Linking market innovation practices to small agricultural business performance: does developing new marketing approaches, methods, and tools matter?

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Dongmei Li
Professor
Institution: College of Management, Sichuan Agricultural University
Address: 211 Huimin Rd, Wenjiang, 611130, Chengdu, PR China
E-mail: **lidm@sicau.edu.cn**

Evans Brako Ntiamoah
PhD in Agricultural Economics and Management
Institution: College of Management, Sichuan Agricultural University
Address: 211 Huimin Rd, Wenjiang, 611130, Chengdu, PR China
E-mail: **kwamebrako@yahoo.com**
(Corresponding author)

Martinson Twumasi Ankrah
PhD in Agricultural Economics and Management
Institution: College of Economics, Sichuan Agricultural University
Address: 211 Huimin Rd, Wenjiang, 611130, Chengdu, PR China
E-mail: **twuma2012@hotmail.com**

Edmond Yeboah Nyamah
PhD in Management Science and Engineering
Institution: Department of Marketing and Supply Chain Management, University of Cape Coast
Address: Cape Coast, Ghana
E-mail: **edmond.nyamah@ucc.edu.gh**

Abstract

To effectively answer to customers' expectations, innovation has become a prevalent theme for planning, designing, and improving production processes and services put into the market. Based on this, the researcher drew a sample of 150 managers and staff from five agribusinesses from four regions to investigate the impact of market innovation techniques on agribusiness performance in Ghana. The impact of market innovation methods on agriculture performance was explained using a conceptual framework. The regression table's findings reveal that the variables are supported, however our normalized coefficient values are clearly inadequate. Agribusiness stakeholders should understand local market needs and adopt a coordinated approach to reduce problems, according to the paper's key suggestions. It would be shortsighted for a company to overlook the marketing department's potential for innovation. Even if the new products are not based on technology innovation, innovative product design, packaging, and pricing, advertising, and distribution methods might be a promising source of new product performance. Prudent managers should weigh the potential for innovation from research and development, as well as marketing, and invest more significantly in the department with the highest potential.

Keywords: Innovation. Performance. Agribusiness

1. Introduction

Every organization is attempting to create both internal and external market linkages/market segments/customer focus/ideas and knowledge sources in order to meet the demands of customers while maintaining a competitive advantage (Chuwiruch, Jhundar-Indra and Boonlua, 2015; Nieves and Diaz-Meneses, 2016). Innovation has been a prevalent subject for planning, designing, and developing manufacturing processes and services put into the market to successfully adapt to customers' expectations due to rapid changes in technology and environment (Łobos and Szewczyk, 2018). Innovation shows a company's financial stability, performance, and ability to survive in comparison to its competitors (Saliba de Oliveira *et al.*, 2018; Oskouei, 2019). As a result, businesses are attempting to develop new products and tactics in order to maintain their competitive advantage (Mendes-Da-Silva, 2017). The collection, diffusion, and application of new information are all concepts that are involved in the innovation process (Nicolay, 2019; Baranskaitė and Labanauskaitė, 2021). In today's competitive environment, innovation is increasingly seen as one of the most important components for a company's long-term success (ul Hassan et al. 2014).

Many writers and circumstances have defined marketing innovation. According to (Tinoco, 2010; Ramalingam *et al.*, 2015), innovation is defined as the transformation of an idea into a ready-to-sell service or product, a new or improved manufacturing or distribution process, or a new means of social servicing. The works of (Mirković and Kulina, 2016; Tarnavska and Golodniuk, 2016) describe marketing innovation as the deployment of a new marketing concept or strategy that is considerably different from the marketing tactics used previously in a certain company. Market research, price-setting strategy, market segmentation, advertising campaigns, retailing channels, and marketing information systems are all examples of marketing concepts (Pomering and Johnson, 2018; Patsiaouras, 2019; Alasgarova, 2020). Understanding the marketing innovation process in this research incorporates both theoretical and empirical factors gained from literature analysis and polling approaches. Marketing innovations are described as the deployment of a new marketing approach comprising major changes in product design and/or packaging, product positioning, product promoting, or pricing, according to (Molina-Castillo, Meroño-Cerdan and López-Nicolás, 2019).

Marketing innovation and creativity, according to (Fields and Atiku, 2016), are critical to an organization's success in the corporate world, particularly in strategic planning for future expansion and the development of new products and services. According to (Lee and Schmidt, 2017), marketing innovation refers to a company's ability to consistently enhance its products/services, resulting in enormous and new benefits for its customers and the ability to meet their demands in a unique way. This, in turn, may result in the firm in question gaining a competitive advantage and high performance by detecting demands and translating them into technical specifications, as well as differentiating the firm from its competitors by making the firm's presence notable (Quporsi, 2010). The marketing innovation process is also defined by the authors as the constant improvement of the organizational learning process and the implementation of new and modern marketing activities and practices that are superior to traditional ones. As a result, (Manimala, Jose and Thomas, 2006) concluded that the creative process necessitates competency across the board. However, (Kasiewicz, 2017) stated that a company's ability to produce new products in response to changing client needs is insufficient for it to be successful.

The goal of this paper is to assess the impact of marketing innovation methods in businesses, with the agricultural sector serving as a case study due to its economic and social importance, as well as its promising future in Ghana and the sub-region (Quaye and Mensah, 2019). The lack of attention in the literature is underlined, despite the fact that its consequences differ from those of product and process innovations. In the evolution of the sector, marketing tactics and tools play a critical role (Abdulai and Hinson, 2012). Given the foregoing, the purpose of this paper is to assess the impact of marketing innovations in businesses, using the agribusiness sector in Ghana as an example, because innovations vary across industries and territories (Kyei and Bayoh, 2017), whereas most studies on innovation focus on developed countries and high-tech industries (Schmiele, 2012; Al-mubaraki and Busler, 2017; Das Neves Almeida *et al.*, 2019). At the same time, Ghana's agribusiness industry is important for both economic and social reasons (Banson *et al.*, 2015), and Ghana is among the African countries driving agriculture and attempting to modernize it (Ogemah, 2017).

This study adds to the body of knowledge by addressing three major challenges. This research contributes to knowledge in a variety of ways by using agricultural innovation and agribusiness performance literature. Previous research has focused on the interaction between agricultural innovations techniques and local farmers, therefore focusing on the value chain at the business level will benefit the value chain. The use of structural equation modeling (SEM)

to investigate the impact of independent variables on dependent variables will assist policymakers in making clear and well-informed decisions. This research identified important market innovation dimensions that can help small agricultural enterprises enhance their performance.

By putting the conclusions of relevant literature to the test in the context of Ghana's agribusiness industry, this study aims to link market innovation methods to small agricultural enterprises. The following is how the paper is structured: The first section outlines the conceptual framework and summarizes the relevant literature. In the next part, the methods and conclusions of a field study of five agribusiness enterprises in the Ashanti, Greater Accra, Eastern, and Western regions are provided. In the final portion, the findings are analyzed, and some recommendations for future research and practitioners are made.

2. Literature Review

2.1 Links among Key Actors of Agricultural Innovation System

Agricultural technologies have allowed large-scale farmers in industrialized countries achieve tremendous yield gains and cheaper costs throughout the years. However, it has not resolved the social and economic difficulties of the poor in emerging nations, who have reaped the smallest benefits from this increase in output (Huffman and Just, 1999; Clark, 2014; M. and U., 2017). Furthermore, less favorable environmental variables for agriculture, such as drought and heat, are becoming more prevalent in Ghana. The peculiarities of the urban-rural dual economy, the loss of acreage and manpower due to urbanization, and increased demands for industrialization are all working against traditional farming (Gyamera *et al.*, 2018). Ghana's current agricultural innovation practices trail significantly behind those of countries like the United States, Japan, China, and Europe, owing to three major roadblocks (*Ghana's Economic and Agricultural Transformation*, 2019).

It is widely assumed that innovation is a technique or knowledge that a community use to enhance their living through the revenue generated by this activity. It might be a social, organizational, or technical process or knowledge (including improved process, improved high yield crop variety, productive animal race, water management technique, soil fertility management technique, etc.). This study also adheres to (Kansanga *et al.*, 2018)'s definition of innovation as the process by which social actors produce value from knowledge or the process of producing and putting into use combinations of information from a variety of sources. Several research organizations have invested in agricultural research and development in the

area of innovation platform (IP) as a framework for supporting increased usage of agricultural innovations in Africa in order to boost agricultural production. IPs are a means of bringing together many stakeholders in order to find answers to similar problems or achieve common objectives. They ensure that multiple interests are considered, and that numerous groups contribute to the development of solutions to identified field difficulties (Dror *et al.*, 2015).

Farmers, input suppliers, traders, transporters, processors, wholesalers, retailers, regulators, and the research and development community benefit from such platforms because they allow discussion amongst major stakeholders along the value chain (Schut *et al.*, 2018). IPs uncover obstacles and opportunities in manufacturing, marketing, and policymaking (Klerkx *et al.*, 2013). Discussions on market requirements (quantity, quality, and sales timing) kickstart the process, which is then followed by an examination of existing production processes (Clottey, F. and Nketiah, 2011). An IP then seeks for and implements technologies that will increase output and meet market demand. The marketing system is reviewed in a parallel and similar manner, and improvements on advantages for all stakeholders are tabled and tried in the local context (Willy *et al.*, 2019). According to studies (Mahoney and Krattiger, 2007; Sanyang *et al.*, 2016; Schut *et al.*, 2019), the technology that serves as a foundation for agricultural innovation has a high potential for innovation. Scientific study (for example, on pre-extension varieties and procedures), inventors, and innovators all contribute to this technology (equipment). This could also be locally created knowledge that can be scaled up to have a significant influence on stakeholders.

On the impact of agricultural innovations on stakeholders in the agribusiness value chain, (Franklin and Oehmke, 2019) found that there are numerous beneficial benefits of the innovations, some of which are combined. Agricultural innovations have raised agribusiness income and improved people's lives, according to the majority of stakeholders. Others may speak to the good effects of agricultural innovations on social cohesion, solidarity, awareness, and employment. Some stakeholders, however, believe that agricultural advances have negative consequences, such as increased labor demand, pain, low agricultural produce pricing, and environmental degradation.

2.2 Market Innovation Practices in the Agribusiness Value Chain

Marketing innovation is explained as the implementation of a novel marketing strategy that includes minor changes to product packaging, promotion, or pricing. Finding better answers to customers' concerns, expanding new markets, or putting a company's product on the market to assist raise sales are all part of marketing innovation. Pricing tactics, product

design, product placement, and promotion activities, all of which are part of the four P's of marketing, are more closely related to marketing innovations (Saunila, Pekkola, and Ukko, 2014). The goal of marketing innovation is to boost sales and market share while also expanding into new markets. The introduction of a novel marketing method that the organization has never executed before distinguishes marketing innovation from other sorts of innovation (Hallstedt, Thompson and Lindahl, 2013). Agribusiness organizations use new marketing tactics to increase efficiency in their operations (Abdul-Rahaman and Abdulai, 2018; Zhang, Sarkar and Wang, 2021).

Marketing innovation is the creation of new marketing approaches and methods. The development of new marketing approaches, processes, and tools plays an important influence in the success of firms (Paillé *et al.*, 2014). Every marketing innovation strives to explore new business prospects, target markets, analyze markets, meet current markets, and find efficient ways to provide excellent after-sales care to customers. The necessity for a manager to increase performance in comparison to previous outcomes typically leads to the hunt for new chances (Morrison, Roberts and Von Hippel, 2000). Within agricultural enterprises, this search frequently leads to new processes that generate the same product more effectively (van der Schans, Renting and van Veenhuizen, 2014) or the creation of new markets (Alston and Pardey 2016).

The increase in interest in local goods, even if unsubstantiated, gives an opportunity for African agribusinesses to improve performance by utilizing indirect and alternative marketing channels. If more agricultural value chain operators develop strategies to fulfill the needs of this section of consumers, enterprises may no longer be able to differentiate themselves from competitors by relying on the novelty of the purchase experience. Agribusinesses may need to differentiate their products even more from other vendors in indirect and alternative markets if this happens markets (Avolio *et al.*, 2014; Tezera and Echetu, 2015; Babu and Shishodia, 2017). Marketing innovation is measured as creating new business prospects, understanding the market, defining a target market, meeting market demand, and providing after-sales support in this study.

2.3 Policy Influence on Agribusiness in Ghana

Agribusiness is an important sector in developing nations for sustaining growth and alleviating poverty (Louw, Nhemachena and van Zyl, 2008; Naseem, Spielman and Omamo, 2010). Because the food and agricultural industry contributes so much to GDP, employment,

and income in most African economies, its growth and development are critical to the region's overall socioeconomic development (Cervantes-Godoy and Dewbre, 2010). In order to achieve national self-sufficiency in agricultural products, Ghana's governments and institutions have searched out solutions that would lead to increased output levels. The improvement of productivity, which is carried out through technical development and innovation, is a major factor in a sustained increase in agricultural production. Many Ghanaian farmers continue to rely on poor-yielding agricultural technology, resulting in low productivity and output (Asravor, Onumah and Osei-Asare, 2015). Also, it is sometimes stated that the essential question for agricultural policymakers is whether the agricultural sector can be made more efficient by producing more output with the present input level, or by producing the current output with less input usage than is currently observed (Mercy *et al.*, 2015). Identifying the behavior of productivity and its components is a crucial step in resolving this question.

Ghana's agribusiness industry includes companies whose daily operations include supplying farmers with inputs, producing and processing farm goods, and marketing these products to its eventual consumers (Ghana's Economic and Agricultural Transformation, 2019). As previously said, the agriculture sector is divided into five (5) subsectors. Thus, the agricultural industry and its five (5) subsectors' performance trends in terms of GDP from 2006 to 2015 are shown. It is unmistakable that the agricultural sector's contribution to GDP is decreasing. Experts in this field, on the other hand, believe that the drop does not necessarily indicate bad performance or a lack of investment in the agricultural industry. These analysts claim that the fall in agricultural contributions to GDP is a worldwide phenomenon that does not affect only Ghana. Thus, it could be the case that the level of exportation or importation of agricultural products could be a contributing factor to such a decline (Ghana's Economic and Agricultural Transformation, 2019).

The supply of agricultural inputs, fertilizer, seed availability, and the supply of tractors and harvesting gear all affect the agribusiness sector's performance. The Ghanaian government has implemented programs such as fertilizer and seed distribution to farmers in order to increase their overall performance and the quality of their farm products. Other processing businesses have developed similar programmes in exchange for getting farm inputs from farmers, bolstering the government of Ghana's schemes to boost total performance. Fertilizer demand in Ghana continues to rise, forcing a number of smallholder farms to express their discontent with the low yield of their farm products. As a result, fertilizer prices in Ghana's neighbors (Ivory Coast and Togo) are lower than those in Ghana.

2.4 Market Innovation Practices and Agribusiness Performance

According to a study focused on agro-innovation performance (Zhao *et al.*, 2015), there is a substantial positive link between agricultural industry performance and innovation techniques. Authors (Zhu, Ang and Fredriksson, 2019) stated that earlier studies on the agricultural origins of Chinese innovation performance had not strongly related agricultural legacies and innovation rates, and had repeatedly employed low-resolution data. Their research also found that most agricultural enterprises' strong performance is due to quality innovation techniques such as marketing. According to a study by (Elliott, 2012) focusing on agricultural innovation and the market, feeding an additional three billion people over the next four decades, as well as ensuring food security for another one billion people who are currently hungry or malnourished, is a tremendous problem. In the face of land and water scarcity, climate change, and diminishing food yields, achieving those goals will necessitate yet another massive leap in agricultural innovation. The study's goal was to spark discussion about what new ways would be required to satisfy these demands, as well as how creative funding sources could help. In general, the study found that investing in market innovation strategies can help all players in the agricultural value chain perform better.

Marketing innovations such as customer orientation and meeting existing markets are positively related to financial performance in agricultural value chains in emerging economies, according to a study (Ho *et al.*, 2018) that looked into marketing innovation and financial performance in agricultural value chains in emerging economies. Agribusinesses that are entrepreneurial and market-oriented are more likely to adopt new and/or considerably improved products and services while employing numerous marketing channels to boost their performance, according to (Mirzaei, Micheels and Boecker, 2016). Authors (Chuwiruch, Jhundar-Indra and Boonlua, 2015) investigated marketing innovation strategy and marketing performance and discovered that marketing innovation strategy is likely to help business enterprises improve marketing outcomes and performance, which needs be experimentally proven.

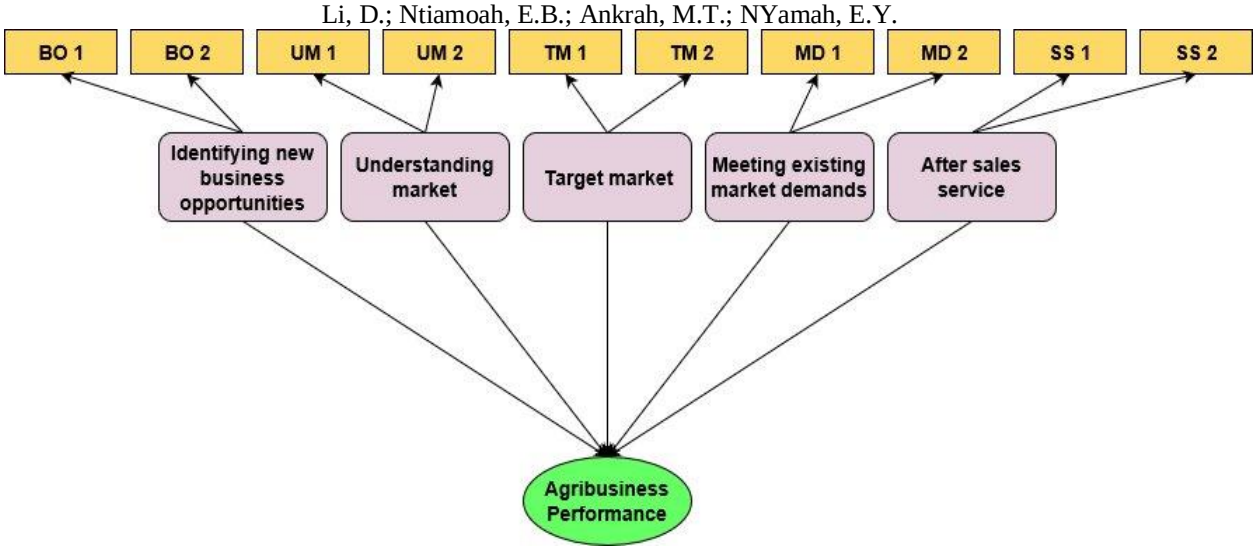

Figure 1: A conceptual framework of the effect of market innovations on agribusiness performance.

Source: Authors' Construct, 2021

Note: BO 1 means our firm frequently explore new opportunities in the agricultural sector, and BO 2 means our firm invests in identifying new business opportunities. UM 1 and UM 2 denote our firm uses its skilled labor to conduct frequent market research to understand customers' demand, and our company frequently engages customers respectfully. TM 1 and TM 2 signifies our firm can serve its target markets very well, and our business has structured approaches and strategies for our various segments respectfully. MD 1 means our firm provides a large variety of products/services for our existing market, and MD 2 is our business give discounts/awards for a repeat purchase from our existing customers. Lastly, SS 1 and SS 2 mean our company provides quality after-sales services to all customers, and our firm provides an easy approach to solving customers' problems respectfully.

3. Research Methodology

3.1 Research Design

A design is used to frame the research and demonstrate how all of the primary components of the project work together to answer the central research questions. To analyze the influence of agricultural market innovations on agribusiness performance, the study used an exploratory research approach. The research methodology included the following steps: questionnaire design, data collection via questionnaire administration, data processing, data analysis, and data interpretation to examine the impact of agricultural market innovations on agribusiness

performance using structural equation modeling (Coolican, 2018). In addition, researchers should be conversant with a variety of research designs so that they may select the most appropriate design to answer their research questions and hypotheses. A descriptive study was used with the purpose of efficiently accomplishing the points of this investigation.

3.2 Population and Sample Size of the Study

The study's participants were 150 managers and staff from five agricultural firms in four regions: Ashanti, Greater Accra, Eastern, and Western Ghana. Boris B's Farms & Veterinary Supplies, Pinesod Foods, Nkulenu Industries Ltd., Srighan Farms Gh. Ltd., and Naforit Ventures are among the five agribusinesses. Each agricultural company received 30 surveys as part of the 150-person sample size. The market innovativeness of these agribusiness firms led to their selection. The respondents were chosen using both basic random sampling and selective sampling techniques.

3.3 Data source and Method of Data collection

The data used in this study was derived from primary data obtained by survey-structured questionnaires. Over the course of 15 weeks, data for the study was collected via self-administered questionnaires. The strategy was chosen since it helps to extract the precise information required for the study project's specific goal. The researchers retrieved the questionnaires and responses after this time period had passed. After the respondents were given copies of the questionnaire, the researchers thoroughly explained the questions to them. The goal was for the respondents to comprehend the research's purpose, eliminate suspicions and partialities, and be able to deliver their independent opinion on the questionnaire items they were given. To get the best results, the research team also encouraged participants with a low level of education by explaining the questions in a local language.

3.4 Data Analysis Methods

For exploratory factor analysis, IBM Statistical Package for Social Sciences (SPSS) software was used. To ensure easy and quick understanding of data, representations such as frequency tables were used. To minimize variables into a fitting set of scales, the principal component analysis with varimax rotation was utilized. The study used a validity and reliability test to

assess internal consistency among the constructs. To reduce the number of variables into a manageable set of scales, the KMO and Bartlett's Test of Sphericity, as well as factor loading analysis, were used. To examine the influence of our predictor factors (market, financial, inventive, and organizational performances) on our key independent variables, the study used the structural equation modeling (SEM) approach and regression analysis (identifying new business opportunities, understanding market, target market, meeting existing market, and providing top-notch after-sales services).

4. Data Analysis

4.1. Data retrieval presentation

Table 1 and Figure 2 show a detailed representation of data retrieval for each of the five (5) agribusinesses studied. Boris B's Farms & Veterinary Supplies, Pinesod Foods, Srighan Farms Gh. Ltd., and Naforit Ventures all received a perfect score in this survey.

Table 1: A Summary of Data Retrieval

Company Name	Location	No. of Employees	Data Submitted	Data Retrieval	Percentage
Boris B's Farms & Veterinary Supplies	Ashanti	146	30	30	100%
Pinesod Foods	Ashanti	68	30	30	100%
Nkulenu Industries Ltd.	G. Accra	78	30	29	96.7%
Srighan Farms Gh. Ltd.	Eastern	112	30	30	100%
Naforit Ventures	Western	99	30	30	100%
Total		**503**	**150**	**149**	

Source: Authors' Construct, 2021

Thirty of the thirty surveys were returned, accounting for 100% of the total. In the case of Nkulenu Industries Ltd., 29 out of 30 questionnaires were returned, accounting for 96.7 percent of the total. In total, 149 of the 150 questionnaires sent to responders were found. This accounts for 99.3 percent of all questionnaires received.

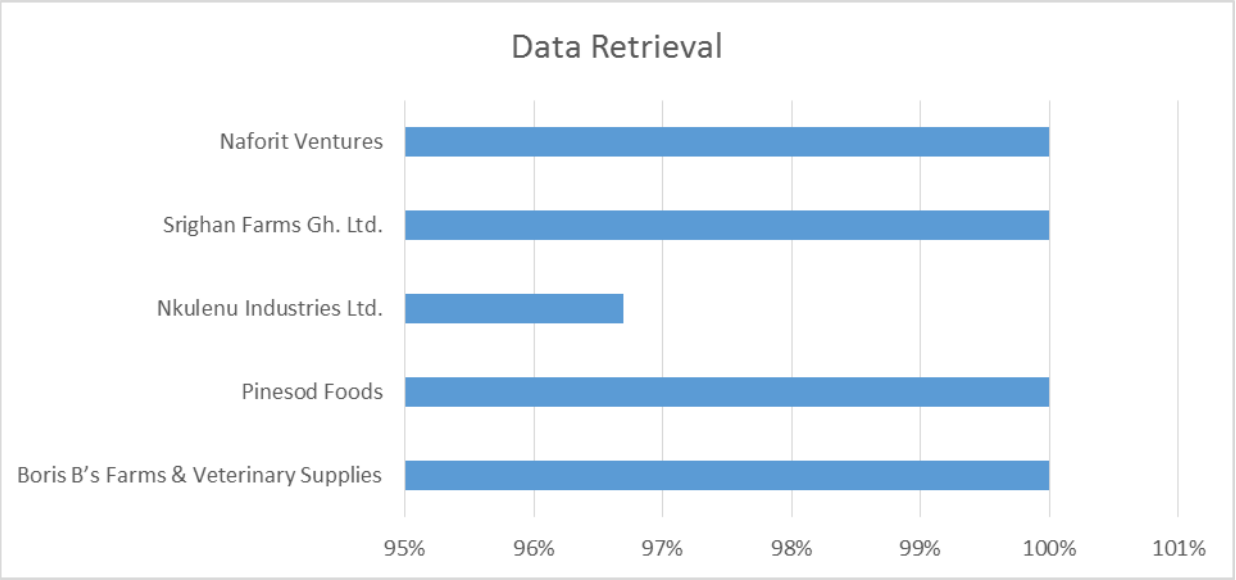

Figure 2: A Summary of Data Retrieval

Source: Authors' Construct, 2021

Table 1 and Figure 2 show a detailed representation of data retrieval for each of the five (5) agribusinesses studied. Boris B's Farms & Veterinary Supplies, Pinesod Foods, Srighan Farms Gh. Ltd., and Naforit Ventures all received a perfect score in this survey. Thirty of the thirty surveys were returned, accounting for 100% of the total. In the case of Nkulenu Industries Ltd., 29 out of 30 questionnaires were returned, accounting for 96.7 percent of the total. In total, 149 of the 150 questionnaires sent to responders were found. This accounts for 99.3 percent of all questionnaires received.

4.2. Descriptive Analysis

For this study, 150 questionnaires were sampled, of which 149 were collected and analyzed. There were 149 people in total, with 89 men (59.7%) and 60 women (40.3%). The demographics of the respondents revealed that 112 of them, or 75.1 percent, were between the ages of 26 and 55.

Table 2: A Summary of Demographic Background of Respondents

Please indicate your gender.		
	Frequency	**Percentage**
Male	89	59.7%

Female	60	40.3%
Total	**149**	**100%**
Please indicate your age (years).		
18 – 25 years	22	14.8%
26 – 35 years	44	29.5%
36 – 45 years	40	26.8%
46 – 55 years	28	18.8%
56 - above	15	10.1%
Total	**149**	**100%**
What is your highest level of education?		
Basic level	10	6.7%
High school level	44	29.5%
Diploma/Bachelor	52	34.9%
Professional certificate	36	24.2%
Master/Doctorate	7	4.7%
Total	**149**	**100%**
How many years have you been in the agribusiness operation?		
Less than 1 year	16	10.7%
1 – 3 years	53	35.6%
4 – 6 years	37	24.8%
7 – 9 years	24	16.1%
10 years and above	19	12.8%
Total	**149**	**100%**
How would you rate your agribusiness firm's innovativeness?		
Excellent	39	26.2%
Very good	51	34.2%
Good	35	23.5%
Poor	19	12.8%
Very Poor	5	3.3%
Total	**149**	**100%**

Source: Authors' Construct, 2021

The majority of the five agribusiness managers and employees (132, 88.6%) have a high school diploma, diploma, or bachelor's degree. Eighty (80) respondents, or 53.7 percent, have worked in the agro industry for more than four years. One hundred twenty-five (125) people, or 83.9 percent, ranked their company's innovativeness as good and above.

Table 3: A Summary Statistics of the Likert scale items under study.

Variables	N	Minimum	Maximum	Mean	Std. Dev.
Identifying new business opportunities	149	2	5	3.8942	0.8964
Understanding market	149	3	5	4.5396	0.8466
Target market	149	2	5	4.0835	0.9138
Meeting existing market demand	149	2	5	3.9974	0.8834
After sales service	149	3	5	3.8939	0.7596
Agribusiness performance	149	2	5	4.3821	1.3923

Source: Author's construct, 2021

The summary statistics for the Likert scale items under investigation are shown in Table 3. The average mean for each construct was more than 4, indicating that majority of the questions related with each construct were agreed upon by respondents.

4.3. Internal Consistency and Validity Analysis

The variable metrics can be factored with satisfactory sample adequacy if the KMO value is 0.8867. The BTS (Bartlett's Test of Sphericity) was likewise significant, indicating that the factor analysis fits the criteria for moving forward.

Table 4: KMO and Bartlett's Test of Sphericity

Kaiser-Meyer-Olkin measure of sampling adequacy (KMO)		**0.8867**
Bartlett's Test of Sphericity (BTS)	Approx. Chi-square	91467.279
	df	271
	Sig.	0.000

Source: Author's construct, 2021

The Cronbach alpha values revealed that all values were greater than the lower bound threshold of 0.70, indicating evidence of internal consistency in our measurement variables. Furthermore, our AVE values above the 0.50 level demonstrate that our data complies with the convergent validity concept.

Table 5: Reliability and Validity Test

Variables	**Cronbach Alpha**	**Convergent Validity (AVE)**
Identifying new business opportunities	0.747	0.511
Understanding market	0.720	0.529
Target market	0.792	0.567
Meeting existing market demand	0.823	0.556
After sales service	0.717	0.509
Agribusiness performance	0.834	0.621

Source: Author's construct, 2021

4.4. Exploratory Factor Analysis

In this research, orthogonal extraction with varimax was chosen appropriate since it was deemed necessary to reduce a large number of variables to a small number of uncorrelated variables (see Table 6).

Table 6: Total variance explained (extraction method: principal component analysis).

	Initial Eigen Value			Extraction Sum of Square Loadings			Rotation Sums of Square Loadings		
Component	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	8.849	49.160	49.160	8.849	49.160	49.160	3.825	21.248	21.248
2	2.128	11.822	60.982	2.128	11.822	60.982	3.533	19.630	40.878
3	1.344	7.468	68.450	1.344	7.468	68.450	2.475	13.751	54.630
4	1.062	5.900	74.350	1.062	5.900	74.350	2.463	13.682	68.312
5	0.830	4.609	78.958	0.830	4.609	78.958	1.916	10.646	78.958

Source: Author's construct, 2021

Note: Other variables from 6 - 14 have an initial Eigenvalues (total) change between 0.653 and 0.146.

Varimax rotation was used to reduce variables with large factor loadings in order to improve factor interpretation. In the principal component analysis, five (5) factors with eigenvalues > 1.0 explained 78.958 percent of the total variance.

Table 7: Factor Loadings

Construct	Indicators	Loadings
Identifying new business opportunity	BO 1	0.745
	BO 2	0.729
Understanding market	UM 1	0.749
	UM 2	0.736
Target market	TM 1	0.669
	TM 2	0.791
Meeting existing market demand	MD 1	0.789
	MD 2	0.877
After sales service	SS 1	0.711
	SS 2	0.748
Agribusiness performance	IP	0.798
	FP	0.702

	MP	0.867
	OP	0.801

Source: Author's construct, 2021

Note: IP denotes innovative performance, FP denotes financial performance, MP denotes marketing performance and OP denotes organizational performance.

The factor loadings on each of our constructs are shown in this table. All of the factors were significant ranging from 0.669 to 0.877, and with p-values < 0.005.

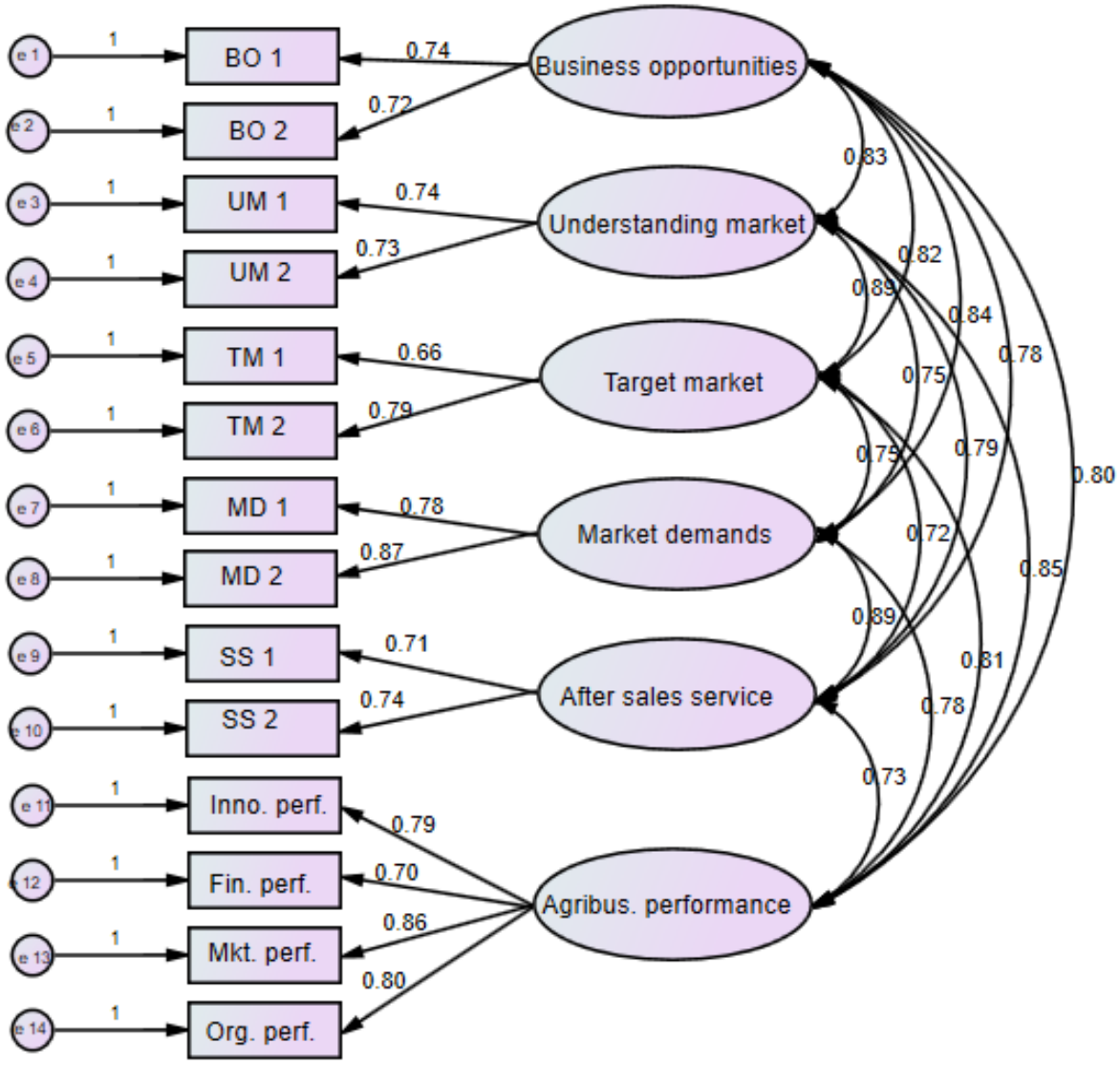

Figure 3: Confirmatory Factor Analysis (CFA)

Source: Authors' Construct, 2021

Table 8: Regression Weights (Group number 1-Default Model)

			Estimate	S. E	C. R	P
BO 1	<---	Identifying new business opportunities	0.711	0.021	34.347	***
BO 2	<---	Identifying new business opportunities	0.749	0.019	49.896	***
UM 1	<---	Understanding market	0.723	0.017	51.377	***
UM 2	<---	Understanding market	1			
TM 1	<---	Target market	0.895	0.019	39.356	***
TM 2	<---	Target market	1			
MD 1	<---	Meeting existing market demand	0.814	0.026	30.754	***
MD 2	<---	Meeting existing market demand	0.951	0.024	40.678	***
SS 1	<---	After sales service	0.818	0.023	35.576	***
SS 2	<---	After sales service	0.741	0.036	33.423	***
Inno. Perf.	<---	Agribusiness Performance	0.789	0.023	40.201	***
Org. Perf.	<---	Agribusiness Performance	0.741	0.036	36.420	***
Mkt. Perf.	<---	Agribusiness Performance	1			
Fin. Perf.	<---	Agribusiness Performance	0.775	0.021	34.256	***

Source: Authors' Construct, 2021

All values in our construct were significant with p-values less than 0.05, according to our unstandardized regression weights.

Table 9: Standardized Correlation Results

	BO 1	BO 2	UM 1	UM 2	TM 1	TM 2	MD 1	MD 2	SS 1	SS 2	IP	OP	MP	FP
BO 1	0													
BO 2	.436	0												
UM 1	.348	.325	0											
UM 2	.342	.289	.228	0										
TM 1	.239	.382	.231	.309	0									
TM 2	.129	.378	.387	.214	.289	0								
MD 1	.389	.298	.325	.231	.067	.201	0							
MD 2	.478	.261	.312	.391	.058	.219	.178	0						
SS 1	.298	.189	.355	.237	.203	.384	.213	.169	0					
SS 2	.234	.229	.243	.185	.144	.293	.271	.187	.171	0				
IP	.323	.273	.276	.292	.316	.231	.180	.198	.212	.248	0			
OP	.228	.152	.314	.163	.241	.290	.320	.221	.124	.119	.239	0		
MP	.286	.206	.212	.196	.321	.312	.295	.210	.129	.184	.134	.048	0	
FP	.233	.329	.179	.121	.291	.189	.185	.212	.115	.198	.257	.235	.120	0

Source: Authors' Construct, 2021

Our model revealed that our standardized residual covariance follows a conventional normal distribution, with the majority of the values falling within the range of two (2) in absolute value.

Table 10: Goodness-of-fit indices

Goodness of Fit	Construct	Reference Value

λ^2/degree of freedom	2.732	1< λ^2/df<5
CFI (comparative fit index)	0.969	0.95<CFI<1
NFI (normed fit index)	0.941	0.90<NFI<1
RFI (relative fit index)	0.938	0.90<RFI<1
IFI (incremental fit index)	0.966	0.95<IFI<1
TLI (tucker-Lewis fit index)	0.974	0.95<TLI<1
RMSEA (root mean square error)	0.030	RMSEA<0.08

Source: Author's construct, 2021

The goodness-of-fit indices calculated using maximum likelihood estimation are shown in Table 10. The variance-covariance matrix generated by guaranteeing sample correspondence was used to calculate the goodness-of-fit index. The value of 2.732 for the 2/degree of freedom corresponds to the general rule of 1 2/df, with the higher number indicating a better match. Because the numbers were all closer to 1, the CFI (comparative fit index), NFI (normed fit index), RFI (relative fit index), IFI (incremental fit index), and TLI (Tucker-Lewis fit index) all reported a very good fit. Finally, the RMSEA score of 0.0030 < 0.08 indicates that the model fits well.

Table 11: Structural Model Path coefficients

			Estimate	S. E	C. R	P
Agribusiness performance	<---	Identifying new business opportunity	0.621	0.020	50.487	***
Agribusiness performance	<---	Understanding market	0.832	0.021	46.091	***
Agribusiness performance	<---	Target market	0.721	0.018	38.269	***
Agribusiness performance	<---	Meeting existing market demand	0.819	0.023	49.630	***
Agribusiness performance	<---	After sales service	0.628	0.020	41.315	***
R-squared 0.81						

Source: Author's construct, 2021

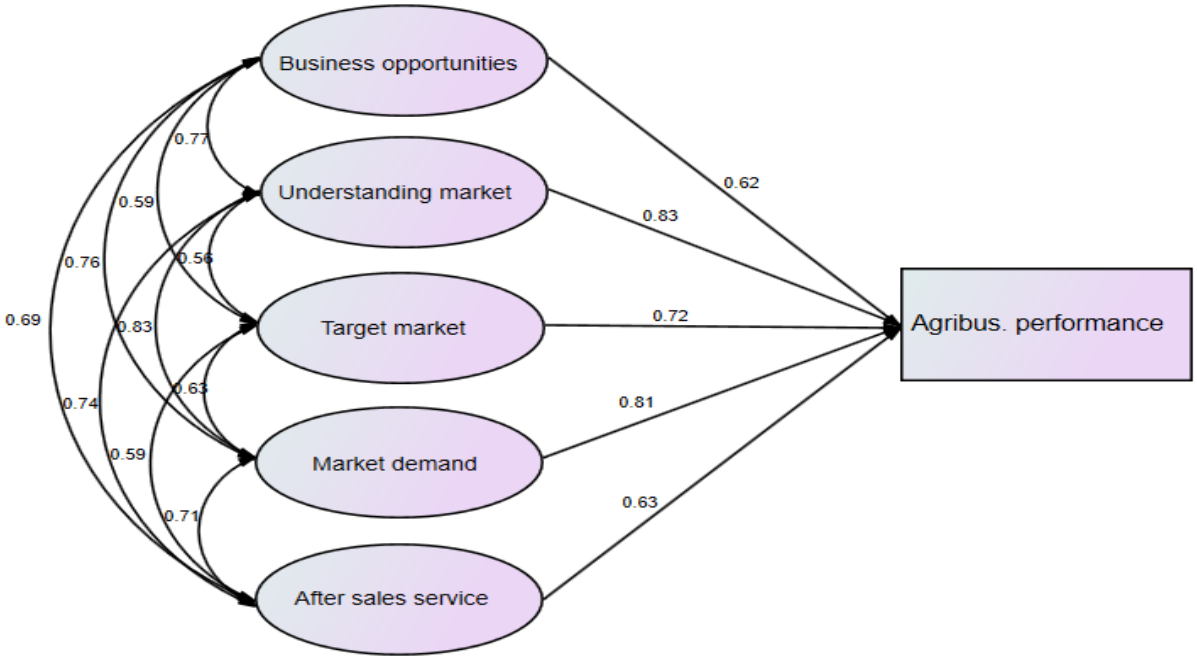

Figure 4: Regression model

Source: Authors' Construct, 2021

This structured approach assesses the impact of market innovation on agribusiness performance (i.e., creating new business opportunities, analyzing the market, defining a target market, meeting existing market demand, and providing after-sales support) (innovative, market, organizational and financial). For our structural model, Table 11 displays the standardized and unstandardized path estimates, as well as the p-values. Our relationship analyses with p-values less than 0.05 were all supported. This adds to the evidence that developing new business opportunities, understanding the industry, defining a target market, meeting existing market demand, and providing after-sales service all help agribusinesses succeed better. Understanding the market is viewed as the most influential determinant on agriculture performance, according to regression estimations. Agribusiness performance improves when existing market demand, target market, after-sales service, and new business opportunities are met. Finally, the r-squared value of 0.81 indicates that the predictor variables account for 81 percent of the variance in the preceptors.

5. Discussions

Every organization is attempting to create both internal and external market linkages/market segments/customer focus/ideas and knowledge sources in order to meet the demands of customers while maintaining a competitive advantage (Chuwiruch, Jhundar-Indra and Boonlua, 2015; Nieves and Diaz-Meneses, 2016). Previous research on the relationship between marketing innovations and firm performance has found that marketing innovation strategy helps firms improve marketing outcomes and performance (Elliott, 2012; Chuwiruch, Jhundar-Indra and Boonlua, 2015; Zhao *et al.*, 2015; Mirzaei, Micheels and Boecker, 2016; Ho *et al.*, 2018; Zhu, Ang and Fredriksson, 2019). Innovation has been a prevalent subject for planning, designing, and developing manufacturing processes and services put into the market to successfully adapt to customers' expectations due to rapid changes in technology and environment (Łobos and Szewczyk, 2018). As a result, businesses are attempting to develop new products and tactics in order to maintain their competitive advantage (Mendes-Da-Silva, 2017). In light of this, we investigated the impact of market innovation methods on agriculture performance.

When it came to the structural equation model we employed for our confirmatory study, our normalized correlation matrix revealed that variables with low factor loadings were excluded. This is based on the fact that the variable (TM 1, which indicates that our organization can provide excellent service to its target markets) has factor loadings of less than 0.70. Because all of the values in our normalized correlation weight table were less than two (2) in absolute value, there was evidence of standard normal distribution. It was consequently possible to look at the model fit data in AMOS to verify for our model fit indices after satisfying the existence of normal distribution in our correlation matrix. The λ^2/degree of freedom. CFI (comparative fit index), NFI (normed fit index), RFI (relative fit index), IFI (incremental fit index), TLI (Tucker-Lewis fit index) and RMSEA (root mean square error) all showed the existence of good or better fit when compared to the reference value in Table 6.10.

We used regression in AMOS to portray the link between market innovation techniques and agriculture performance in order to confirm it. For all of our six (6) observed variables, regression weights were found for all of the variables under each of the constructs and stored into one variable. Our standard coefficient value of 0.020 indicated the existence of a direct association between the factors when analyzing recognizing new business opportunities to agribusiness performance. Despite this, we were able to acquire a p-value of 0.00, so achieving our initial relationship goal. Our second relational objective (market understanding

and agribusiness performance) yielded a p-value of 0.00 and a normalized coefficient of 0.021, indicating that market understanding and agribusiness performance are related.

Furthermore, with a positive coefficient of 0.018 and a p-value of 0.00, our third relationship goal (target market to agribusiness performance) was also validated. This suggests that the target market influences agribusiness performance in a good way. With a positive coefficient of 0.023 and a p-value of 0.00, the fourth relationship objective (matching existing market demand and agribusiness performance) was also supported. Similarly, addressing existing market demand boosts agribusiness performance, which is our third relational purpose. Finally, with a positive coefficient of 0.020 and a p-value of 0.00, the fifth relational aim (after-sales service and agribusiness performance) was also supported. This also means that after-sales service boosts farm productivity. Despite the fact that all of our hypotheses demonstrated a direct association between the variables, our standardized coefficient values were clearly inadequate.

6. Conclusion and Recommendation

The effect of market innovation methods on agribusiness performance in Ghana was investigated using a sample of 150 people from five agribusiness enterprises in four different regions. The impact of market innovation methods on agriculture performance was explained using a conceptual framework. Our regression table results suggest that our variables are supported, despite the fact that our standardized coefficient values are relatively low. The following are some of the key recommendations made in this paper: Agribusiness stakeholders should be aware of local market demands and establish a joint strategy to address them. It would be shortsighted for a company to overlook the marketing department's potential for innovation. Even if the new products are not based on technology innovation, innovative product design, packaging, and pricing, advertising, and distribution methods might be a promising source of new product performance. Prudent managers should weigh the potential for innovation from research and development, as well as marketing, and invest more significantly in the department with the highest potential.

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