

ENTREPRENEURIAL MARKETING, TECHNOLOGY AND BUSINESS PERFORMANCE OF RENEWABLE ENERGY FIRMS: EVIDENCE FROM DEVELOPING ECONOMY.

Abstract

The study utilised quantitative research design and a correlational technique of investigation to explore the relationship between entrepreneurial marketing (EM), technology, and business performance of renewable energy enterprises in Nigeria, Port Harcourt to be precise. Port Harcourt's population is made up of 21 energy companies. The study used census sampling and examined all 21 businesses with a focus on the owners and management. Statistical Package for Social Sciences (SPSS) version 23 was used to calculate the instrument's dependability, which was found to be 0.88 points greater than the benchmark of 0.7. Descriptive and inferential statistics were used to analyse the data that were gathered for this study. The Statistical Software for Social Sciences (SPSS) version 23.0 was used to generate the various hypotheses, and the Pearson Product Moment Correlation Method was used to test them. The results showed that EM dimensions of innovation and value creation had a positive, significant, and strong relationship with business performance; network attention showed positive, moderate, and significant relationship with business performance. Technology does not significantly moderate the relationship between entrepreneurial marketing and business performance of renewable energy firms in Port Harcourt. The study recommends that managers or owners of renewable energy firms are required to focus more innovations because through innovations they will enter new markets; they should also create value for customers by improving the quality of the products produced and, they should build network attention with stakeholders and other business partners.

Keywords: Entrepreneurial Marketing, Innovations, Value Creation, business performance & renewable energy

Introduction

Due to environmental pollution and ozone layer depletion, there is an urgent need for renewable energy products. Many countries have begun to build power generation facilities that use renewable energy sources. The significance of alternative energy sources is linked to climate change challenges caused by the excessive use of fossil fuels. Energy security, economic impacts, and carbon dioxide emission reduction are the three primary motivators driving the growth of renewable energy technologies. The term "alternative energy" refers to any form of energy other than traditional energy sources, such as hydropower, wind power, and solar power (Shahrouz et., al., 2014).

Renewable energy sources have received a lot of attention in recent years. Entrepreneurial marketers must capitalize on this business opportunity and improve their results. Entrepreneurial marketing is defined as a marketing activity based on an entrepreneurial perspective that is focused on a view of an entrepreneur's worth, aptitude, ability, and behaviour in dealing with a variety of issues connected to securing business opportunities. (Sadiku-Dushi et al., 2019; Amjad et al., 2020; Adel et al., 2020). This concept focuses on the role of entrepreneurs in marketing and business

performance improvement and aims to incorporate the best from an entrepreneurial and marketing approach. (Sarwoko & Nurfarida, 2021; Asgari, 2019).

Every company's goal is to improve business performance regardless of size or industry. Because it is a proven approach to accomplish organizational growth and survival, every organisation aspires to increase business performance. Small businesses that can maintain an upward trend in performance have a higher chance of thriving in a competitive market. Such a company can expect massive revenue growth, allowing it to expand its business operations and increase its asset base (Craig, 2010). The key to unlocking the door to company growth is enhancing business performance. A business can increase its assets and income if it can consistently enhance its operational efficiency. Increasing market share (client base), profit margin, customer satisfaction, customer loyalty, and customer retention are all necessary to improve business performance and obtain a competitive edge in the marketplace. (Ellickson, 2015).

Entrepreneurial marketing can be a powerful tool for improving the financial performance of renewable energy companies. According to Otika et al. (2019), one of the key ingredients for superior performance and global competitiveness in small and medium-sized enterprises is entrepreneurial marketing. According to Oluwatoyin and Badamasi (2015), an individual who engages in entrepreneurship and practices entrepreneurial marketing will become successful in business, capitalize on market opportunities, provide superior value to customers, increase customer patronage, maximize profitability, and expand his or her business operations. This study examines the relationship between entrepreneurial marketing, technology, and business performance of renewable energy firms in Port Harcourt against this backdrop.

Statement of the Problem

The supply of inexpensive and clean energy is one of the 17 sustainable development goals that most African nations, including Nigeria, place a high priority on. The rapid population growth, expansion of small-scale companies, and local technological innovations have all contributed to an increase in energy consumption in African nations throughout time. Nigeria, the most populous black country in the world with a population of almost 200 million, has a huge demand for this product. Sadly, this desire is rarely satisfied due to Nigeria's challenging access to affordable, clean energy. Poor health services, a slowdown in economic growth, inadequate research development, and socioeconomic imbalances all contribute to poverty and have all resulted in low business performance for renewable energy firms (Oyedepo, 2012). Renewable energy companies faced challenges such as low customer growth and market growth, which were exacerbated by a decline in economic growth and poor research development. Entrepreneurial marketing is thought to help renewable energy firms in **the research context** improve their business performance. This claim has been supported by many studies (e.g., Morris et al, 2002; Morrish et al, 2011; Oluwatoyin & Badamasi, 2015; Otika et al, 2019). However, it is unclear whether renewable energy firms in

Nigeria use entrepreneurial marketing effectively. This has created a gap in the literature, which this study aims to fill.

Conceptual Framework

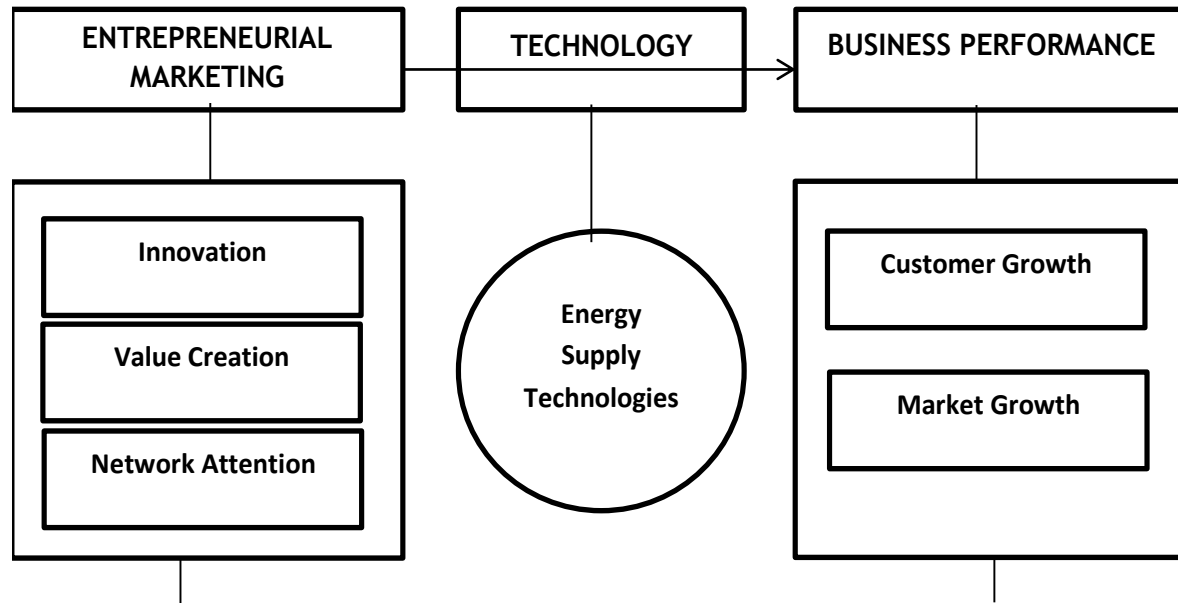


Fig.1.1: Conceptual framework of entrepreneurial marketing, technology and business performance.

Source: Sudirman (2022); Alqahtani & Uslay, 2020; Sadiku-Dushi et al., 2019.

Aim and Objectives of the Study

The study examined the relationship between entrepreneurial marketing, innovation, network, and business performance of renewable energy firms Port Harcourt, Nigeria. The objectives of this study includes:

- i. To investigate the relationship between innovation and customer growth of renewable energy firms.
- ii. To investigate the significant relationship between network attention and customer growth of renewable energy firms.
- iii. To determine the relationship between network attention and market growth of renewable energy firms.

Review of Related Literature

Concept of Entrepreneurial Marketing

The process of selling products and services to as-yet unexplored market groups and surroundings of interest is known as entrepreneurial marketing. The two most crucial components in the entrepreneurial marketing environment are the entrepreneur and the client or consumer. (Morrish, 2010). To fulfil market needs, desires, and possibilities in a novel or unusual way, entrepreneurial marketing entails doing something new with ideas, commodities, services, or technology and refining these ideas, goods, and services to market segments and settings of interest. In addition to having an entrepreneurial mindset, it is marketing that is characterized by inventiveness, risk-taking, proactivity, and a desire to seize chances in the environment. (Kraus & Harms, 2010). To meet predetermined marketing goals and objectives, it also entails being innovative and creative in the marketing techniques and tactics employed by businesses to meet the needs and wants of target market groups in certain marketing contexts. This can be done by making relevant product decisions, situating the product in unique places, promoting it through unconventional methods, uniquely pricing the product, among other marketing practices and strategies for specific market segments of interest in marketing environments. Therefore, market segments, marketing environment, creative and innovative marketing practices and strategies, and achievement of set marketing goals are the salient interrelated issues in entrepreneurial marketing.

Dimensions of Entrepreneurial Marketing

Innovative marketing is described as the industry's implementation of clear marketing innovation strategies, marketing communications, and cost efficiency to face market and business competitiveness. (Alqahtani et al., 2022; Alqahtani & Uslay, 2020; Hoque & Awang, 2019; Sahid & Hamid, 2019; Sadiku-Dushi et al., 2019). **Network attention** is an effort to develop relationships better than competitors' by focusing on partner's needs and incorporating all stakeholder interests. (Alqahtani et al., 2022; Alqahtani & Uslay, 2020). **Value creation** is generating value by involving all parties, including partners and customers. Value creation can be accomplished through ensuring employees are able to give the highest level of customer service, enhancing the quality of the items produced, setting prices that can provide customers with value, and understanding the significance of customer satisfaction. (Sadiku-Dushi et al., 2019; Alqahtani & Uslay, 2020). These are the three dimensions of entrepreneurial marketing identified in this study.

Business Performance

Business performance refers to how well a company is doing in terms of increasing sales, increasing market share in the face of competition, and increasing profitability (Akdogan, 2018). It is the outcome of a company in comparison to its goals for a specific period. Business

performance is typically measured in three areas: operational performance, market performance, and financial performance (Richard et al, 2009). Operational performance is measured in terms of productivity (quantity and quality of output), operational efficiency, employee efficiency, and employee commitment, according to Richard et al (2009). Sales and market share are used to assess market performance, whereas cash inflow, profit, return on investment, and return on assets are used to assess financial performance (Richard, et al 2009).

A company's business performance is typically measured to determine if it is making progress. According to Sirgy and Lee (2008), every firm, regardless of size, measures its business performance on a regular basis to determine where it is making progress in relation to its set goals and where it needs to improve. Only by measuring a company's business performance can it determine if it is growing. When a company realizes that it is making progress in business after measuring its business performance in terms of **customer growth** and **market growth** for a given period, it will try to maintain or exceed that performance in future endeavours; however, if the company discovers that its business performance falls short of its set goals, it will make efforts to improve on its current performance (Ellickson, 2015). Customer growth is the acquisition of new customers, whereas market growth is the acquisition of new markets, and both are used to measure business performance in this study.

Energy Supply Technologies

The supply of renewable energy keeps growing. Recent years have seen significant investment, and the development of technology has made it possible for nations to produce renewable energy more profitably. By 2017, there will be a considerable increase in the number of nations producing more renewable energy than 100 megawatts (MW) (IEA, 2012d). It is important to encourage and develop renewable energy supply technologies since there are some unfavourable and irreversible consequences associated with conventional energy production. In terms of production costs, these technologies might not be comparable to conventional fuels, but if we factor in their associated consequences, such as their effects on the environment and society, they might be. It should be emphasised that economies of scale may be a major factor in lowering the cost per unit of manufacturing. The costs of transmission and distribution, as well as technological advancements, are similar for both conventional and renewable energy sources. The primary technologies for supplying renewable energy are described in detail below. Energy supply technology is positioned in this study as a moderator variable of the impact of entrepreneurial marketing on business performance. The goal is to ascertain whether energy supply technology can enhance or reduce the impact of entrepreneurial marketing on company performance.

Empirical Review

S/N	Author and Date	Title	Methodology	Location	Findings
1	Hisham (2022).	Mediating effect of entrepreneurial orientation on the impact of knowledge management processes on successful organizational performance.	The study sample consisted of (150) senior and middle administrations, and (250) employees.	Jordan	The result revealed that there is an impact of knowledge management on the organizational performance in the pharmaceutical industry. Furthermore, there is an impact of knowledge management on entrepreneurial orientation.
2	Sudirman (2022).	Market turbulence's role in moderating the relationship between entrepreneurial marketing and marketing performance in tuna fillets SME industries.	The population of this research is all the managers or owners of the fillets tuna industry in both cities, which amount to 118 industries, 73 tuna fillet SMEs industry in Kendari City, and 45 in Baubau City.	Indonesia.	The study results also indicate that the dimensions of entrepreneurial marketing partially affect marketing performance. Market turbulence has a positive moderating role in the relationship between entrepreneurial marketing and marketing performance.
3	Nusron et al. (2022).	The effect of entrepreneurial characteristics, intellectual agility, and business environment on entrepreneurial behaviours in selling online.	The population in this study were embroidery entrepreneurs in Pasuruan, East Java, who do business online. The sample used in this study was	Pasuruan, East Java	The results showed that entrepreneurship, intellectual agility, and the business environment significantly affected entrepreneurial

	180 respondents, and the sampling technique was purposive sampling.	behaviour in selling online.
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Methodology

The study adopted quantitative research design using a correlational method of investigation. The population consists of 21 energy firms in The study context; obtained from www.finelib.com/cities/port-harcourt/business/energy-and-environment. The study adopted census sampling and studied the entire 21 firms with focus on owners/managers. The reliability of the instrument was determined using the Cronbach's alpha test with the aid of Statistical Package for Social Sciences (SPSS) version 23 and it stood at 0.88 higher than the benchmark of 0.7. The data collected for this study were analysed through descriptive and inferential statistics. The Pearson Product Moment Correlation Technique was employed to test the various hypotheses formulated through the aid of Statistical Package for Social Sciences (SPSS) version 23.0.

Data Analysis and Presentation

Questionnaire Distribution and Retrieval

Issued	21
Returned	18
Useful	18

Source; survey Data, 2023

The table above shows the questionnaire distribution and retrieval. The researcher issued 21 copies of the questionnaire and retrieved 18 copies. This represent 85% response rate and it was considered significant for the study.

Hypothesis 1

Ho₁: There is no significant relationship between innovation and customer growth of renewable energy firms in The study context.

			innovation	customer growth
Pearson	innovation	Correlation Coefficient	1.000	.713*
(r)		Sig. (2 tailed)	.	.001
		N	18	18

customer growth	Correlation Coefficient	.713*	1.000
	Sig. (2 tailed)	.001	.
	N	18	18

Correlation is significant at 0.05 levels (2 tailed)

Source: SPSS-generated Output

The table above presents the result of the bivariate analysis between innovation and customer growth of renewable energy firms. The result shows that innovation is strongly and positively correlated to customer growth of renewable energy firms having ($r = .713^*$) and this correlation is significant at 0.05 level as indicated by the symbol *. As a result of this, we then reject the null hypothesis (H_{01}) and accept the alternate hypothesis which states that there is strong positive and significant relationship between innovation and customer growth of renewable energy firms.

Hypothesis 2

H_{05} : There is no significant relationship between network attention and customer growth of renewable energy firms.

			network attention	customer growth
Pearson (r)	network attention	Correlation Coefficient	1.000	.527**
		Sig. (2 tailed)	.	.001
		N	18	18
	customer growth	Correlation Coefficient	.527**	1.000
		Sig. (2 tailed)	.001	.
		N	18	18

**Correlation is significant at 0.01 levels (2 tailed)

*Correlation is significant at 0.05 levels (2 tailed)

Source: SPSS-generated Output

The table above presents the result of the bivariate analysis carried out between network attention and customer growth of renewable energy firms. The result shows a moderate positive correlation between network attention and customer growth of renewable energy firms ($r = .527^{**}$) and this correlation is significant at 0.01 level as indicated by the symbol **. As a result of this, we then reject the null hypothesis (H_{05}) and accept the alternate hypothesis which states that there is moderate positive and significant relationship between network attention and customer growth of renewable energy firms in the study context.

Hypothesis 3

H_{06} : There is no significant relationship between network attention and market growth of renewable energy firms.

			network attention	market growth
Pearson (r)	network attention	Correlation Coefficient	1.000	.717**
		Sig. (2 tailed)	.	.001

	N	18	18
market growth	Correlation Coefficient	.717**	1.000
	Sig. (2 tailed)	.001	.
	N	18	18

**Correlation is significant at 0.01 levels (2 tailed)

*Correlation is significant at 0.05 levels (2 tailed)

Source: SPSS-generated Output

Table 4.18 presents the result of the bivariate analysis carried out between network attention and market growth of renewable energy firms. The result indicates that network attention has a strong positive correlation with market growth of renewable energy firms ($r = .717^{**}$) and this correlation is significant at 0.01 level as indicated by the symbol **. Consequently, the null hypothesis (H_{06}) is rejected, and the alternate hypothesis is accepted. This means that there is strong positive and significant relationship between network attention and market growth of renewable energy firms.

Summary of Findings

- i. There is significant and strong relationship between innovation and customer growth of renewable energy firms.
- ii. There is significant and moderate relationship between network attention and customer growth of renewable energy firms.
- iii. There is significant and strong relationship between network attention and market growth of renewable energy firms in.

Discussion of Findings

According to the research findings, entrepreneurial marketing dimensions exhibit a significant relationship with the business performance of renewable energy firms, aligning with prior studies conducted by Alqahtani et al. (2022), Sudirman (2022), Nurfarida (2021), Dhameria et al. (2021), Rezvani & Fathollahzadeh (2020), and Sadiku-Dushi (2019) that have all concluded the positive impact of entrepreneurial marketing on performance.

Specifically, the dimension of innovation demonstrates a significant and positive association with the business performance of renewable energy firms. Sudirman's (2022) study on tuna fillets SME's industries in Southeast Sulawesi supports this finding, highlighting the significant relationship between innovation and marketing performance within the entrepreneurial marketing framework. Therefore, innovation emerges as a key driver of success for renewable energy firms. Moreover, value creation displays a significant and positive correlation with the business performance of renewable energy firms in developing economies. This finding is consistent with Alqahtani and Usday's (2020) study, which emphasizes that value creation can be achieved through various strategies such as providing maximum customer service, enhancing product quality, setting prices that offer customer value, ensuring employees deliver exceptional service, and recognizing

the importance of customer satisfaction. By focusing on value creation, renewable energy firms can enhance their performance and competitiveness in developing economies.

Furthermore, network attention exhibits a significant and positive relationship with the business performance of renewable energy firms. Sudirman's (2022) study suggests that firms must prioritize stakeholder interests and establish superior partnerships to anticipate changes in the market structure in order to build network attention. This finding underscores the importance of active stakeholder engagement and strategic alliances for renewable energy firms, enabling them to adapt effectively to market dynamics and improve their business performance.

Theoretical Implications

The theoretical implications derived from the research study shed light on the relationship between entrepreneurial marketing dimensions and business performance in renewable energy firms. The dimensions of innovation, value creation, and network attention were found to have significant positive effects on business performance. These findings emphasize the importance of fostering innovation, creating customer value, and building strategic networks within the renewable energy sector. By embracing entrepreneurial marketing principles and leveraging these dimensions, renewable energy firms can enhance their competitiveness, drive business performance, and contribute to a sustainable energy future.

Conclusion and Recommendations

The study examined the relationship between entrepreneurial marketing, technology, and business performance of renewable energy firms in Egypt. From the bivariate analysis carried out, it was observed that EM dimensions of innovation and value creation showed positive, strong, and significant relationship with business performance; network attention showed positive, moderate, and significant relationship with business performance. Technology does not significantly moderate the relationship between entrepreneurial marketing and business performance of renewable energy firms. For this reason, managers or owners of renewable energy firms are required to focus more on innovations because through innovations they will enter new markets; they should also create value for customers by improving the quality of the products produced and, they should build network attention with stakeholders and other business partners.

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