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Proactive Technology Adoption and Venture Growth in Agro-based Industry

*Ichechi Welendu-Amadi and Anita Kidochukwu Aniemeke

Ignatius Ajuru University of Education

Email for Correspondence: ichewelendu@gmail.com

Abstract

The study was undertaken to examine the relationship between proactive technology adoption and venture growth in agro base industry. Relevant variables were discussed under the literature review. This study was based on a review of the conceptual and empirical literature on the relationship between proactive technology adoption and venture growth and drawing the conclusion. Theoretically, this study was based on personality traits theory. Findings from the various literature reviewed indicated a strong relationship between the dimensions of innovation and the measure of market expansion strategies. The study concluded that innovation serves as a catalyst for market expansion strategies and techniques by enabling the development of new products or services, facilitating entry into new markets, and improving operational efficiency. It was recommended that micro firms should embrace all kinds of innovation to enhance product expansion, market segmentations and entrepreneurs should be proactive, by engaging in the development of new products and services, entry into new markets.

Keywords:

Collaboration, venture growth, proactive technology adoption, sales growth, profitability, strategic Alignment.

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Introduction

Managers everywhere are exhorted to "be proactive," and SMEs are urged to create their futures proactively. Most recently, initiative and other proactive behaviours are the keys that distinguish star performers from average performers. Globally, SMEs have been described as a vital engine for economic development, they are found to have contributed and performed significantly to the economic and social improvement of the economy, they are the bedrock upon which larger firms develop. They are recognised as pivotal to economic growth, job creation, poverty reduction and industrial development (Akhtar, Ismail, Hussain & Rehman, 2015; Okpara, 2009).It is accepted that in the world of today, there is persistent rate of SMEs growth in human consumption and all firms have from time to time search for new technological adventures for the purpose of having competitive advantages over their rivals (Oni, 2012).

According to Chandy and Narasimhan (2011), nearly all firms including start-ups, global partner alliances and major corporations are determined to make full use of opportunities in the product market by the means of proactive behaviour. Furthermore, the rapid changes in technological, social, economic and political trends sometimes result in improving entrepreneurial performance. An enterprise seems relevant to the society when it unveils its entrepreneurial pro-activeness toward achieving manageable levels of performance (Oni, 2012). He stated that, more than two decades now, Nigeria has been on the path to revolutionizing her entrepreneurship despite her depressed economy. Entrepreneurship concept dwells on capacity building which stresses value creation by bringing together unique package of resources to exploit an opportunity (Oni & Maiwada, 2009)

Proactive technology adoption refers to the deliberate and timely integration of new technologies into organizational processes and activities to gain a competitive advantage in the marketplace. Venture growth, on the other hand, relates to the expansion of a new and innovative business entity. Entrepreneurial orientation of proactive leaders is what leads to firms venturing into new areas previously not part of their business lines as well as the formation of mergers adopting modern technologies.

In view of the same, the various leadership styles have been connected by Nabi and Holden (2008) to the core characters that lead to entrepreneurship amongst individuals and firms. While some leaders emphasize on particular leadership styles, generally, it is the leader’s individual traits developed over time that can move a firm or an individual into taking hold of new opportunities and converting the same into profits and those traits include being proactive (Adefulu, Asikhia, & Aroyeun, 2018).Therefore, the capability of conducting oneself in an entrepreneurial manner is gaining importance in several work circumstances and several empirical investigations have been conducted measuring proactive behaviour and relating it to various measures of achievement, leadership, performance, and career outcomes. Advantage or opportunity that a particular company has over the other depends so on the degree to which its pro-activeness is controlled.

The study noted that entrepreneurial pro-activeness adoption of new technology is an area in entrepreneurship that has long divided Nigeria companies since there is no sufficient empirical data/survey relating its significance with Firms, and those investigated have mixed

results (Dean, Shook & Payne, 2007). This informed the study in finding out how proactive technology adoption influence venture growth, highlighting the key factors and mechanisms involved.

The rapid advancement of technology has transformed the business landscape, prompting organizations to adopt new technologies to enhance their competitiveness and drive growth. Proactive technology adoption, characterized by the intentional and forward-thinking integration of emerging technologies, has emerged as a strategic approach for ventures to gain a competitive advantage. However, the precise relationship between proactive technology adoption and venture growth remains relatively unexplored. Several studies such as (Anderson &Eshima, 2013; Anlesinya, Eshun and Bonuedi (2015), Gurbuz&Aykol, 2009) have identified pro-activeness technology adoption to strengthen firm's growth and the outcomes have provided mixed results. Innocent, Paul, and Amaka (2018); Johnmark, Munene and Balunywa (2016); found significant positive effect of proactive technology adoption on SMEs growth. However, Moreno and Casillas (2008); Musthofa, Sugeng, Nailiand Ngatno (2017) revealed that proactive entrepreneurial orientation has no significant effect on business growth and performance. In spite of the growing knowledge on the effect of entrepreneurial pro-activeness on SMEs growth, there is still little published research directly investigating the effect.

The problem at hand centers around understanding the extent to which proactive technology adoption influences the growth trajectory of ventures. While it is widely believed that being at the forefront of technology adoption can lead to enhanced innovation, increased market share, and improved financial performance, empirical evidence on this relationship is limited and inconclusive. Key questions arise regarding the impact of proactive technology adoption on various dimensions of venture growth, such as revenue growth, market share expansion, profitability, and customer acquisition. Is there a direct and positive relationship between proactive technology adoption and venture growth indicators? Are there specific industries or contexts where this relationship is more pronounced? What are the underlying mechanisms through which proactive technology adoption influences venture growth? Addressing this problem is critical for both academia and practitioners. Academic research can contribute to the existing body of knowledge by empirically examining the relationship between proactive technology adoption and venture growth, shedding light on the specific mechanisms and contingencies that shape this relationship.

This research can offer valuable insights for practitioners, enabling them to make informed decisions regarding technology adoption strategies to drive sustainable growth. Therefore, the purpose of this study is to investigate the relationship between proactive technology adoption and venture growth, examining various dimensions of growth and exploring the underlying mechanisms and contextual factors that influence this relationship. By doing so, this research aims to provide a deeper understanding of how ventures can strategically leverage technology to achieve sustainable growth in today's dynamic and technology-driven business environment

Conceptual Frame Work

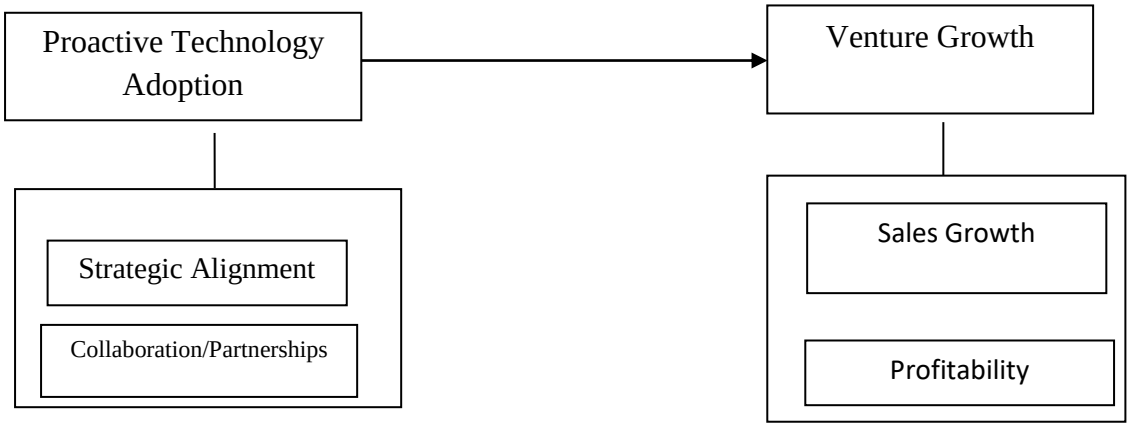

Figure 1: Showing conceptual Relationship between proactive technology adoption and venture growth

Pro-activeness is taking initiative, anticipating and carrying out new opportunities, and creating new markets or participating in emerging ones, is also associated with entrepreneurship, and is an important dimension of entrepreneurial characteristics (Brownhilder, Neneh, & Van-Zyl, (2017). Oriakhi and Osaze (2013), defined pro-activity as a state of mind and the will, largely driven by one's consciousness, to sustain a vision, to fulfil a mission, to attain a challenging goal and to achieve a define objective, as envisioning a future towards which one devices the strategic parameters for influencing, impacting and recreating the environment within which to operate in line with that vision, a determination to excel in one's own chosen field, and to pursue and attain one's own goal largely defined by one. Entrepreneurial pro-activeness can also be seen as alertness of the company.

According to Alvearez and Barney (2012), entrepreneurial pro-activeness is the ability of the firm to predict where products/services do not exist or have become unsuspected valuable to customers and where new procedures of manufacturing are unknown to others become feasible. Again, Barney (1991) defines entrepreneurial pro-activeness as the ability of the firm to predict where products or services no longer bring added value to customers or do not exist. Also, the first mover's advantages identified by JohnMark, (2005) concur with a definition of pro-activeness offered by Dess& Lumpkin, (2005), in that pro-activeness involves recognizing changes and having the willingness to act on those insights ahead of competitors in an attempt to gain higher profits. Agca, Topal & Kaya (2009), added that proactive firms are most likely to act and respond first to threats coming from its business environment as well as making the first move towards seizing market opportunities.
According to Aloulou and Fayolle (2014), the disadvantage and challenge of pro-activeness has been to investigate whether or not these concepts can be applied to all firms regardless of size. Pro-activeness is effective in creating competitive advantage because a company that is an initiator is able to penetrate the market first and its competitors are forced to respond to the initiators actions rather than initiate their own (Lumpkin & Dess, 1996). The characteristics of a pro-active enterprise involve aggressiveness and unconventional tactics towards rival

enterprises in the same market segment, such enterprises shape their environments by actively seeking and exploiting opportunities

Proactive technology adoption refers to the intentional and forward-thinking approach of organizations in embracing and integrating new technologies before they become widely adopted. This concept has been widely discussed in academic literature and business journals. In their study on proactive technology adoption in organizations, Tarafdar, Qrunfleh, and Zhang (2014) define proactive technology adoption as "early and proactive use of emerging technologies to gain competitive advantage." They emphasize the importance of organizations being ahead of the curve in identifying and leveraging new technologies to maintain a competitive edge.

Qrunfleh and Tarafdar (2015) highlight that proactive technology adoption requires organizations to actively scan the environment for emerging technologies and assess their potential impact and value within their specific industry or market. By doing so, organizations can position themselves as technology leaders rather than followers. Faiz, Le, and Masli (2024) discussed the dimensions of proactive technology adoption within the manufacturing sector. They identify strategic planning, top management support, technological competency, and organizational culture as key dimensions influencing the adoption and implementation of new technologies within manufacturing firms. In their research on proactive technology adoption in the healthcare industry, Sharma, Mishra, and Sharma (2019) emphasize the role of organizational readiness, innovation culture, dedicated innovation teams, and collaboration with external partners as key factors contributing to successful proactive technology adoption.

Prajogo, Oke and Olhager (2016) discuss the importance of proactive technology adoption in supply chain management. They argue that organizations that proactively adopt technologies such as RFID, cloud computing, or big data analytics can achieve higher supply chain visibility, efficiency, and responsiveness. These are just a few examples of the literature available on proactive technology adoption. Research in this area emphasizes the proactive mindset of organizations in identifying, evaluating, and integrating new technologies to gain competitive advantage, drive innovation, and improve organizational performance. Please note that the literature mentioned is a starting point, and further reading and exploration of the specific research articles will provide a more comprehensive understanding of proactive technology adoption.

Strategic alignment as a dimension of proactive technology adoption in agribusiness firms refers to the process of integrating new technologies in a manner that aligns with the overall strategic goals and objectives of the firm. This concept has been discussed in academic literature and agricultural journals. In their study on the adoption of precision agriculture technologies in agribusiness, Bhandari (2018) emphasize the importance of strategic alignment. They argue that agribusiness firms need to carefully evaluate how new technologies, such as remote sensing, GIS, and GPS, align with their strategic objectives, such as optimizing resource utilization, increasing productivity, or improving yield quality.

Gebbers and Adamchuk (2010) discuss the concept of strategic alignment in precision agriculture. They suggest that agribusiness firms should consider how adopting new technologies fits into their overall business strategy, including factors such as market positioning, cost management, and differentiation.

In a study on the adoption of information and communication technologies (ICT) in agriculture, Bárta, and Vymazalová (2022) argue that strategic alignment is crucial for successful technology adoption. They emphasize that agribusiness firms should assess how ICT solutions, such as farm management systems or agricultural sensors, fit into their long-term strategic plans, supporting goals such as improving decision-making or enhancing operational efficiency. A research by Nogalski and Niewiadomski (2019) explores strategic alignment in precision farming. They suggest that agribusiness firms should align their technology adoption decisions with their specific needs, considering factors such as the size of their operations, the complexity of their agricultural systems, and the specific crops or livestock they deal with. These are examples of relevant literature that highlight the importance of strategic alignment as a dimension of proactive technology adoption in agribusiness firms. The research emphasizes the need for agribusinesses to carefully evaluate how new technologies align with their strategic goals, enabling them to make informed decisions and leverage technology to drive sustainable growth and competitive advantage

Venture Growth: Venture growth is an important concept in business and economics. It refers to the increase in size, revenue, market share, or overall performance of a company over time. Many researchers have explored this topic and have provided valuable insights. According to Barney (1991), resources such as human capital, physical assets, brand reputation, and innovative capacity play a crucial role in determining a firm's growth trajectory. Penrose (2009) argued that a firm's growth is limited by its managerial and entrepreneurial capabilities. As a firm expands, it may face diminishing returns, as managers' attention and resources become stretched. This concept emphasizes the importance of managerial capacity in sustaining growth Schumpeter (1934) emphasized the role of innovation and entrepreneurship in driving firm growth. Innovative firms that introduce new products, processes, or business models can gain a competitive advantage and experience significant growth.

Neneh and Van (2017) emphasised that Growth is an organizational outcome resulting from the combination of firm-specific resources, capabilities and routines, A firm’s growth opportunities are highly related to its current organizational production activities and its firm’s growth is also uncertain due to environmental conditions such as competition and market dynamics and a firm’s growth is the most vital source of new jobs and is considered a valuable measure of entrepreneurial success. Hardeep & Anupama (2013); Yusof & Bakar, (2012) viewed growth as an increase in amount, number or size.

In the business or economic sense it means an increase in the value of goods or services produced and sold by a business or country. Levie and Autio (2013) and Alarape, (2013) add that if entrepreneurs do not have any intention of growing their businesses, their businesses will most probably not grow, given that achieving growth is very difficult. SMEs growth means expanding firm’s products or expanding its target markets, or some combination of

each. Any increase in the volume of activities of enterprises is a clear indication of growth. Businesses grow for a number of reasons including innate desire to grow, taking advantage of a gap in the market or to gain a competitive advantage (Fatoki, 2012). Growth is often measured in terms of turnover and profit, but can also occur in knowledge, in human experience, and in efficiency and quality (Domanović, V., & Janjić, V. (2018; Mwangi, 2024).

There are several factors that lead to a firm growth. The age of the firm has an impact. Taylor, Evans, Hoyler, Derudder, and Pain (2009) found that old firms, smaller firms have faster growth, and also have a positive coefficient of the interaction between size and age also found that age had negative effect on company's growth. Liverpool-Tasie and Winter-Nelson (2011) noted that firms have routines which are transferred from one person to the other. Thus, successful routines which have been producing growth in the past would likely to continue in producing growth in the future. The interrelation of profitability and growth is illustrated by the fact that a basic operating principle is that growth can best be evaluated by examining profit and total sales. It is important that all firms must remember the need to maintain a balance between profitability and growth: it is crucial for any business to grow as well as be profitable in order to sustain and stay relevant in the marketplace (Chowdhry, 2016).
There is a general opinion that the use of growth as a measure of firm performance is based on the understanding that growth is an antecedent to the attainment of sustainable competitive advantages. Sales growth rate was used to capture firm performance because EO is essentially a growth orientation (Fitzsimmons, 2011; Lumpkin & Dess, 1996). Therefore, it is appropriate to measure the effectiveness of EO by using an indicator that reflects the success of a firm at converting entrepreneurial opportunities into growth road maps (Simon, Stachel & Covin, 2011). The belief is that firms that are undergoing growth phases have higher rates of survival and they enjoy the benefits associated with economies of scale which in turn will affect their profitability (Fitzsimmons, 2011).

Sales growth is not only a measure of business success but also serves as a crucial indicator of venture growth. In the context of startups and entrepreneurial ventures, sales growth is often considered a key metric to assess the progress and viability of a business. Let's explore this concept further. Sales growth reflects the increase in revenue generated by a venture over time. For startups and new ventures, achieving sales growth is essential to demonstrate the market acceptance of their products or services. It shows that customers are willing to pay for the offering, indicating a positive response from the target market. In the literature, studies have highlighted the significance of sales growth as a measure of venture growth. For instance, a study conducted by Gan, Pujawan and Widodo (2017) emphasized that sales growth is a crucial factor for the survival and success of startups. The researchers found that startups with higher sales growth rates were more likely to attract investment, gain market share, and sustain long-term growth. Furthermore, sales growth serves as a vital metric for assessing the scalability of a venture. It provides insights into the potential for expansion and profitability.

A study by Autio, Rannikko, Handelberg and Kiuru (2014) emphasized that high-growth ventures, which experience substantial sales growth, are more likely to create jobs, innovate, and contribute to economic development. In addition, sales growth can also serve as an indicator of customer satisfaction and loyalty. When a venture consistently achieves sales growth, it suggests that customers are not only making initial purchases but also returning for repeat business. This indicates that the venture is successfully meeting customer needs and building a loyal customer base. To sum up, sales growth is a critical measure of venture growth, especially for startups and entrepreneurial ventures. It demonstrates market acceptance, scalability potential, and can attract investment. Moreover, sustained sales growth indicates customer satisfaction and loyalty. By focusing on achieving and sustaining sales growth, ventures can validate their business model, drive expansion, and increase their chances of long-term success. Sales growth is a vital metric for business success and can have a significant impact on a company's market value, profitability, and long-term performance. It is influenced by factors such as employee motivation, innovation, and market dynamics. By understanding and leveraging these factors, companies can achieve sustainable sales growth and remain competitive in their respective industries.

Profitability is a crucial measure of venture growth and financial success. Profitability is often seen as a key measure of venture growth as it reflects the ability of a company to generate earnings and create value. Researchers such as Rumelt (1991) argue that sustained profitability is essential for long-term growth and survival in a competitive market. Profitability can be assessed through various financial ratios, such as return on investment (ROI), return on assets (ROA), return on equity (ROE), and gross profit margin.

These ratios provide valuable insights into a venture's financial performance and can be used to benchmark against industry standards or track growth over time. Achieving profitability can be linked to the adoption of a cost leadership strategy. Firms that effectively control costs, streamline operations, and optimize resources can improve profitability. Scholars like Porter (1980) argue that cost leadership can be a source of competitive advantage and facilitate venture growth. Innovative business models can enhance profitability and drive growth. Scholars such as Teece (2016) highlight the importance of creating unique value propositions and finding new ways to capture and monetize that value. Innovations in pricing models, revenue streams, or distribution channels can contribute to increased profitability. Ventures that prioritize customer satisfaction and build long-term relationships can experience sustainable growth through increased revenues and reduced customer acquisition costs. These are some key insights from the literature on profitability as a measure of venture growth

Theoretical Framework

One key theory that explains the relationship between proactive technology adoption and venture growth is personality traits theory. The proponents of personality traits theory was by Hofstede and McCrae (2004) who defined it as “stable qualities that a person shows in most situations”. To the trait theorists, there are enduring inborn qualities or potentials of the individual that that naturally make him an entrepreneur. Supporting, the above was Weinberg

& Gould, (2023) who stated that these traits or inborn qualities are characteristics and behaviours associated with entrepreneurs that ate opportunity driven, proactive and thrive on competitive desire to excel and win. They also believe that they can make a difference, are individuals of integrity and above or visionary.
This theory was criticized by McClelland and Goddard (1996) who explained that human beings have a need to succeed, accomplish, excel or achieve. Entrepreneurs are driven by this need to achieve, excel and not by inborn characters.

This theory is relevant because recent findings on pro-activeness strengthens earlier empirical studies which indicate that pro-activeness is a firm's effort to seize new opportunities and has been expressed as pioneering behaviour that results in initiative taking to pursue opportunities that lead to firm growth (Dess &Lumpkin 2005). Also, this study adopted personality traits theory because it provided a robust basis to the study on the effect of proactive technology adoption on firm growth of agro-base enterprises.

Empirical Literature

Research conducted by Ketchen and Hult (2007) highlights the importance of strategic alignment for sales growth. The study found that organizations with greater strategic alignment had higher levels of sales performance. This suggests that when the sales strategy is in sync with the overall organizational strategy, it enhances the sales team's ability to achieve desired sales outcomes. Furthermore, strategic alignment enables better coordination and collaboration between different departments within an organization.

Research by Bresnahan, Brynjolfsson and Hitt (2002) suggests that technology adoption and utilization can lead to increased productivity, efficiency, and innovation, thereby driving venture growth. By proactively adopting emerging technologies, ventures can gain a competitive advantage and position themselves for sustained growth. Proactive technology adoption can be seen as a valuable resource and a dynamic capability that enhances a venture's ability to innovate, adapt, and respond to market changes, thus promoting growth. Proactive technology adoption allows ventures to differentiate themselves and deliver innovative products or services.
Research by Zahra and George (2002) suggests that ventures that adopt technology earlier than their competitors can gain a first-mover advantage, potentially leading to faster growth and market dominance. Proactive technology adoption can also foster collaboration and network effects.
Furthermore, Onjefu and Ndjaba (2022) investigated the impact of the dimensions of EO on the performance of Micro, Small and medium scale enterprises (MSMEs) in Ebonyi State, Nigeria. It revealed that pro-activeness had a significant correlation with customer performance.
Similarly, a study by Hughes and Morgan (2011) among automotive firms in United Kingdom measured pro-activeness based on taking initiative, opportunity recognition, and initiating actions to which other organizations respond. They found that pro-activeness has a positive impact on organizational growth in terms of both customer performance and product

performance. Another study by Wu and Zhao (2014), (Kraus, Rigtering, Hughes & Hosman, 2012) Amin, (2015); (Muthee-Mwangi & Ngugi 2014) and Lumpkin (2009) found that effects of pro-activeness exist at significant levels, suggesting a perfect mediating effect of pro-activeness on growth. Furthermore, the authors found that the positive impact was stronger in early stage of a product, which suggests that pro-activeness has an important role especially in the introduction and growth stage of a product and that the pro-activeness vis-à-vis performance was strongest in a dynamic and hostile environment. Contrary to the above findings, the study of Adefulu, Asikhia and Aroyeun (2018) which examined the association between EO and growth of SMEs in Sri Lanka, the findings showed that pro-activeness has no significant impact on the growth of SMEs

Findings

Proactive technology adoption refers to a venture's deliberate and forward-thinking approach to embracing and integrating new technologies into its business operations and offerings.
The study aims to explore the relationship between proactive technology adoption and venture growth, specifically examining how the deliberate adoption of new technologies influences performance and growth outcomes for ventures. The study found that ventures that proactively adopt new technologies tend to have higher performance outcomes compared to those that are reactive or slow to adopt.

Proactive technology adoption enables ventures to increase efficiency, productivity, and innovation, leading to improved performance. Ventures that adopt technologies proactively gain a competitive advantage by differentiating themselves from competitors. By leveraging technology to deliver unique value propositions, these ventures are able to attract customers, increase market share, and achieve sustained growth. The study highlighted the importance of timing in technology adoption. Ventures that adopt new technologies earlier than their competitors have the opportunity to establish a first-mover advantage, leading to faster growth and market dominance. Proactive technology adoption fosters collaboration within technology ecosystems. Ventures that actively engage and collaborate with complementary partners in the ecosystem gain access to new markets, resources, and knowledge, facilitating innovation and growth.

Conclusion

This literature review has shown that there is positive relationship between proactive technology adoption and venture growth in agro base industry. The study suggests that proactive technology adoption is strongly linked to venture growth and performance. Ventures that embrace new technologies, strategically time their adoption, and actively engage in ecosystem collaboration are more likely to experience sustained growth, competitive advantage, and improved performance outcomes. Overall, the study highlights the strategic importance of proactive technology adoption for venture growth. It provides valuable insights for entrepreneurs, managers, and policymakers, emphasizing the need to

embrace and leverage new technologies to stay competitive, drive innovation, and achieve sustained growth in today's dynamic business environment.

Recommendation

1. In view of the findings of this study, it was recommended, that to attain a high level of efficiency, entrepreneurs and managers should be proactive, by engaging in the development of new products and services, entry into new markets.
2. Firms should consider entrepreneurial strategies as part of steps for improving growth and performance.
3. Also, government should provide an enabling environment for proactive entrepreneurs and policy makers should consider adopting screening procedures to support programs that encourage entrepreneurs and managers carry out strategic scans for new opportunities in the market. This will ensure effective growth of SMEs

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