10.7% of the respondents. Table 1 below shows the exact manufacturing SMEs the managers were selected from. The frequency refers to the number of respondents/managers chosen from those SMEs and the percentage the number represents.

Table 1: SMEs and the number of managers interviewed

SME Types	Frequency	Percentage (%)
Cream	4	14.3
Food	7	25
Water	4	14.3
Paper/printing	2	7.1
Beverages	6	21.4
Soap/detergent	5	17.9
TOTAL	28	100

Table 2 below depicts the age distribution of the respondents.

Table 2: Age distribution of the respondents

Age group	Frequency	Percentage (%)
20-29	1	3.6
30-39	4	14.3
40-49	12	42.9
50-59	9	32.1
60-69	2	7.1
TOTAL	28	100

Table 3 below also depicts the academic background of the respondents and the number of years they have been in their (managerial) positions.

Table 3: Academic background and duration

Academic background:	Frequency (%)	Duration:	Frequency (%)
Primary:	0 (0)	≤ 5 years:	4 (14.3)
Secondary:	5 (17.9)	6 – 15 years:	21 (75)
Tertiary:	23 (82.1)	≥ 16 years:	3 (10.7)
TOTAL	**28 (100)**		**28 (100)**

4.2 Barriers of innovation among SMEs in Ghana

The four components of barriers (identified in the conceptual framework above) emerged in the interviews. The barriers have been ranked below (Figure 4) according to the frequency of the responses from the managers.

Economic factors

Economic factors that relate to cost and financing affect innovation, since a firm (which cannot handle the high cost of innovation and cannot finance it) will be limited in its expenses on R&D and the acquisition of new technologies, crucial to innovation adoption; and such a firm faces difficulty in financing innovative projects and recovering investment on innovation (Pellegrino, 2018).

A total of 82.1% of the respondents identified economic factors as the barriers that prevented them from embracing innovation. Thus, economic barrier was identified as the most significant barrier among the SMEs. The managers bemoaned the high costs of innovation and lack of financial resources as the factors militating against their ability to embrace innovation. Not only did they identify the lack of funds within their enterprises as a barrier, but also lack of finance from sources outside their enterprises.

The implication of the above is that these SMEs face difficulty in mobilising internal financial resources to fund innovation. What is more devastating is their inability to obtain financial assistance from sources outside the enterprises, such as banks and other financial organisations.

One of the managers echoed:

Financing is everything in today's business world. ... So if one lacks the financial muscles to finance innovation, what can the firm do? If you do not have the ability to finance it, you cannot do it, it is that simple.

Figure 4: Responses on the barriers of innovation
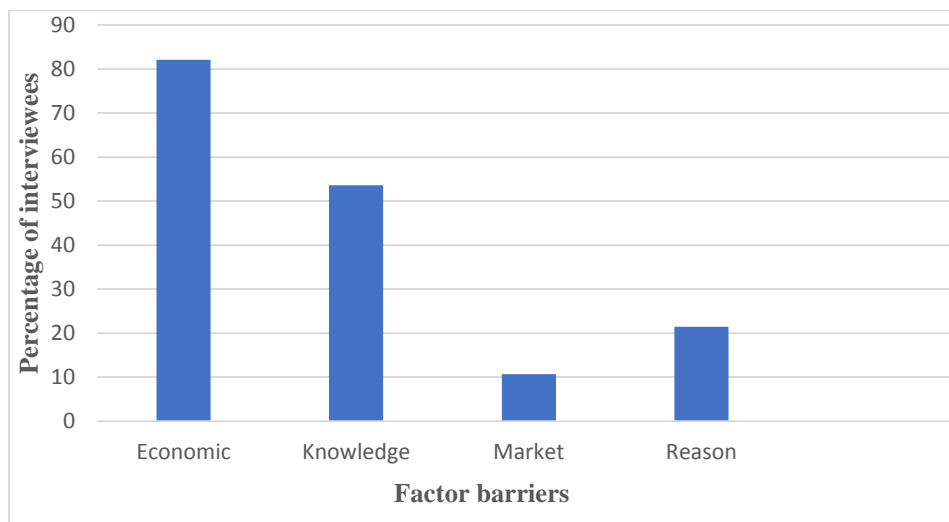
Source: Developed by the author for this study

Knowledge factors

There is no doubt that knowledge plays a critical role in attaining phenomena, and innovation cannot be an exception. There are different avenues of accumulating knowledge such as practice, experience and research (Arrow, 1962). Therefore, it can be stated safely that SMEs can accumulate knowledge that would help them in the adoption of innovation through practice, experience and R&D.

Knowledge relates to the requisite competence or skill, the acquisition of, and information on, technology, the formation of the right partnership or co-operation (collaboration) with other firms and information on the market from consumers and customers (Duarte et al., 2017). All these factors affect a firm's ability to innovate. Therefore, not having them in a firm negatively affects the firm's ability to innovate. As Pellegrino (2018) notes, it is because innovation stems from the resource of knowledge and needs skills to manage the knowledge that brings about it.

53.6% of the respondents complained about the extent to which knowledge factors impede their ability to embrace innovation. A testament to the fact that more than half of the respondents concurred that knowledge pertaining to innovation is an important barrier to innovation among the SMEs. They pointed to their inability to accumulate knowledge and technology through practice, experience and their disturbingly poor involvement in R&D, as a few SMEs are involved in it.

One of the respondents stated:

If one lacks the requisite skills and technology to embrace innovation, it becomes a tedious task for one to innovate. ... Technology rules the world now. As such, it is not possible for one to innovate without technology ....

Market factors

The structure of the market is of utmost significance to firms in their approaches to innovation. It can impose restrictions by way of competition, thereby demotivating firms (D'Este et al., 2012). For instance, a market full of huge and competitive firms is likely to restrict the activities of small and other firms. It is worth emphasising that competition in a market is likely to prevent some firms from initiating or embracing innovation (Pellegrino, 2018).

Market factor barriers refer to the dominance of markets by established enterprises and uncertainty in the demand for innovative services or products, and such factors relate to the

market structure (Duarte et al., 2017; Pellegrino, 2018). Simply put, the presence of established dominant enterprises and the uncertainty about the demand for innovative services and products can serve as barriers militating against the initiation or adoption of innovation among SMEs. There are already established dominant SMEs in the study area and managers are not certain of the demand for innovative products. These barriers negatively affect the SMEs.

A total of 10.7% of the respondents identified these as the market factor barriers to innovation. One of them had this to say:

You will spend your resources in the production of new products. … But there is no guarantee that consumers and customers will patronise them. As such, there is no certainty that there will be demand for such products.

Reasons

For a firm to embrace innovation, there is the need for a reason to do so. It can be argued that having a reason to innovate can motivate firms to do so and having no reason to innovate can prevent firms from embracing innovation. Therefore, having the reason to innovate can hugely motivate firms to innovate.

Innovation by a firm can be prevented when there is no need for the innovation due to prior innovation by the firm and when there is no need because there is no demand for the innovative product (Duarte et al., 2017). Thus, a firm's current innovation operations can be determined by prior innovation operations of the firm and the demand for that product or service.

The respondents talked about how they have embraced innovation in the past and pointed to the fact that there is no need for it. Some revealed that what they have done is enough for their enterprises, while others highlighted the lack of need for it. Some of their responses, pointed to the issue of fear of failure.

21.4% of the managers raised this barrier. In the words of one of them:

We have made innovative products in the past that yielded no dramatic results. In some cases, our products failed to yield the intended purpose…. Therefore, I am hardly convinced about the need for innovation. …

4.2 Removing the barriers

Economic

Removing the economic factor barriers of innovation requires the SMEs to work around the clock to handle the high cost associated with innovation and how to finance it. All the respondents that cited economic barrier agreed that it is all about financing innovation. So how can innovation be financed?

First, the government needs to be up and doing. Currently, the Government of Ghana provides loans for the SMEs but the loans are not enough to serve all of them; and the processes in securing the loans have been marred by nepotism and corruption. The loans are often given to the cronies of those at the helm of affairs. Also, only those who can grease the palm of those at the helm of affairs are sometimes given the loans. Therefore, these loans can be said to unreliable, to say the least. The respondents concurred that the government of Ghana should make stringent efforts to help the SMEs finance innovation, by making loans available to all the SMEs and strive to extirpate corruption from the system.

Additionally, private enterprises can also help in removing this barrier. There are several private financial entities that help provide loans for the SMEs. However, they charge exorbitant interest rates, a situation which discourages the enterprises from going for such loans. Discussions must be held by the SMEs and these private entities to reduce the interest rates drastically for the SMEs to go for such loans. The respondents pointed out that the government

and policy-makers in the country can also make it a policy for the private entities to reduce their interest rates and make the loans attractive to the SMEs.

One of the respondents had this to say:

The best way to help us remove this barrier is for the government and private entities to help offer us the capability to finance innovation, through regular loans with low or no interest rates. ... Once we are able to finance it, we can easily innovate.

Knowledge

To be able to remove the knowledge barriers, the respondents pointed to the need to help employees acquire the needed competence and harness their creativity. This can be done through the establishment of the requisite educational or training centres. It is also important that the requisite structures are put in place to help in the acquisition of technology.

Another brilliant way to remove this barrier raised by some of the respondents is investment in R&D. No doubt, investment in R&D helps in acquisition of technological knowhow (D'Este et al., 2012). Currently, investment in R&D by the government of Ghana and private entities is terribly low (Cirera and Maloney, 2017). Therefore, as the respondents concurred, there is the need for increased investment in R&D by the government of Ghana and other entities, such as universities and research institutions, in order to help remove the barrier.

Development of co-operation or partnership (collaboration) can also help in removing this barrier. Some of the respondents left no stone unturned in pointing to the significance in co-operation and collaboration in removing this barrier. This is particularly true in the sense that co-operation and collaboration with other enterprises is an efficient means of skill-sharing, R&D growth and acquisition of technological knowhow (Ahuja, 2000).

According to one of the respondents:

In order to remove this barrier, we need to foster co-operation among us. ... By that, we can learn from each other in information-sharing, which can help us in the acquisition of skills and technological knowhow.

Market

The SMEs are interested in innovating. However, their desire is cut short by the presence of established innovative firms. Some of the respondents stated that the best way to remove this market barrier is for the SMEs to be helped to increase their efforts and capabilities in their innovation operations. They agreed that they need to help themselves in that regard. Secondly, the government can help them through the provision of the requisite resources.

Additionally, the respondents pointed to the need to embrace competition. Competition helps in fostering innovation among firms (Ahn, 2002), so the presence of established innovative firms should not deter some firms from innovating, it should rather motivate them to innovate. There should be education about the significance of competition in fostering innovation.

In terms of dealing with the uncertainty surrounding the demand for innovative products, they pinpointed that the enterprises need to find a way to study and communicate with the customers about their demand and preferences. Although difficult, this can be done if the enterprises establish a cordial relationship with the customers.

In the words of a respondent:

Studying the customers and inquiring from them will help us get to know their needs and preferences…. This can be done easily if we establish a close rapport with them. ...

Reasons

To able to remove this barrier, some of the respondents pointed to the need to make innovation a culture of the enterprises. By making it a culture, innovation will be seen as a continuous

process in the enterprises, that is, one that needs to be nurtured and continued at all times. This will help eliminate the fear of failure from the SMEs and make them come to terms with the fact that there is always the need to innovate.

Moreover, they concurred that there should be an acceptance that it is their responsibility to innovate, given the benefits it comes with. Thus, there is an intractable need for innovation at all times. Therefore, the SMEs need to be educated that it is their responsibility to innovate, regardless of whether there has been prior innovation or they feel there is no demand and need for it.

A respondent stated:

Innovation should be seen as a culture in our day to day affairs. Also, … if we accept it as a responsibility, it will make us appreciate the need to innovate at all times.

CHAPTER 5: DISCUSSION

5.1 Barriers of innovation

This study concerns barriers of innovation and how to remove them, from the perspectives of managers of SMEs. The results above prove empirically that SMEs in Ghana face four main barriers of innovation: economic, knowledge, market and reason barriers. This means in the developing country context, it can be said that SMEs are confronted with four types of barriers. This is inconsistent with the contention that developing countries have three main types of barriers of innovation, namely, financing, lack of qualified personnel and lack of co-operation among SMEs (Zanello et al., 2016). Although these barriers are found in the developing country context, the barriers go beyond just these three barriers of innovation.

The economic barriers were identified as the most important barriers in this study, with the highest number of respondents. There is a correlation between the cost and lack of financing, on the one hand, and the inability to innovate, on the other hand, in the context of Ghana. The high cost of innovation and the inability to finance innovation found to militate against innovation among SMEs in Ghana is consistent with a study in India, where high costs of innovation and the lack of sources of finance were found to hinder the ability to innovate among SMEs (Seenaiah and Rath, 2017). These barriers were also found in the case of Iran (Kamalian et al., 2011). Economic barriers of innovation among SMEs appear to be pervasive in the developing country context.

Knowledge barriers, specifically lack of skilled personnel, terribly low-level of technology and the inability to form co-operation or partnership among the SMEs are the forces that hinder their ability to innovate. Indeed, SMEs faced with the lack of skilled personnel, poor technological competence and poor market information have limitations in combining knowledge to achieve innovation (Amara et al., 2016). Since SMEs in Ghana face these

barriers, per the findings of this study, it is understandable that they find it extremely difficult to innovate. Lack of skilled personnel, poor technological competence, lack of co-operation or partnership and poor market information as knowledge barriers of innovation have been found in studies in Nigeria and Vietnam (Nassar and Faloye, 2015; Yen et al., 2019).

Also, it was found in this study that there is poor involvement in R&D on the part of the SMEs in Ghana. This partly explains the reason there is knowledge barrier of innovation in the operations of SMEs in the country. Although the significance of R&D to knowledge acquisition in innovation was recognised by the managers, not much investment has been done in it. This finding is consistent with a finding in a study in Nigeria which proved that poor R&D involvement on the part of SMEs contribute to knowledge barrier in their ability to innovate (Nassar and Faloye, 2015). Given these pieces of evidence, Cirera and Maloney (2017) are right with the contention that develoing countries are plagued by poor involvement in R&D, a situation which causes knowledge barrier in their ability to embrace innovation.

As has been seen above, in the Ghanaian case, the dominance of established innovative enterprises in the market and the uncertainty of demand surrounding innovative products are the market barriers hampering SMEs' ability to innovate. This is consistent with findings in studies in Ecuador and Nigeria that when the market is dominated by established innovative enterprises and when there is uncertainty in the demand for innovative products, some SMEs are deterred from embracing innovation (Carvache-Franco et al., 2022; Nassar and Faloye, 2015). All these contribute to deepening our knowledge of the extent to which market barriers negatively affect innovation among SMEs in the developing world context.

Furthermore, it has been proved that the SMEs are prevented from innovating because they see no reason for it due to prior innovation and the feeling that there is no demand for innovative products. The implication of this is that innovation is not absent in the operations of SMEs in

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Ghana. It is not something new to the SMEs. They are deterred from innovating because they feel there is no point innovating if there is no demand for innovative products, which is understandable. This is consistent with a finding from a study in Nigeria that SMEs are less likely to innovate if they feel there is low incentive to innovate, since there is no demand for such products (Nassar and Faloye, 2015).

5.2 Removing the barriers

Removing the barriers of innovation will be very beneficial to the SMEs. This is because, it is only when those barriers are removed that enterprises can be innovative, so that the benefits of innovation can be achieved. The findings in this study underscore the fact that there are several barriers of innovation confronting SMEs in their operations in the country. Hence, there is an intractable need to remove the barriers confronting them in their operations

By virtue of the fact that financing is the backbone of innovation (Duarte et al. 2017), it is understandable that it is found in this study that the best way to remove the economic barriers is trough funding. That is, securing funding, through loans, for the enterprises will ensure financing of their innovation. And this should not be the exclusive role of the government, but also private entities. This is inconsistent with several studies from developing countries such as Nigeria (Nassar and Faloye, 2015), Cameron (Tafor, 2020), India (Seenaiah and Rath, 2017) and Iran (Kamalian et al., 2011) that note that government is the only entity that can help in removing the economic barriers that confront innovation among SMEs. Thus, this study draws our attention to the fact that removing economic barriers must be a shared responsibility between the government and private entities of developing countries.

Skill training, the acquisition of technological know-how, investment in R&D and fostering co-operation or partnership are the ingredients needed to remove the knowledge barriers, as

has been shown above. This is because they contribute positively to skill-sharing and learning, technology transfer and learning and networks of knowledge acquisition and absorption (Ahuja, 2000; Carvache-Franco et al., 2022; Cicero and Mqaloney, 2017; Duarte et al., 2017; Zanello et al., 2016). This finding indicates that this barrier can be removed through the efforts of several actors such as the government, universities and other research and non-research institutions. This multi-agent approach can make the SMEs well-resourced in fighting and defeating such barriers, making them become innovative (Qiao, Ju and Fung, 2014). Although this finding has been replicated in a study in SMEs in Nigeria (Nassar and Faloye, 2015), there is the need for several studies in that area. Scholars and analysts of studies in innovation among SMEs in developing countries need to trumpet the significance of removing such barriers of innovation through the multi-agent approach.

As has been shown above, removing the market barriers will entail increasing and improving the efforts of the SMEs towards innovation, encouragement of competition and getting acquainted with the needs and preferences of the customers. In this context, there could be the institutionalisation of, by the government, regulatory hurdles of approval (or disapproval) of goods in favour of the SMEs, favourable production (or technological) climate, and the establishment of constant interaction conduit between SMEs and their customers (Boehlje and Bröring, 2011). This study serves as a ground-breaking research since no research has been conducted in the context of Ghana and the developing world, that explores how to remove market barriers of innovation among SMEs based on improving the activities of the SMEs towards innovation, encouragement of competition and getting acquainted with the needs and preferences of the customers. This is because, there is a dearth of research on the barriers of innovation in developing countries, and ways of removing the barriers are particularly lacking (Carvache-Franco et al., 2022).

As regards the reason factor barriers, making innovation a culture of the enterprise and the innovation acceptance as a responsibility can help remove this barrier. Organisational culture goes a long way to influence employee behaviour, making them accept innovation as a fundamental value of the enterprise, imbibing in them the intention to innovate, equipping with them the infrastructure and the competence to maintain innovation and the environment required to implement innovation; and educating them to accept innovation as a responsibility on their part will help make them realise the need to innovate at all times (Cirera and Maloney, 2017; Dobni, 2008; Hartmann, 2006; Nassar and Faloye, 2015). This is consistent with studies from Iran and Nigeria that point to the fact that making innovation a culture of the enterprise and educating employees to see innovation as a responsibility helps in removing the reason barriers (Nassar and Faloye, 2015; Sharifirad, M. and Ataei, 2012).

6. CONCLUSION

6.1 Empirical contributions

This study provides new empirical understanding of innovation among SMEs in Ghana, and, by extension, the developing world, focusing on the barriers of innovation and how to remove them. This fills knowledge gaps in the existing studies of innovation in the context of Ghana and the developing world in generation. This is because research on innovation on SMEs have tended to focus on the developed world, a situation which has culminated in a dearth of research on the developing world (Carvache-Franco et al., 2022; Oduro & Nyarku, 2018; Wziatek-Kubiak et al., 2010).

In Chapter 4, this study empirically demonstrates how the barriers manifest in economic factor barriers, knowledge, market and reason factor barriers and hinder the operations of the SMEs in terms of their ability to innovate, and how to remove the barriers from the perspectives of the managers of the enterprises. The originality of the empirical contribution of this research lies in empirically uncovering and drawing our attention to the fact that managers of SMEs are capable of proffering solutions to the deep-seated barriers of innovation they are confronted with in their operations. This is particularly interesting, given that scholars and analysts tend to proffer solutions to barriers from their own perspectives in the "recommendations" column of their scholarly works. This study empirically underscores the need for a paradigm shift in innovation studies, where solutions to barriers are obtained from respondents.

6.2 Theoretical contributions

The findings above reflect a policy implication. It is not uncommon for scholars and analysts to make solving problems a sole responsibility of the government. In this study, it has been shown that private entities can also be part of solving innovation problems. Thus, in

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recommending solutions to problems from a policy perspective, it must be remembered that private entities can also contribute positively to solving problems, not only the government. As such, private entities must equally be regarded as being important in solving innovation problems. Therefore, it is incumbent upon scholars and analysts to turn away from making it an exclusive responsibility of the government to solve problems associated with innovation. Thus, this study provides the need to broaden the analysis of policy recommendations in innovation studies.

Closely related to the above is the provision of the basis for the formulation of public policies by this study. All the pieces of information required to form policies by the appropriate authority in Ghana to remove the barriers of innovation among the SMEs have been provided here. Also, owners, managers, administrators and heads of SMEs can use the findings in this study to improve their level of performance in innovation in their enterprises. It needs to be emphasised that other countries, apart from Ghana, can also adopt the rich of information provided here to improve upon the performance of innovation in their enterprises.

Additionally, this study uses the framework of the barriers of innovation by Duarte et al., (2017), used in analysing the barriers of innovation in the case of Portugal, a developed country. The framework, used as the conceptual framework of this study, proves the possibility of the applicability of frameworks used in the developed country context in developing countries. A similar framework has been applied to analysing the barriers of innovation in Ecuador, a developing country (Carvache-Franco et al., 2022), a study which explores only the economic, knowledge and market factor barriers, unlike this study which went further to explore the fourth dimension: reason factor barrier. The fact this economic-knowledge-market-reason framework has not gained much academic prominence in research in the developing country context is unfortunate. This study issues a clarion call to scholars and analysts of innovation studies in

developing countries to use this framework in their research. In other words, this study can serve as a basis for the provision of similar research in other developing countries.

6.3 Implications for future research

This study has explored the barriers of innovation among SMEs in Ghana and how to remove them, based on the study Duarte et al., which focuses on the economic, knowledge, market and reason factor barriers (2017). Future studies can explore the barriers based on different frameworks and other factors and how the barriers can be removed.

Moreover, this study has been based on manufacturing SMEs' production of goods. According to Dankbaar and Vissers (2010), the significant role played by service innovation in enterprises' innovation operations is gradually gaining attention. This for these scholars, the attention of the academic world is gravitating towards service innovation, an indication of its potential of featuring prominently in future studies. Future studies of innovation among SMEs in Ghana can focus on service innovation.

INTERVIEW QUESTIONS

The respondents were all managers of the SMEs and were asked the following questions:

1. How old are you?
2. How long have you been working in your current position?
3. What exactly does your firm do (manufacture)?
4. What is your educational background?
5. What barriers of innovation confront you in your operations?
6. How can they be removed?

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