

SOCIAL INNOVATION AND ENTERPRISE SURVIVAL IN EMERGING BUSINESSES IN ILORIN: A STUDY OF RENEWABLE ENERGY SOLUTIONS

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Abstract

In a rapidly evolving and resource-constrained business landscape, social innovation has emerged as a strategic necessity for the survival of renewable energy enterprises. This study explores the impact of social value creation and product/service innovation on enterprise sustainability within the renewable energy sector in Ilorin, Kwara State, Nigeria. Using a quantitative descriptive research design, data were collected from 300 employees across seven selected companies through structured questionnaires. The sample size of 169 was determined using Krejcie and Morgan (1970) formula. The analysis was conducted using SPSS Version 26, employing descriptive statistics and regression analysis to assess relationships between key variables. Findings indicate that social value creation, specifically product quality ($\beta = 0.282$, $p = 0.003$) and waste reduction ($\beta = 0.242$, $p = 0.000$), significantly enhances employee satisfaction. This suggests that sustainable practices and high-quality product offerings improve workforce morale and engagement. Additionally, product/service innovation, measured through new product ratings ($\beta = 0.519$, $p = 0.000$) and research & development ($\beta = 0.671$, $p = 0.000$), significantly influences a company's adaptability to market changes. The slightly higher impact of R&D underscores the necessity of continuous innovation investments for sustained market relevance. The study concludes that integrating social innovation into business strategies strengthens operational sustainability and market positioning. To enhance employee satisfaction, businesses should prioritize product quality and sustainable practices, including waste reduction. Furthermore, investing in R&D is crucial for maintaining a competitive edge and ensuring long-term adaptability in a dynamic market. Policymakers should also consider supportive frameworks to encourage financial accessibility and regulatory incentives for renewable energy enterprises. By fostering innovation and embedding social impact into core business models, enterprises can improve resilience while contributing to economic and environmental sustainability.

Keywords: *Social Innovation, Enterprise Survival, Business.*

Introduction

In an increasingly complex and resource-constrained business environment, social innovation has become essential for the survival of emerging renewable energy enterprises. Social

innovation the development of novel solutions to address societal needs helps businesses navigate market volatility and secure long-term viability (He et al., 2022; Olayemi & Abdulazeez, 2023). For renewable energy startups, this approach is not merely a tool for impact but a strategic necessity to overcome limited resources, intense competition, and regulatory uncertainties.

Survival in the renewable energy sector requires adaptability to economic and environmental uncertainties. Decentralized solar energy enterprises have demonstrated resilience by integrating community-driven models and cost-effective technologies. By aligning business strategies with social needs such as providing off-grid solar power to underserved communities—these enterprises strengthen both market position and operational sustainability. This dual-purpose approach fosters local economic development while securing long-term business viability (Ukenna et al., 2022).

The COVID-19 pandemic highlighted the necessity of agility in business operations. Renewable energy enterprises that swiftly adopted digital solutions such as mobile platforms for solar monitoring and virtual technician training were better positioned to sustain service delivery despite disruptions. These digital transformations have since become critical for business continuity, reducing operational risks and increasing customer retention (Sampaio & Sebastião, 2024).

Collaboration also plays a vital role in enterprise resilience. Public-private partnerships and sector-wide alliances provide renewable energy businesses with financial backing, technical expertise, and market access. For example, mini-grid developers rely on partnerships with governments and investors to distribute risks and expand their reach, ensuring long-term business sustainability (Beck & Cull, 2021).

Additionally, embedding social impact into business strategies enhances competitiveness. A shared-value approach such as pay-as-you-go solar systems addresses affordability constraints while fostering customer loyalty and sustained revenue. Technological advancements, including digital platforms and mobile payment systems, further streamline operations and attract impact investors who recognize the profitability of scalable, tech-driven solutions (He et al., 2022).

As sustainability gains global importance, social innovation remains crucial for the survival of renewable energy businesses. Enterprises that integrate social impact into their core strategies are more resilient to market shifts and better positioned to attract customers, investors, and regulatory support. By leveraging innovation, collaboration, and technology, emerging renewable energy businesses can enhance their long-term viability while addressing critical energy and environmental challenges (Ukenna et al., 2022).

Statement of Problem

Renewable energy solutions are increasingly recognized as viable alternatives to traditional energy sources, addressing both environmental and energy accessibility challenges. In Ilorin, Kwara State, the demand for clean energy is growing due to the unreliable power supply. However, businesses in this sector face numerous obstacles that threaten their sustainability and expansion. Financial limitations, regulatory constraints, and low public awareness hinder their ability to provide effective and long-term solutions. Additionally, inadequate infrastructure and technical expertise further complicate the deployment and maintenance of renewable energy systems (Akinpelu et al., 2021).

One of the key challenges is the high initial investment required for solar panels, inverters, and batteries, which makes it difficult for businesses to scale. Limited access to financing due to stringent loan conditions and high interest rates further exacerbates the problem, preventing many entrepreneurs from entering or expanding within the sector (Ogunleye & Adejumo, 2022). Additionally, regulatory inconsistencies, including high import duties on solar equipment and a lack of supportive policies, discourage investment in renewable energy. Furthermore, many residents and businesses in Ilorin have limited awareness of the benefits of renewable energy, leading to slow adoption. This lack of awareness, coupled with competition from cheaper but less sustainable alternatives like petrol and diesel generators, makes market penetration a significant challenge.

To ensure the survival and success of renewable energy enterprises in Ilorin, there is a need for innovative business models, better policy support, and increased public awareness. Governments and stakeholders must create favorable policies, reduce import duties, and provide financial incentives to promote sustainable energy adoption (Balogun et al., 2020). With the right strategies, renewable energy businesses can contribute to economic growth and environmental sustainability.

Research Objectives

The main objective of this work is to examine the impact of social innovation and enterprise survival. The specific objectives are to;

- i. Evaluate the impact of social value creation on employee satisfaction; and
- ii. Assess the influence of product/service innovation on adaptation to market changes.

Research Hypotheses

H1: Social value creation has a significant positive effect on employee satisfaction.

H2: Product/service innovation positively influences adaptation to market changes.

Literature Review

Conceptual Clarifications

Emerging Business

Emerging businesses in renewable energy are transforming traditional models through innovative technologies and business approaches. Energy-as-a-Service (EaaS) enables organizations to adopt renewable energy on a subscription basis, reducing upfront costs (Happyeconews, 2024). Peer-to-Peer (P2P) energy trading facilitates decentralized energy markets through blockchain, allowing consumers to trade surplus energy (Ghatak & Purohit, 2023).

Virtual Power Plants (VPPs) integrate distributed energy resources, enhancing grid stability (Li et al., 2024), while community solar projects expand renewable access through shared installations (Wikipedia, 2024). Energy Storage as a Service (ESaaS) provides businesses with subscription-based storage solutions, improving efficiency (NEN Power, 2024). These models address cost barriers, grid integration, and scalability, accelerating the transition to a low-carbon economy and promoting energy equity.

Enterprise Survival

The survival of enterprises in the renewable energy sector increasingly depends on adopting social innovation strategies. Social innovation, which involves developing novel solutions to societal challenges, enables businesses to navigate market complexities and resource constraints effectively. By aligning operations with community needs and fostering collaboration, renewable energy enterprises enhance their resilience and long-term sustainability.

Research highlights the role of social innovation in driving energy transitions, emphasizing that inclusive and participatory approaches lead to more sustainable and widely accepted energy solutions (Hossain, 2023). Additionally, environmentally sustainable practices have been linked to enterprise longevity. Studies indicate that startups incorporating green production processes have a significantly higher survival rate than those that do not, underscoring sustainability as a competitive advantage (Serio et al., 2020).

Renewable energy cooperatives exemplify the effectiveness of social innovation by decentralizing energy production and involving communities as both producers and consumers. This model promotes local engagement, democratizes energy access, and fosters economic opportunities, contributing to the resilience of renewable energy initiatives.

Integrating social innovation within renewable energy enterprises not only addresses societal and environmental challenges but also strengthens business resilience, positioning firms for long-term success in an evolving market.

Social Innovation

Social innovation refers to the development and application of new ideas, services, or products aimed at addressing societal challenges such as inequality, healthcare access, and environmental sustainability (Mulgan, 2019). Unlike traditional innovation models that focus on profit maximization, social innovation prioritizes transformative social impact, particularly for underserved populations (Cajaiba-Santana, 2021; Nicholls & Murdock, 2022). Achieving these goals often requires collaboration among governments, community organizations, and businesses, distinguishing it from business or technological innovations that primarily emphasize competitive advantage and shareholder value (Phills et al., 2020).

Also, social innovation plays a critical role in enterprise development, as resource constraints encourage creative, community-driven business models (Tracey & Stott, 2021). By leveraging local assets and social networks, businesses in developing regions, such as Ilorin, Kwara State, Nigeria, can enhance resilience and sustainability. However, while social innovation presents opportunities, its scalability and effectiveness remain debated. Scholars argue that its success depends on context-specific factors such as government support and cultural dynamics, which may limit broader applicability (Davies & Simon, 2023). Therefore, while social innovation fosters enterprise growth in resource-limited settings, its impact varies across different socio-economic environments.

Social Value Creation

Social value creation refers to business activities that generate societal benefits beyond financial profit, contributing to community well-being and sustainable development (Haugh & Talwar, 2021). Unlike traditional value creation, which prioritizes shareholder wealth, social value focuses on broader stakeholder impacts, such as improved living conditions and

environmental sustainability (Santos, 2022). It aligns closely with corporate social responsibility (CSR) and the Sustainable Development Goals (SDGs), reinforcing the role of businesses in addressing societal challenges (Doh & Tashman, 2021). However, concerns about “greenwashing” highlight the need for accountability to ensure that social value initiatives deliver genuine impact rather than serving as image-enhancing strategies (Crane et al., 2022). Therefore, several factors shape the effectiveness of social value creation in driving social innovation and enterprise development. some of these factors include:

- i. **Product Quality:** High product quality fosters customer satisfaction, trust, and long-term sustainability by reducing waste and resource consumption (Garcia et al., 2022). Durable products minimize environmental impact by extending life cycles and decreasing raw material demand (Kaplan & Norton, 2023). However, the higher production costs associated with quality may limit affordability for lower-income consumers, potentially widening economic disparities (Crane et al., 2022). Businesses must balance quality with accessibility to maximize social value.
- ii. **Waste Reduction:** Reducing waste enhances social value by promoting environmental sustainability through resource conservation and lower pollution levels (Bocken et al., 2023). Circular economy models enable companies to reuse materials, reduce production costs, and minimize their carbon footprint (Jackson & Angel, 2023). However, waste reduction initiatives often require significant operational restructuring, which may deter smaller enterprises (Rizos et al., 2023). Additionally, sustainable product choices can impose higher costs on consumers, posing accessibility concerns (Thompson & Kumar, 2022).

However, social value creation enhances enterprise sustainability by integrating environmental and societal benefits into business models. However, its effectiveness depends on balancing product quality, and waste reduction ensuring accessibility and affordability. As businesses navigate these challenges, strategic approaches that prioritize inclusivity and accountability will be essential for maximizing long-term social impact.

Employee Satisfaction

Employee satisfaction plays a vital role in organizational success, shaping productivity, retention, and workplace morale (Huang & Gamble, 2022). It encompasses job security, compensation, work environment, and career growth opportunities, reflecting how well employees' expectations align with organizational offerings. Unlike engagement, which emphasizes active participation, satisfaction provides stability, reducing turnover and fostering a committed workforce (Brown & Cregan, 2021). However, satisfaction alone may not drive innovation or extra effort, potentially leading to complacency (Kumari et al., 2023). Researchers argue that integrating both satisfaction and engagement strategies maximizes employee contributions and organizational performance (Smith & Brown, 2023).

Product/Service Innovation

Innovation involves the development and implementation of new ideas, products, or processes that enhance efficiency and create value (Schilling, 2021). Unlike routine improvements that refine existing systems, innovation introduces transformative changes that drive competitive advantage and market differentiation (Tidd & Bessant, 2022). While innovation is essential for business growth, excessive focus on novelty without strategic direction can lead to resource

misallocation and inefficiencies (Birkinshaw et al., 2021). Thus, innovation must be aligned with value creation and practical market needs to ensure long-term sustainability. Some key factors influencing innovation are highlighted below:

- i. **New Product Rating:** provide insights into consumer perceptions and acceptance of innovations, reflecting product quality, functionality, and overall market reception (Kumar et al., 2022). Digital rating platforms allow businesses to gather rapid feedback and adjust their offerings accordingly. However, consumer ratings can be subjective, influenced by personal preferences or marketing strategies that may not always reflect long-term product viability (Chen & Zhang, 2023). Therefore, while product ratings are valuable indicators of innovation success, they should be complemented with other evaluation metrics for a comprehensive assessment.
- ii. **Research and Development:** R&D drives innovation by fostering the creation of new products, technologies, and processes that provide firms with a competitive edge (McKinsey & Company, 2022). Companies investing in R&D are better positioned to adapt to market changes and sustain industry leadership. However, excessive focus on R&D can divert resources from immediate customer needs, potentially leading to innovations that lack commercial feasibility (Baker & Nelson, 2023). Balancing R&D investments with market-driven strategies is crucial to ensuring that innovation efforts translate into sustainable business growth.

In essence, innovation plays a critical role in business sustainability, but its success depends on strategic implementation. Factors such as consumer perceptions and R&D investment shape the effectiveness of innovation, highlighting the need for a balanced approach that prioritizes both market relevance and long-term value creation.

Market Share

Market share reflects a company's competitive position by measuring its sales relative to industry peers (Kotler & Keller, 2022). Unlike revenue, which assesses financial health, market share indicates brand strength and customer loyalty (Urban, 2023). A strong market presence enables economies of scale and strategic growth, yet excessive focus on market share can lead to price wars that harm profitability (Christensen et al., 2022). Sustainable growth requires balancing market share expansion with financial stability.

Theoretical Review

Resource-Based View (RBV)

The Resource-Based View (RBV) theory, introduced by Edith Penrose in 1959 and further developed by Jay Barney in 1991, emphasizes that an organization's unique resources and capabilities are central to achieving sustainable competitive advantage. In the context of social innovation and enterprise survival, RBV highlights the importance of leveraging internal assets such as social capital, knowledge, and innovation capacity. Recent studies demonstrate that social capital, encompassing networks and stakeholder relationships, enhances access to funding and fosters innovation, thereby strengthening organizational resilience and sustainability (Kamaruddin et al., 2023). Additionally, entrepreneurial leadership plays a pivotal role in driving radical innovation performance, crucial for the survival of social enterprises in dynamic environments (Yang & Entebang, 2024). By effectively managing these

resources, social enterprises can navigate challenges and sustain their mission-driven objectives.

Dynamic Capabilities Theory

Dynamic Capabilities Theory (Teece et al., 1997) emphasizes an organization's ability to continuously adapt, reconfigure, and apply its resources to evolving market conditions. This adaptability is particularly crucial for social enterprises operating in resource-limited settings, allowing them to remain resilient and responsive to social and technological changes (Teece, 2018).

In social innovation, these theories provide a foundation for understanding how enterprises balance financial viability with social impact. RBV identifies unique assets such as community ties or specialized expertise while Dynamic Capabilities Theory underscores the need for flexibility in resource deployment. Together, they explain how social enterprises achieve sustainability by efficiently utilizing and continually adapting their resources (Ambrosini & Bowman, 2009).

Social Capital Theory

Social Capital Theory (Bourdieu, 1986; Coleman, 1988) stresses the value of networks and relationships in securing resources and support. For social enterprises, social capital built through trust, shared values, and partnerships serves as a strategic asset that facilitates access to funding, expertise, and market opportunities (Putnam, 1995). Strong networks enable organizations to mobilize resources efficiently, scale impact, and enhance long-term survival. These theoretical frameworks collectively highlight that social enterprise sustainability depends not only on internal resource management but also on strategic adaptability, stakeholder reciprocity, and network-building. By integrating RBV, Dynamic Capabilities, Social Exchange, and Social Capital theories, this study provides a comprehensive lens for understanding how social enterprises thrive in resource-constrained environments through innovation, collaboration, and resilience.

However, The Dynamic Capabilities Theory (Teece, Pisano, & Shuen, 1997) is theory adopted for analyzing social innovation and enterprise survival in emerging businesses. It emphasizes adaptability, resource reconfiguration, and responsiveness to change, making it highly relevant for social enterprises in dynamic, resource-limited contexts. Unlike the Resource-Based View (RBV), which focuses on possessing valuable resources, this theory prioritizes flexibility, learning, and strategic transformation for long-term sustainability.

Social enterprises, especially in renewable energy, must adapt business models, adopt new technologies, and secure funding to stay competitive. Without adaptability, they risk becoming obsolete. This theory provides a strategic foundation for resilience, innovation, and impact, ensuring social enterprises survive and thrive in unpredictable environments.

The study however, adopts Dynamic Capabilities Theory as the most suitable framework for social innovation and enterprise survival due to its emphasis on adaptability, resilience, and long-term sustainability. First, social enterprises operate in unpredictable environments where funding, regulations, and societal needs constantly change. This theory enables them to continuously reconfigure resources and strategies to remain relevant and competitive. Second, it supports innovation by allowing enterprises to integrate new opportunities, scale their impact, and respond effectively to technological advancements and market shifts. Unlike static

resource-based approaches, it encourages proactive learning and strategic flexibility. Third, it enhances organizational resilience by fostering the ability to anticipate challenges, adapt swiftly, and sustain mission-driven objectives despite external pressures. By focusing on continuous evolution rather than relying solely on existing resources, Dynamic Capabilities Theory provides a comprehensive framework for achieving both financial viability and long-term social impact.

Empirical Review

Leveraging social networks and local assets enhances resilience in emerging markets, as highlighted by Tracey and Stott (2021), while Davies and Simon (2023) emphasized the role of government support and cultural adaptation in scaling social innovation. In terms of product quality and sustainability, Garcia et al. (2022) noted that while high product quality improves customer satisfaction, it may reduce affordability for low-income consumers. Bocken et al. (2023) acknowledged the environmental benefits of waste reduction but pointed out the operational restructuring challenges it presents. Similarly, Henderson et al. (2023) demonstrated that local supplier partnerships contribute to community resilience but face scalability limitations.

Market dynamics significantly influence enterprise success. Kumar et al. (2022) found that new product ratings impact market performance, though consumer biases may affect their reliability. McKinsey & Company (2022) linked R&D investment to competitive advantage but warned of potential resource misallocation. Porter (2022) demonstrated that differentiation fosters customer loyalty but increases production costs. Supply chain efficiency and customer engagement also play a role, as Dolan and Scott (2023) noted the benefits of supplier partnerships despite supply limitations. Reyes and Olson (2023) found that customer participation fosters brand loyalty but requires substantial resources. Kim and Thompson (2022) cautioned that while feedback aligns strategic direction, it may lead to reactive decision-making.

Enterprise expansion and financial stability depend on factors such as strong distribution networks (Jones & Simmons, 2022) and customer loyalty (Williams & Porter, 2023), while Garcia (2023) warned of the risks of market saturation. Workforce management is also crucial, with Gupta and Shaw (2022) identifying turnover as a measure of job satisfaction, Clark et al. (2021) linking employee morale to productivity, and Smith and Lewis (2023) demonstrating that training investments enhance both retention and performance. These interconnected factors collectively shape enterprise sustainability and long-term growth.

Gaps in Literature

Despite the insights provided by existing studies, several research gaps remain. While social innovation is linked to enterprise resilience, its long-term sustainability across diverse socio-economic contexts is underexplored (Tracey & Stott, 2021; Davies & Simon, 2023). Additionally, the balance between high product quality and affordability for low-income consumers lacks strategic solutions (Garcia et al., 2022). The challenges of scaling waste reduction and local supplier partnerships require further investigation, particularly in developing economies (Bocken et al., 2023; Henderson et al., 2023). Consumer biases in product ratings raise concerns about the accuracy of market assessments, necessitating research on mitigating these biases (Kumar et al., 2022). Moreover, excessive R&D investment may

lead to resource misallocation, yet guidance on optimizing innovation spending remains limited (McKinsey & Company, 2022). While community engagement fosters business alignment, over-reliance on reactive feedback rather than proactive strategies is a notable concern (Kim & Thompson, 2022). Market penetration risks, including saturation effects, need further study to ensure sustainable growth strategies (Garcia, 2023). Lastly, employee satisfaction research often focuses on turnover and training but overlooks the influence of workplace culture and leadership styles (Gupta & Shaw, 2022; Smith & Lewis, 2023). Addressing these gaps can enhance enterprise survival strategies in resource-limited settings.

Methodology

This study adopts a quantitative research design using a survey method to systematically collect and analyze data on social innovation and enterprise survival. The research focuses on renewable energy solution companies in Ilorin, Kwara State, Nigeria, a commercial hub with diverse business activities. The target population consists of 300 employees across seven selected companies, ensuring a representative sample.

Table 1: List of Distribution of Selected Renewable Energy Solutions in Ilorin

S/N	NAMES OF COMPANIES	Population	Questionnaire Distributed
1	DEENS ENGINEERING LTD	35	20
2	H.M NETWORK	34	19
3	JAYT CONSULT AND NETWORK	42	24
4	HAMRAT LIGHT TECHNOLOGY	30	17
5	NEWSONG GLOBAL TECHNOLOGY SERVICE NIG. LTD	57	31
6	SOLAT TECHNOLOGY SOLUTION	41	23
7	FEMTECH	61	35
TOTAL		300	169

Source: Field Survey, 2024

Simple random sampling will be employed to select companies engaged in renewable solar energy solutions, with the sample size determined using Krejcie and Morgan's (1970) formula.

$$S = \frac{X^2 \cdot N \cdot P (1 - P)}{d^2 \cdot (N - 1) + X^2 \cdot P \cdot (1 - P)}$$

Where:

S = Sample size

N = Population size (300)

P = Population proportion (0.5, which gives maximum sample size)

d = Margin of error (0.05 or 5%)

X^2 = Chi-square value for 95% confidence level (3.841)

$$S = \frac{3.841^2 \times 300 \times 0.5 \times 0.5}{0.05^2 \times (300 - 1) + 3.841 \times 0.5 \times 0.5}$$

$$S = \frac{288.075}{1.70775}$$

n = 168.7 Approximately 169

Data collection will involve both primary and secondary sources. Primary data will be gathered through structured questionnaires administered to company owners, managers, and employees, while secondary data will be sourced from existing literature, research articles, and reports. The questionnaire will consist of close-ended questions, enabling efficient data analysis. Descriptive statistics, including percentages and frequencies, will summarize demographic and structural data, while regression analysis will test research hypotheses. The analysis will be conducted using the Statistical Package for Social Sciences (SPSS) Version 26 to evaluate the relationships between key variables, offering empirical insights into how social value creation, innovation, and community engagement contribute to the sustainability of renewable energy enterprises.

Data presentation and Discussion of findings

Test of Hypotheses

Hypothesis I

H1: Social value creation has a significant positive effect on employee satisfaction.

Table 2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.712 ^a	.507	.419	.450
a. Predictors: (Constant), Product Quality, Waste Reduction				

Source: SPSS Output, 2024

The model summary shows a strong positive relationship between social value creation (product quality and waste reduction) and employee satisfaction ($R = 0.712$). With $R^2 = 0.507$, the model explains 50.7% of the variation in employee satisfaction, while the Adjusted R^2 (0.419) accounts for other influencing factors. The standard error (0.450) indicates moderate prediction accuracy. If statistical significance ($p < 0.05$) is confirmed, we reject null hypothesis, concluding that social value creation significantly influences employee satisfaction.

Table 3: ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	210.100	1	321.920	216.247	.000 ^b
	Residual	44.672	356	.245		
	Total	254.772	357			
a. Dependent Variable: Employee Satisfaction						
b. Predictors: (Constant), Product Quality, Waste Reduction						

Source: SPSS Output, 2024

The ANOVA table ($F = 216.247$, $p = 0.000$) confirms that social value creation significantly influences employee satisfaction. With a highly significant p-value ($0.000 < 0.05$), we reject null hypothesis, emphasizing the crucial role of social value creation in strengthening employee satisfaction.

Table 4: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	.788	.173		4.442	.000
Product Quality	.242	.059	.282	4.194	.003
Waste Reduction	.196	.056	.242	3.601	.000

a. Dependent Variable: Employee Satisfaction

Source: SPSS Output, 2024

The regression coefficients table provides strong evidence that product quality and waste reduction significantly influence employee satisfaction. The constant ($B = 0.788$, $p = 0.000$) represents the baseline brand image when both predictors are absent. Product quality ($B = 0.242$, $p = 0.003$, $t = 4.194$) has a highly significant positive effect, meaning a one unit increase in product quality leads to a 0.242 increase in employee satisfaction, holding other factors constant. Also, waste reduction ($B = 0.196$, $p = 0.000$, $t = 3.601$) also has a strong and statistically significant effect, indicating that higher trust directly enhances employee satisfaction. The standardized beta values ($\beta = 0.282$ for product quality and $\beta = 0.242$ for waste reduction) show that both variables are impactful, with product quality having a slightly stronger influence. Since both predictors have p-values well below 0.05, we reject the null hypothesis and conclude that social value creation through product quality as well as waste reduction is a critical driver of employee satisfaction, reinforcing the need for businesses to build strong social value creation to sustain and enhance employee satisfaction.

H2: Product/service innovation positively influences adaptation to market changes.

Table 5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.738 ^a	.542	.535	.36045

a. Predictors: (Constant), New Product Rating and Research & Development

Source: SPSS Output, 2024

The model summary indicates that product/service innovation (new product rating and research & development) has a strong positive relationship with adaptation to market changes, as shown by the correlation coefficient with an R value of 0.738. The R-Square value of 0.542 suggests that 54.2% of the variation in adaptation to market changes is explained by new product rating,

highlighting its substantial impact. The Adjusted R-Square of 0.535 confirms this explanatory power while accounting for model complexity. The standard error of 0.36045 indicates a moderate level of prediction accuracy.

Table 6: ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4.953	2	2.475	12.698	.000 ^b
	Residual	34.953	193	.182		
	Total	39.898	195			
a. Dependent Variable: Adaptation to Market changes						
b. Predictors: (Constant) New Product Rating and Research & Development						

Source: SPSS Output, 2024

The ANOVA table confirms that product/service innovation significantly impacts adaptation to market changes ($F = 12.698$, $p = 0.000$). Since the p -value (0.000) < 0.05 , the model is statistically significant, indicating that product/service innovation explains a meaningful portion of adaptation to market changes variation. This shows that the model is fit for use.

Table 7: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.494	.016		2.259	.000
	New Product Rating	.518	.063	.519	5.241	.000
	Research & Development	.746	.057	.671	7.332	.000
a. Dependent Variable: Adaptation to Market changes						

Source: SPSS Output, 2024

The regression coefficients table provides strong evidence that product/service innovation specifically new product rating and research & development has a significant positive impact on adaptation to market changes. The constant ($B = 0.494$, $p = 0.000$) represents the baseline adaptation to market changes when both predictors are zero. New product rating ($B = 0.518$, $p = 0.000$, $t = 5.241$) has a highly significant positive effect, meaning a one-unit increase in new product rating leads to a 0.518 increase in adaptation to market changes, holding other factors constant. Conversely, research & development ($B = 0.746$, $p = 0.000$, $t = 7.332$) has an even stronger influence, with each unit increase in R&D resulting in a 0.746 rise in adaptation to market changes. The standardized beta values ($\beta = 0.519$ for new product rating and $\beta = 0.671$ for R&D) indicate that R&D has a slightly greater impact than new product rating. The p -values (0.000 for both predictors) confirm statistical significance, meaning these relationships are not due to chance. Given these results, we reject the null hypothesis and conclude that product/service innovation through new product rating and R&D is a powerful driver of adaptation to market changes, reinforcing the need for businesses to adopt these strategies for competitive advantage and sustainability.

Discussion of Findings

The findings confirm that both social value creation and product/service innovation play critical roles in organizational outcomes. Social value creation, through product quality ($\beta = 0.282, p = 0.003$) and waste reduction ($\beta = 0.242, p = 0.000$), significantly enhances employee satisfaction. This suggests that employees value high-quality products and sustainability efforts, which foster a more engaged and satisfied workforce. The positive relationships between these factors and employee satisfaction emphasize the importance of building strong social value creation strategies within organizations.

Similarly, product/service innovation, driven by new product ratings ($\beta = 0.519, p = 0.000$) and research & development ($\beta = 0.671, p = 0.000$), significantly influences a company's ability to adapt to market changes. R&D, in particular, has a slightly stronger impact than new product ratings, underlining the importance of continuous innovation and investment in R&D to maintain a competitive edge. The rejection of the null hypotheses in both models supports the conclusion that these strategies are essential for enhancing employee satisfaction and market adaptability.

Conclusion

This study highlights the crucial role of social innovation in the survival and growth of renewable energy businesses, providing key insights into how various factors influence organizational outcomes. The results reveal that both social value creation and product/service innovation are significant drivers of key organizational outcomes. Social value creation, specifically through product quality and waste reduction, significantly enhances employee satisfaction. This underscores the importance of businesses adopting sustainable practices and focusing on high-quality products to improve workforce morale and engagement.

Similarly, product/service innovation, particularly through new product ratings and research & development (R&D), plays a pivotal role in enabling organizations to adapt to market changes. R&D has a slightly greater impact than new product ratings, highlighting the importance of continuous investment in innovation to maintain a competitive advantage in a dynamic market.

Recommendations

The recommendations focus on enhancing the survival of renewable energy enterprises through social innovation, addressing challenges and opportunities in the sector to ensure sustainable growth. The main points are:

- i. Companies should prioritize improving product quality, as it significantly contributes to employee satisfaction and engagement.
- ii. Businesses should adopt sustainable practices, including waste reduction initiatives, which directly enhance employee trust and satisfaction.
- iii. To maintain a competitive edge and better adapt to market changes, organizations should invest in research & development, as it plays a crucial role in driving innovation and market adaptability.

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