



## Stakeholder Green Pressure and Green Innovation among selected Bakery and Confectionary Firms in Minna, Niger state

Shehu Ahmad Lawal<sup>1</sup> & Abdullahi Ndagi<sup>1</sup>

<sup>1</sup>Department of Business Administration, Ibrahim Badamasi Babangida University, Lapai  
Corresponding Author's Email: [ndagiabd@ibbu.edu.ng](mailto:ndagiabd@ibbu.edu.ng)

---

### Abstract

The main objective of the study is to examine the influence of stakeholder green pressure on green innovation. The study is predicated on quantitative analysis. The population include selected bakery and confectionary firms in Minna, Niger state. Stratified sampling technique was used to select sample of 148. The data were collected using questionnaire. The technique of data analysis is multiple regression. Findings of the study reveals that stakeholder green pressure have significant influence on green innovation. The sub variables of stakeholder green were significant in order of academia green pressure (.000), customer green pressure (.000), community green pressure (.000) and government green pressure (.000). The study concluded that academia green pressure, customer green pressure, community green pressure and government green pressure have significant influence on green innovation. Therefore, the study recommends that managers should take the responsibility of paying attention different stakeholder pressures. Specifically, firms should implement green process to deal with government green pressure, green products (as per requirement) to deal with customer green pressure and both green product and process to deal with academia and community green pressure.

**Keywords:** Academia green pressure, customer green pressure, community green pressure, government green pressure, green innovation

---

### Introduction

Environmental issues have put firms under pressure to focus on green innovation to develop sustainable processes. Green innovation is not the responsibility of business owners only, stakeholders can be an important source of innovation for businesses, and research focusing on open innovation is investigating the ways firms can take advantage of this (Singh et al., 2022). Stakeholder pressure refers to the power and ability of stakeholders to influence a firm's decisions (Singh et al., 2022). Stakeholder pressure simple put is the general external pressure given by environmental regulations and green customer needs Rimbawanto et al., 2023). Stakeholder pressure offer a valuable source of social, knowledge and human capital that may enhance green products performance (Leonidou, Christofi et al., 2025).

Stakeholders pressure (from Academia, customers, community and government) have influence on green innovation and forces firms to be resilience in developing and renewing their capabilities in green practices and customer relationship management (Singh et al., 2022). Stakeholder engagement in identifying, understanding, and responding to sustainability issues enables organizations to achieve their goals (Bello-Pintado et al., 2023). Pressures from stakeholders are perceived differently and consequently have different effects on the strategy that



is designed (Bello-pintado et al., 2022). Hence, firm responses to the stakeholder perceived with more pressure rather trying to balance the pressures (Erasmia et al., 2020). Distance with the firm and stakeholders plays significant role in green innovation, with most pressure for sustainability perceived to come from those closest to day-to-day plant operations (customers) (Zhang & Zhu, 2024).

Green innovation assist firms in adapting to change and discovering new possibilities; it provides better goods and services that help businesses in achieving competitive advantage. Hence, green innovation have significant effects on businesses function (Zheng et al., 2022). Green innovation consists of process and product innovation through improvements in manufacturing processes and product design (Zhang & Zhu, 2024). Green innovation's objectives are to reduce pollution, save energy, minimize waste, and decrease a firm's negative impact on the environment (Singh et al., 2022; Zhang & Zhu, 2024). It helps firms in achieving competitive advantage through product differentiation (e.g. green reputation) and waste minimization (e.g. cost effective production process). Green innovation offers a number of potential benefits, including improvements in production efficiency and cost, increased quality, opportunities for new marketing, access to new markets, government support and access to subsidies and tax rebates, price premiums, and the potential to gain a competitive advantage (Samuel et al., 2023).

Studies have used either stakeholder theory or RBV theory as theoretical lenses, rather than integrating them to analyse green innovation issues. This study integrates stakeholder theory and RBV to instigate the effects of stakeholder pressure on green innovation. Lack of integration of these theories have significant influence on green innovation literature (Singh et al., 2023). Sodhi (2015) proposed stakeholder resource-based view to integrate stakeholder theory and RBV. In this context a unique green innovation competitive advantage is potentialized by giving relevance to firms' stakeholders (Singh et al., 2021). Thus, this study is anchored in SRBV theoretical framework to understand the effect of stakeholder pressure and green innovation. Stakeholder pressure refers to action promoted by government, customer and other individuals who have influence on business operations. SRBV suggested that firm can improve it sustainability be considering it internal resource, core competencies and engagement with key stakeholders (Erasmia et al., 2020; Singh et al., 2021).

### **Problem Statement**

Firms used green innovation to prevent their activities from being harmful to the environment, society as well as stakeholders while maintaining maximum profit (Bello-Pintado et al., 2023). Literature identified stakeholder pressure as one of the instruments that drive green innovation. Evidence, suggests that stakeholder pressure have influence on green innovation adopted by firm by forcing them to comply with the laws and regulations guiding their operations. According to systematic literature review by Samuel et al. (2023), low- and middle-income firms in developing countries are heightened and remains under research compare to their counterparts in developed countries.



Furthermore, the priority of social concern over environmental sustainability and low munificence of firm's business environment couple with scarcity of internal resources (such as financial resources, equipment and skilled labour) heightened the eco-product innovation in developing country like Nigeria (Erasmia et al., 2020). Understanding of why and under what circumstances stakeholder pressures translate into eco-innovation and how such innovations yield superior product performance in developing countries is fragmented (Bello-Pintado et al., 2023). Yet, the factors that influence firm adoption and the subsequent effect on performance are less understood in a developing country context (Amuel et al., 2023). However, findings differ on how firms respond to these pressures. Some firms consider green innovation on the basis of most important pressure group (Singh et al., 2021).

In the same line, the current study has been motivated because of the following reasons(s). Firstly, past studies revealed the potential benefits of stakeholder pressure on green innovation but, the existing literature does not provide systematic analysis of the link between stakeholder pressure and green innovation. Hence, there is still gap on how stakeholder pressure translates in green innovation. Secondly, most of these studies were conducted in developed countries, the researcher did not find single study on the link between stakeholder pressure and green innovation particularly in developing country like Nigeria. Thus, there is gap in case study.

Thirdly, Bello-Pintado et al., (2023), examine the link between stakeholder pressure and sustainability practices such as green innovation and call for papers linking the stakeholder pressure and green innovation in different countries and industry. This calls for research to identify the underlying mechanisms boosting green innovation. It is also important to note that, despite the theoretical knowledge made by scholars on stakeholder green pressure in Nigeria, it appears that within the Niger state context, there is a dearth of studies that examine stakeholder green pressure especially on green innovation in some selected bakery and confectionery firms in Minna, Niger state. Prior studies focus on environmental performance in Anambra Rimbawanto et al., (2023), market performance in North east Nigeria Zheng et al., (2024) and performance and competitive advantage as mediating variable in Enugu (Maziriri & Chilya 2023). The above signifies that there is scarcity of research in relation to stakeholder green pressure and green innovation especially in Minna, Niger State. Therefore, the aim of this paper is to fill the gap by examining the effect of stakeholder green pressure influence on green innovation in Bakery and Confectionery Firms in Minna, Niger state, Nigeria.

### **Research Objectives**

The main objective of the study is to examine the influence of stakeholder green pressure on green innovation. The specific objectives are;

1. To investigate the influence of academia green pressure on green innovation in some selected bakery and confectionery firms in Minna, Niger state.



2. To examine the influence of customer green pressure on green innovation in some selected bakery and confectionery firms in Minna, Niger state.
3. To determine the influence of community green pressure on green innovation in some selected bakery and confectionery firms in Minna, Niger state.
4. To identify the influence of government green pressure on green innovation in selected bakery and confectionery firms in Minna, Niger state.

## **Literature Review**

### **Conceptual Review**

#### **Stakeholder Pressure**

Stakeholder refers to an individual or set of individuals who can affect or be affected by firms' operations Leonidou et al., (2025) in their entire value creation processes. Stakeholder pressure refers to the power and ability of stakeholders to influence a firm's decisions (Singh et al., 2022). Almagtome et al. (2020), argue that there are two reasons to integrate stakeholder interest with firm's sustainability practices. First the primary goal of business is sustainability by creating eco-friendly products. Secondly incorporating stakeholder interest will lead to the creation of economic value through support for sustainable development efforts. Stakeholder theory is that value creation for stakeholders can be made through high quality products, creating new jobs, pay taxes, or in the form of benefits for financial institutions (Bello-Pintado et al., 2023). In the sense of sustainability, this definition often refers to the development of environmentally friendly goods that could allow employees to feel proud of themselves within the business (Erasmia et al., 2020). By reducing the amounts of pollution, the firm can get qualified and motivated workers and supportive local community (Almagtome et al., 2020).

#### **Academia Pressure**

This refers to any person or entity operating within higher education industry that engage(s) on promoting innovation management. Higher education industry facilitates green practices by tailoring her education and training programmes towards preparing students to engage on green innovation. According to Leonidou et al. (2025), providing interdisciplinary business planning courses to students, use of digital education tools and methodologies enhance the development of sustainability capacity and knowledge of students in higher education.

Academia through principal investigators in universities act as technology intermediaries and enhance the interface between industry and academia by bridging structural holes and developing trust between the academia and industry via specific brokering actions (Leonidou et al., 2025; Jayaraman et al., 2023). The human capital are variety of scientific knowledge expertise and experiences that can be used in developing scientific strategies while, as a social capital it provides basis for building mutual relationship between the firm and members of his/her social networks (Erasmia et al., 2020; Leonidou et al., 2025).



### **Customers Pressure**

This implies pressure from all external customers that the firm has. Consumer pressure, refers to the extent to which consumers expect or pressure firms to improve their environmental performance (Zhang & Zhu, 2024). The interaction and collaboration with customers help the firm to identify flaw areas and correct them, thereby improving green practices (Leonidou et al., 2025). Customers have the greatest influence on adoption of green innovation. Customers with green motive value green products supplied by the firm with good environmental reputation and are willing to pay even extra for such product (Bello-Pintado et al., 2022). They added that customers seem to be a determinant of the implementation of practices and also to play an important role in the adoption of external practices. To tackle customer pressure, firms should exploit new business development opportunities and develop green products to satisfy their customers need (Zhang & Zhu, 2024).

### **Community Pressure**

The pressure here emanates from two sub-group i.e. physical and user environment. Physical environment simply means any social group that share common habit, behaviour and value. According to systematic literature review by Leonidou et al., (2025) physical environment plays moderating role by facilitating the chances of having an earlier communication about the innovation with members of the community. This allows the firms to have receive help, feedback or input from members of the community, which in turn improve the innovation processes. On the other side of the coin, user environment refers to group of individuals that serves as a knowledge pool for developing skills and experimenting with various commercialization paths (Erasmia et al., 2020).

The user environment allow firm to share their prototype with other members in the user community. These users serve as testers and provide fruitful feedback that guides product improvements (Leonidou 2025). Users often share their prototype innovations with the other members in the user community. Second, through the engagement of user community with potential entrepreneurs, higher levels of novelty can arise because of the collective creativity (Rimbawanto et al., 2023).

### **Government Pressure**

Policies in relation to labour, credit facilities as well as business operations that favour firms can enhance green innovation (Leonidou et al., 2025). These policies are necessary to translate scientific knowledge, expertise and experiences into green innovation. The fear of punishment, sanctions and among legal threats force firms to comply with legal statement by tailoring their internal sustainability practices towards reduction resources conservation, reduction in pollution as well as waste in manufacturing and adoption of green innovation practices (Bello-Pintado et al., 2022); Jayaraman et al., 2023). Where a firm is facing high regulation pressure, the best option is to implement green process innovation by collection of ISO certification (Zhang & Zhu, 2024).



Presence of low or inconsistent pressures from government and society, firms will not feel constrained to make products that harm the environment, and will have little awareness of potential benefits or resources to be gained. Greater pressures will result in an increased proactive strategic stance towards the integration of environmental concerns and practices into firms' strategic, tactical and operational activities (Leonidou et al., 2025). Increased pressures result in greater efforts to integrate environmental concerns and practices into strategic, tactical and operational activities. Accordingly, firms develop internal knowledge and capabilities to better understand and respond to their increased output constraints (Samuel et al., 2023).

The introduction of green innovation into an organization is regarded as one of the best approaches to improving environmental management performance and meeting environmental regulations, as it is a means of generating business opportunities. Governments typically assess firms by setting environmental standards or compelling them to use pollution-control technology to reduce their harmful impacts on the environment (Jayaraman et al., 2023).

### **Green Innovation**

Green innovation" (GI) referred to a type of invention whose primary goal was to lessen or stop environmental harm (Jayaraman et al., 2023). According to Zhang and Zhu (2024) green innovation can be group in two: product innovation and process innovation. This study concentrates on green products innovation as it's relate to product performance. Whilst other dimensions may also influence product performance, their relationship would be less direct (Samuel et al., 2023). Green innovation consists of green product innovation and green process innovation (Rimbawanto et al., 2023).

Product innovation differentiation is the key player here. Through green product innovation, firms develop high-quality and safe environment-friendly products (Zhang & Zhu, 2024). Process innovation on the other hand modify the manufacturing process to lessen the negative environmental impacts of their production processes (Zhang & Zhu, 2024). It aims towards energy-saving, pollution-prevention, waste recycling, no toxicity or green product designs. According to Rimbawanto et al. (2023), when firm invest in innovation and in product creation by carefully selecting the type of material to use to meet modern customers it will create environmentally friendly products and renewable energy will be maximized by minimizing emissions produced both directly and indirectly.

### **Theoretical Framework**

The study adopted Freeman (1984) stakeholder theory. The theory suggests that engagement and development of strong relationships with a wide variety of stakeholders is an important component of value creation in businesses, which enhances their chances of being successful. Green innovation is highly risky, due to financial commitment and usually benefits are seen in long run. As such, stakeholder theorists suggest that stakeholder pressures can act as the main



driver of firms' motivations to pursue green innovation (Zhang & Zhu, 2024). The RBV proposes that firms' need to possess internal resources with VRIN ((i.e., valuable, rare, inimitable and non-substitutable) to attained competitive advantage. These assets' facilities goal attainment (Bello-Pintado et al., 2022). These techniques are used to assess internal resources and core competencies to attain competitive advantage. Accordingly, primary contributors to firm's success are also resources and capabilities (Singh et al., 2021). Stakeholder's pressure force firms to implement and adapt environmentally friendly organizational actions stymie their progress toward green growth (Jayaraman et al., 2023).

Firms are looking for way to boost their sustainability practices to meet their stakeholders' demand due to the importance of stakeholders in green innovation implementation and adoption (Bello-pintado et al., 2023). The study adopted stakeholder and RBV theory. It posits that firm's success depends on effective management of its relationship with its stakeholders. The theory suggests stakeholders have numerous needs and anticipation and accordingly integration of these needs and anticipations will help to increase the trust and confidence needed to support the sustainability of the capital market can assist the firm in achieving its long-time goal (Almagtome et al., 2020).

### **Review of Empirical Studies**

By combining stakeholder theory and organizational learning theory, Zhang and Zhu (2024), explores whether environmental pressures from different stakeholders influence green innovation differently and how this is further mediated by organizational learning. From a sample of 259 Chinese manufacturing firms, the study find that consumer pressure has a greater positive effect on green product innovation than regulation pressure, whereas regulation pressure is more positively related to green process innovation than consumer pressure. Moreover, these two relationships are partially mediated by exploration learning and exploitation learning, respectively. The findings advance the existing research on the stakeholder pressures–green innovation linkage by revealing that consumer and regulation pressures influence green product innovation and green process innovation differently and through different organizational learning approaches.

Erasmia et al. (2020), examine an integrative framework of stakeholder engagement for innovation management and entrepreneurship development. The study used systematic literature review method. The systematic review was examined in four steps: 1) question formulation; 2) defining the review protocols; 3) analysis of the results (in terms of descriptive and thematic analysis), and; 4) data synthesis. The study suggests that entrepreneur's in-house capabilities in planning and implementing the innovation processes cannot be relied on to achieve sustainable competitive advantages. The interaction of entrepreneurs with their various stakeholders can therefore offer a valuable source of social, knowledge and human capital that may enhance entrepreneurs' success.



Leonidou et al., (2025), research on stakeholder engagement in innovation management and entrepreneurship development. The study systematically review the relevant literature published over the past 27years, and integrate the various prominent research perspectives into a preliminary, multi-dimensional and integrative framework of stakeholder engagement; thus, interlinking the antecedent role of stakeholder engagement for innovation management and subsequent entrepreneurship development. Through this methodologically systematic review and framework development, the study provides a more comprehensive and deeper understanding of the interaction between entrepreneurs and the various stakeholders, for enhancing innovation management and entrepreneurship development.

Bello-Pintado et al., (2023), analyzes the relationship between a set of individual stakeholder pressures (STP) from different groups and the adoption and implementation of some specific sets of sustainability practices (SP) in manufacturing: internal and external monitoring and external collaborative. Using a large, worldwide, multicounty, and multi-informant sample of manufacturing plants from three industry sectors located in 15 emerging and developed countries, the study shows that the different stakeholders play different roles in the adoption and implementation of different sustainability practices, thus contributing to the open debate around a suitable balance of stakeholder pressures.

Samuel et al., (2023), examines stakeholder green pressures as antecedents of eco-product innovation and new product performance in firms operating in resource-constrained countries. Using data gathered from surveys in Vietnam (N = 183) and Ghana (N = 217), the study find out that the positive effects of stakeholder green pressures on new product performance are serially mediated by environmental sustainability orientation and eco-product innovation. The findings contribute to ongoing efforts to clarify the mechanisms channeling stakeholder pressures into new product performance in resource-constrained environments.

## **Methodology**

The study is premised on quantitative research. The target population of the study include employees of some selected bakeries and confectioneries in Minna, Niger state. Hence, the population is shown below:

**Table 1: Sample Distribution**

Bakery & Confectioneries	Population	Sample Size
Hosterege Bakery & Confectionery	53	33
Safara Bakery & Confectionery	46	29
Landmarks Bakery and Confectionery	52	33
El Amin Bakery & Confectionery	40	25
DD's Bakery & Confectionery	45	28
<b>Total</b>	<b>236</b>	<b>148</b>

**Source: Researcher's Field Survey, 2025**

Yamani (1967) formular, was used to determine the sample size, hence, the result is 148. Stratified sampling technique was used to select the respondents in to the sample size. The data was collected through primary source. The instrument of data collection is questionnaire. The questionnaire was divided in to two (2) section. Section (1) covers questions on four stakeholder pressures namely, academia, customer, government and community while sector (2) contain question on green innovation. The variables were measured using 5-point Likert type rating scale of strongly agree (SA) = 5, agree (A) = 4, undecided (U) = 3, strongly disagree (SD) =2, and Disagree (D) =1. The instrument was validated through face-to-face validity while reliability was established using Cronbach alpha coefficient. The results of the reliability test is shown below;

**Table 2: Reliability Testing - Cronbach alpha values**

Variables	Cronbach's Alpha
Green innovation	0.823
Academic pressure	0.886
Customer green pressure	0.832
Community green pressure	0.835
Green government pressure	0.786

**Source: Researcher's Field Survey, 2025.**

The data of the returned questionnaires were captured on Statistical Packages for Social Science (SPSS) for analysis and interpretation. The data was analyzed using quantitative techniques. This involved creating quantitative statistics. The following multiple regression model was used to test the relationship among academia green pressure, customer green pressure, community green pressure, government green pressure and green innovation. The model was adopted from from



Leonidou, et al., (2025) and Bello-Pintado et al., (2023) based on Competing Value Framework (CVF). Leonidue et al., (2020) view CFV as the most sufficient, respondent friendly, and easy to administer. The model is shown below:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where:

Y = Performance

$\beta_0$  = Constant Term

X<sub>1</sub> = Academia green pressure

X<sub>2</sub> = Customer green pressure

X<sub>3</sub> = Community green pressure

X<sub>4</sub> = Government green pressure

$\varepsilon$  = Error term

## Results and Discussion

### Descriptive Statistics

**Table 3: Description of Demographic Factors**

Variables	Category	Frequency	Percent
Sex	Male	77	69.0
	Female	34	31.0
Age	18-25 years	34	31.0
	26-35 years	33	29.6
	36-45 years	39	35.2
	46-55 years	5	4.2
Marital Status	Single	25	22.5
	Married	70	63.4
	Divorce	11	9.9
	Widowed	5	4.2
Education Qualification	O' Level	15	13.5
	OND/NCE	38	34.3
	BSC/HND	45	40.5
	Others	13	11.7
Working Experience	Below 5 years	42	37.8
	6-10 years	31	27.9
	11 years and above	38	34.3

**Source: Researchers' Field Survey Results (2025)**

The data analysis of the data analysis of respondent's classification on sex revealed that 69% of the respondents are males while 31% are females. This signifies the need for gender equality in staff recruitment process. Furthermore, majority of the respondents (35.2%) are within the age group 36 – 45 years, followed by those whose age group fall between 18-25 years (34 or 31%),



while 33 or 29.6% are within the age bracket 26 - 35 years. However, the analysis further revealed that fewer respondents amounting to 5 or 4.2% are within the age groups 18 -25 years. The study revealed that more than 50% of the employees are between the age group of 26-35years, 36-45years. This is a clear indication that they are in their productivity stage in life if properly managed is more likely to contribute to the green innovation practice. As regards the marital status of the respondents, analysis revealed that 70 or 63.4% are married, 25 or 22.5% are single, 11 or 9.9% are divorced and 5 or 4.2% are widowed. This signifies majority of respondents are married. Moreover, majority of the respondents (45 or 40.8%) have B.SC/HND, 38 or 34.3% have OND/NCE, while 15 or 13.5% have O' level and 13 or 11.7 have Others Degree. This means that the respondents has enough knowledge and will likely be able to provide valid and credible information regarding stakeholder green pressure and green innovation in selected firms in Minna, Niger State. Finally, 42 or 37.8% have below 5 years working experience, 31 or 27.9% have 6-10 years working experience and 38 or 34.3% have 11 years and above working experience. This signifies that more than 60% of the employees have worked for more than four years, which is an adequate period to familiarize with stakeholder green pressure and green innovation.

### **Inferential Statistics**

The chapter covers classic assumption test, normality test, correlation, model summary, ANOVA and coefficient table.

#### **4.2 Classic Assumption Test**

The classic assumption test used in this study consisted of autocorrelation tests using Durbin-Watson statistics, multicollinearity test using Variance Inflation Factors (VIF) and heteroscedasticity test using the Glejser test.

#### **4.3 Multicollinearity Test**

This test aims to test whether the regression model found a correlation between independent variables. A good regression model should not have a correlation between the independent variables. This test is done by using correlations between the independent variables used in the regression equation. If some or all of the independent variables are strongly correlated, multicollinearity occurs.



Model		Collinearity Statistics	
		Tolerance	VIF
1	Green innovation	.420	2.201
	Academic green pressure	.320	1.940
	Green customer pressure	.459	2.180
	Community green pressure	.350	2.854
	Government green pressure	.617	1.620

a. Dependent Variable: Green innovation

**Source: Researcher's Field Survey, 2025**

The tolerance value limit is 0.10 and Variant Inflation Factor (VIF) is 10 (Hair et al., 1998). The results of the multicollinearity test show that there are no variables that have a tolerance value of less than 0.10 and there are no variables that have a VIF value of less than 10. So it can be concluded that there is no multicollinearity in the regression model.

#### 4.4 Autocorrelation Test

The autocorrelation test aims to test whether in the regression model there is a correlation between the confounding errors in period t and the interfering errors in the t-1 period (before). The consequence of autocorrelation in a regression model is that the sample variant does not describe the population variant. Furthermore, the resulting regression model cannot be used to estimate the value of the dependent variable on the value of certain independent variables.

Model	Durbin-Watson
1	1.774 <sup>a</sup>

a. Predictors: (Constant), academia green pressure, customer green pressure, community green pressure, government green pressure

b. Dependent Variable: Green innovation

**Source: Researcher's Field Survey, 2025**

From the table above, the value of Durbin-Watson is 1.774, so it can be concluded that there is no autocorrelation in this regression model.

**Normality test****Table 6 One-Sample Kolmogorov-Smirnov Test**  
Unstandardized Residual

N		111
Normal Parameters <sup>a,b</sup>	Mean	3.0000000
	Std. Deviation	5.89217193
Most Extreme Differences	Absolute	.051
	Positive	.050
	Negative	-.043
Test Statistic		.051
Asymp. Sig. (2-tailed)		<b>.192c,d</b>

Test distribution is Normal.

Calculated from data.

Lilliefors Significance Correction.

This is a lower bound of the true significance.

**Source: Researcher's Field Survey, 2025**

Based on Table 6, it can be explained that the variable data used in this study is normally distributed after the Kolmogorov-Smirnov normality test, where the Asymptotic Significant value is  $0.192 > 0.05$ , which means that the research data has been normally distributed, so the data can be used in testing with the regression model.



		Green innovation	Academia green pressure	Customer green pressure	Community green pressure	Government green pressure
Pearson Correlation	Green innovation	1.000	.921	.930	.364	.416
	Academia green pressure	.921	1.000	.889	.476	.493
	Customer green pressure	.930	.889	1.000	.461	.465
	Community green pressure	.364	.476	.461	1.000	.959
	Government green pressure	.416	.493	.465	.959	1.000
Sig. (1-tailed)	Green innovation	.	.000	.000	.000	.000
	Academia green pressure	.000	.	.000	.000	.000
	Customer green pressure	.000	.000	.	.000	.000
	Community green pressure	.000	.000	.000	.	.000
	Government green pressure	.000	.000	.000	.000	.
N	Green innovation	111	111	111	111	111
	Academia green pressure	111	111	111	111	111
	Customer green pressure	111	111	111	111	111
	Community green pressure	111	111	111	111	111
	Government green pressure	111	111	111	111	111

**Source: Researcher's Field Survey, 2025**

The table 7 shows the relationship between the independent variables and dependent variable. The data analysis as shown in table shows that academia green pressure and customer green pressure have strong positive correlation with green innovation (B: .921; p: .000; B .930; p: .000 respectively). Moreover, the result of the study suggests moderate relationship between community green pressure and government green pressure and green innovation (B: .364; p: .000; B: .416; p: 416).



**Table 8 Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.967 <sup>a</sup>	.935	.934	.45003

a. Predictors: (Constant), Government green pressure, Customer green pressure, Academia green pressure, Community green pressure

**Source: Researcher's Field Survey, 2025**

The R2 result in table 4.7 is 0.935, so the result means that the independent variables (academia green pressure, customer green pressure, community green pressure and government green pressure) will jointly explain 93 percent of the variance in the dependent variable (green innovation).

**Table 9 ANOVAa**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	674.993	4	168.748	833.231	.000 <sup>b</sup>
	Residual	46.783	106	.203		
	Total	721.775	110			

a. Dependent Variable: Green innovation  
 b. Predictors: (Constant), Government green pressure, Customer green pressure, Academia green pressure, Community green pressure

**Source: Researcher's Field Survey, 2025**

Table 4.8 shown f value of 833.231 with p value less than .05 which signifies that the model is statistically significant.

**Table 10 Coefficientsa**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.051	.080		-.641	.522
	Academia green pressure	.493	.041	.449	11.995	.000
	Customer green pressure	.603	.039	.573	15.553	.000
	Community green pressure	-.594	.064	-.555	-9.343	.000
	Government green pressure	.504	.065	.461	7.694	.000

a. Dependent Variable: Green innovation

**Source: Researcher's Field Survey, 2025**

**Hypotheses Testing**

Hypothesis (1) predicts that academia green pressure influences green innovation. As shown in table 4.9 academia green pressure positively influence green innovation ( $\beta = 0.493$ ,  $p < 0.05$ ) hence, hypothesis (1) is supported. Furthermore, hypothesis (2) predicts that customer green pressure influences green innovation. As revealed in table 4.9 customer green pressure positively influence green innovation ( $\beta = 0.603$ ,  $p < 0.05$ ) therefore, hypothesis (2) is supported.



Moreover, hypothesis (3) predicts that community green pressure influences green innovation. As table 4.9 shown community green pressure negatively influence green innovation ( $\beta = -0.594$ ,  $p < 0.05$ ) thus, hypothesis (3) is supported. Finally, hypothesis (4), predicts that government green pressure positively influences green innovation. As revealed in table 4.9 government green pressure positively influence green innovation ( $\beta = 0.504$ ,  $p < 0.05$ ), hence hypothesis 4.9 is supported.

### Discussion of Findings

The study examines the influence of stakeholder green pressure on green innovation. The findings of the study reveals that stakeholder green pressure have significant influence on green innovation. This is in line with the findings of Almagtome, et al. (2020) who posit that company should develop an awareness of the social and environmental consequences of the company's operations, and ensure that the company responds to the desires and opinions of those with whom it is in touch. Companies operating under a social contract may use the resources of society to produce products, but they do not have an unalienable right to use those sources. The firm must manage its relations with these groups in a manner that serves the interests of the firm and conveys a good image of its business activities in order to obtain the necessary credibility to function within the organization (Rimbawanto et al., 2023).

Specifically, hypothesis one shows that academia green pressure has positive influence on green innovation ( $\beta = 0.493$ ,  $p < 0.05$ ). This is in agreement with the findings of Leonidou et al., (2025), whom stressed that academia green pressure provide firms with human and social capital. The human capital are variety of scientific knowledge expertise and experiences that can be used in developing scientific strategies while, as a social capital it provides basis for building mutual relationship between the firm and members of his/her social networks

Moreover, the study establishes that customer green pressure has a positive influence on green innovation ( $\beta = 0.603$ ,  $p < 0.05$ ). This is in consonant with Bello-Pintado et al., (2022), whom argue that that customers have the greatest influence on adoption of green innovation. Customers with green motive value green products supplied by the firm with good environmental reputation and are willing to pay even extra for such product (Bello-Pintado et al., 2022). The interaction and collaboration with customers help the firm to identify flaw areas and correct them, thereby improving green practices (Leonidou et al., 2025).

Furthermore, the study shows that community green pressure negatively influences green innovation ( $\beta = -0.594$ ,  $p < 0.05$ ). This is in tandem with the findings of Leonidou et al., (2025), which shows that community green pressure plays moderating role by facilitating the chances of having an earlier communication about the innovation with members of the community. These users serve as testers and provide fruitful feedback that guides product improvements.



Finally, the study reveals that government green pressure have positive influence on green innovation ( $\beta = 0.504$ ,  $p < 0.05$ ). This did not deviate from the findings of Jayaraman et al., (2023), which shows that the fear of punishment, sanctions and among legal threats force firms to comply with legal statement by tailoring their internal sustainability practices towards reduction resources conservation, reduction in pollution as well as waste in manufacturing and adoption of green innovation practices.

## Conclusion and Recommendations

This study combined stakeholder theory and RBV theory into one theoretical lens, and develops a theoretical framework to find out the relationship between stakeholder green pressure and green innovation. It illustrates how firms reacts to stakeholder green pressure by applying green innovation. Specifically, the study shows how academia green pressure, customer green pressure, community green pressure and government green pressure translate in to green innovation. Based on the finding of study, the study concluded that academia green pressure, customer green pressure, community green pressure and government green pressure have significant influence on green innovation.

The findings remind business practitioners that academia green pressure, customer green pressure, community green pressure and government green pressure have significant influence on green innovation. The study recommends that managers should take the responsibility of paying attention different stakeholder pressures. Specifically, firms should implement green process to deal with government green pressure, green products (as per requirement) to deal with customer green pressure and both green product and process to deal with academia and community green pressure.

## References

- Almagtome, A., Khaghaany, M. & Önce, S. (2020). Corporate governance quality, stakeholders' pressure, and sustainable development: an integrated approach. *International Journal of Mathematical, Engineering and Management Sciences*, 5(6), 1077-1090.
- Bello-Pintado, A., Machuca, J. A. D., & Danese, P. (2023). Stakeholder pressures and sustainability practices in manufacturing: Consideration of the economic development context. *Business Strategy and the Environment*, 1–19.
- Freeman, R. E. (1984). *A strategic management: stakeholder approach*. Boston: Pitman.
- Jayaraman, K.; Jayashree, S. and Dorasamy, M. (2023). The effects of green innovations in organizations: influence of stakeholders. *Sustainability*, 15, 1133. <https://doi.org/10.3390/su15021133>
- Leonidou, Erasmia, Christofi, Michael, Vrontis, Demetris and Thrassou, Alkis (2025). An integrative framework of stakeholder engagement for innovation management and entrepreneurship development. *Journal of Business Research*, 119.. 245-258.



doi:10.1016/j.jbusres.2018.11.054

- Maziriri & Chiliya (2023). The mediating role of competitive advantage on the relationship between stakeholder of green pressure and performance of SMEs in Enugu. *UBS journal of business and economics policy*, 1(4). 45-59.
- Sodhi, M. (2015). Conceptualizing social responsibility in operations via stakeholder resource-based view. *Production and Operations Management*, 24(9), 1375–1389.
- Singh, S. K., Del Giudice, M., Chiappetta Jabbour, C. J., Latan, H., & Sohal, A. S. (2022). Stakeholder pressure, green innovation, and performance in small and medium-sized enterprises: The role of green dynamic capabilities. *Business Strategy and the Environment*, 31(1), 500–514. <https://doi.org/10.1002/bse.2906>
- Samuel, A. S., Simms, C., Vazquez-Brust D., & Nguyen, H. T. T. (2023). Stakeholder Green Pressure and New Product Performance in Emerging Countries: A Cross-country Study. *British Journal of Management*, 34, 299–320. DOI: 10.1111/1467-8551.12595
- Rimbawanto, N. A., Patria, D. N., Nilasari, B. M., Nisfiannoor, M. and Dwita, F. (2023). The Impact of Stakeholder Pressure on Environmental Performance with GHRM Practice and Green Innovation as Mediation. *Journal of Economics, Finance and Management Studies*, 6(1), 322-331.
- Zheng, S.; Ye, X.; Guan, W.; Yang, Y.; Li, J.; Li, B. (2024). Assessing the Influence of Green Innovation on the Market Performance of Small- and Medium-Sized Enterprises. *Sustainability*, 14, 12977. <https://doi.org/10.3390/su142012977>
- Zhang F, & Zhu L. (2024). Enhancing corporate sustainable development: Stakeholder pressures, organizational learning, and green innovation. *Bus Strat Env.*, 28(12), 1012–1026. <https://doi.org/10.1002/bse.2298>