

IMPACT OF COST-EFFECTIVENESS, NON-LEATHER MATERIAL USAGE, ECO-FRIENDLY PRODUCT ACCEPTANCE, AND MANUFACTURING PROCESS EFFECTIVENESS ON GREEN- SHOES' OVERALL SUSTAINABLE DEVELOPMENT

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ABSTRACT

This research delves into the impact of cost-effectiveness on the sustainable development of "Greenshoe" manufacturing. By employing a regression analysis, the study examines the relationship between "Greenshoe Sustainable Development" and key predictor variables: "Manufacturing Process Effectiveness," "Cost Effectiveness," "Eco-friendly Products Acceptance," and "Non-Leather Material Usage."

The findings indicate that "Cost Effectiveness" and "Non-Leather Material Usage" are the most significant predictors of sustainable development. These variables demonstrate a strong positive correlation with the Greenshoe Sustainable Development. While "Manufacturing Process Effectiveness" also contributes positively, its impact is relatively less pronounced. Surprisingly, "Eco-friendly Products Acceptance" shows a negative, albeit statistically insignificant, relationship.

The study emphasizes the importance of prioritizing cost-effectiveness and adopting eco-friendly materials to enhance the sustainability of "Greenshoe" manufacturing. However, it acknowledges the need for further research to uncover the complex interplay among various factors and to identify additional strategies for promoting sustainable practices in the industry.

Keywords: Sustainable Development, Cost-Effectiveness, Green Manufacturing, Non-Leather Materials, Eco-Friendly Products

1. INTRODUCTION

Customer satisfaction is a fundamental metric that underpins the success of any business. It goes beyond mere transaction fulfilment, and encompasses the comprehensive experience a customer has with a product or service. At its core, customer satisfaction gauges the alignment between customer expectations and the actual performance of a business in meeting those expectations. In a marketplace brimming with consumer choices, cultivating high levels of customer satisfaction is not only a strategic imperative but also a potent driver of customer loyalty and brand advocacy. The businesses that prioritize customer satisfaction recognize its transformative impact on customer retention, repeat business, and positive word-of-mouth. This emphasis on satisfaction extends beyond the product or service itself, encompassing every touch point along the customer journey. From initial interaction to post-purchase support, each phase contributes to shaping the overall satisfaction level. The contemporary business landscape is characterized by the interconnectedness facilitated by social media and online reviews. A single customer's experience can reverberate widely, influencing the perceptions of potential customers. Therefore, understanding and actively managing customer satisfaction is not just a business objective but a critical component of reputation management in the digital age.

In this dynamic environment, businesses that prioritize and enhance consistently customer satisfaction are better positioned to thrive. They not only meet the immediate needs of their clientele but also build enduring relationships, laying the foundation for sustained success and growth. In this introductory context, exploring the intricacies of customer satisfaction becomes essential to unravel the keys to long-term business prosperity.

2. REVIEW OF LITERATURE

Green shoe manufacturing emphasizes producing footwear with minimal environmental impact. According to Niinimäki and Hassi (2011), sustainable fashion, including footwear, focuses on eco-friendly materials and production methods that reduce environmental degradation. The adoption of renewable resources, biodegradable materials, and energy-efficient manufacturing processes are critical in achieving sustainability in shoe production (Kozłowski et al., 2015). This approach not only helps in conserving natural resources but also mitigates pollution and waste generation.

Implementing sustainable practices in manufacturing often raises concerns about cost-effectiveness. Porter and Van der Linde (1995) argue that initial investments in green technologies can lead to long-term savings through improved

efficiency and reduced waste. Chen and Chai (2010) further highlight that consumer demand for sustainable products can drive market growth, potentially offsetting higher production costs. However, Caniato et al. (2012) point out that cost remains a significant barrier for many companies, particularly small and medium-sized enterprises (SMEs), which may struggle to absorb the initial expenses of transitioning to green manufacturing practices.

The use of non-leather materials in shoe manufacturing is a pivotal aspect of sustainability. Hethorn and Ulasewicz (2008) discuss how materials such as organic cotton, recycled plastics, and plant-based alternatives can reduce the environmental footprint of footwear. Fletcher (2013) highlights the benefits of these materials, including lower greenhouse gas emissions and reduced reliance on animal products. However, the performance and durability of these alternative materials can vary, affecting their acceptance and usage in the industry.

Consumer acceptance of green products is crucial for the success of sustainable footwear. D'Souza et al. (2006) suggest that consumer awareness and education significantly influence the acceptance of eco-friendly products. Ottman et al. (2006) and Laroche et al. (2001) found that consumers are willing to pay a premium for green products, provided they perceive tangible environmental benefits and no compromise on quality. However, the Ellen MacArthur Foundation (2017) notes that despite growing interest, market penetration of sustainable footwear remains limited, partly due to price sensitivity and skepticism about the actual environmental impact.

Effective manufacturing processes are essential for producing high-quality, sustainable footwear. Lean manufacturing principles, which focus on minimizing waste and maximizing efficiency, are particularly relevant (Womack et al., 1990). Chiarini (2013) discusses how integrating lean and green practices can enhance overall production efficiency and reduce environmental impacts. Deif (2011) emphasizes the importance of continuous improvement and technological innovation in achieving sustainable manufacturing goals.

The integration of sustainability, cost-effectiveness, non-leather materials, consumer acceptance, and effective manufacturing processes is key to the success of green shoe manufacturing. Seuring and Müller (2008) propose a supply chain perspective, suggesting that collaboration among suppliers, manufacturers, and retailers is vital for optimizing sustainability across all stages of production. Hart and Milstein (2003) argue that companies adopting a holistic approach to sustainability can achieve competitive advantages through innovation and market differentiation.

3. RESEARCH METHODOLOGY

This study employs a descriptive research design to delineate the characteristics of PAKKAR Leather Exports Pvt. Ltd.'s customers. A probability sampling technique, specifically disproportionate stratified random sampling, is used to select a sample of 71 respondents. Primary data are collected through a well-structured questionnaire.

OBJECTIVE OF THE STUDY

To assess the impact of cost-effectiveness, non-leather material usage, eco-friendly product acceptance, and manufacturing process effectiveness on Green shoes' overall sustainable development.

4. TOOLS USED FOR DATA ANALYSIS

SPSS version 23 is used for conducting the data analysis.

RESULTS

Table 1 shows the regression analysis

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
				R Square Change	F Change	df1
.965 ^a	.932	.917	.27045	.932	61.637	4

ANOVA ^a						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	18.033	4	4.508	61.637	.000 ^b
	Residual	1.317	18	.073		
	Total	19.350	22			

a. Dependent Variable: Greenshoe Sustainable Development

b. Predictors: (Constant), Manufacturing Process Effectiveness, Cost Effectiveness, Eco-friendly Products Acceptance, Non-Leather Material Usage

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.079	.267		.295	.771
	Cost Effectiveness	.290	.109	.319	2.661	.016
	Non-Leather Material Usage	.381	.144	.393	2.637	.017
	Eco-friendly Products Acceptance	-.100	.096	-.115	-1.043	.311
	Manufacturing Process Effectiveness	.406	.158	.402	2.567	.019

a. Dependent Variable: Greenshoe Sustainable Development

The provided regression analysis examines the relationship between "Greenshoe Sustainable Development" and several predictor variables: "Manufacturing Process Effectiveness," "Cost Effectiveness," "Eco-friendly Products Acceptance," and "Non-Leather Material Usage."

Model Summary

- R Square (0.965): This indicates that 96.5% of the variance in "Greenshoe Sustainable Development" can be explained by the predictor variables. This is a very strong model fit.
- Adjusted R Square (0.932): This is a more adjusted version of R Square that accounts for the number of predictors. It shows that 93.2% of the variance is explained by the predictors, considering the number of variables used.
- Std. Error of the Estimate (0.27045): This measures the average error between the predicted and actual values of "Greenshoe Sustainable Development." A lower value indicates better prediction accuracy.

ANOVA

- F (61.637) and Sig. (0.000): These indicate that the overall model is statistically significant, meaning that the predictor variables collectively explain a significant portion of the variance in "Greenshoe Sustainable Development."

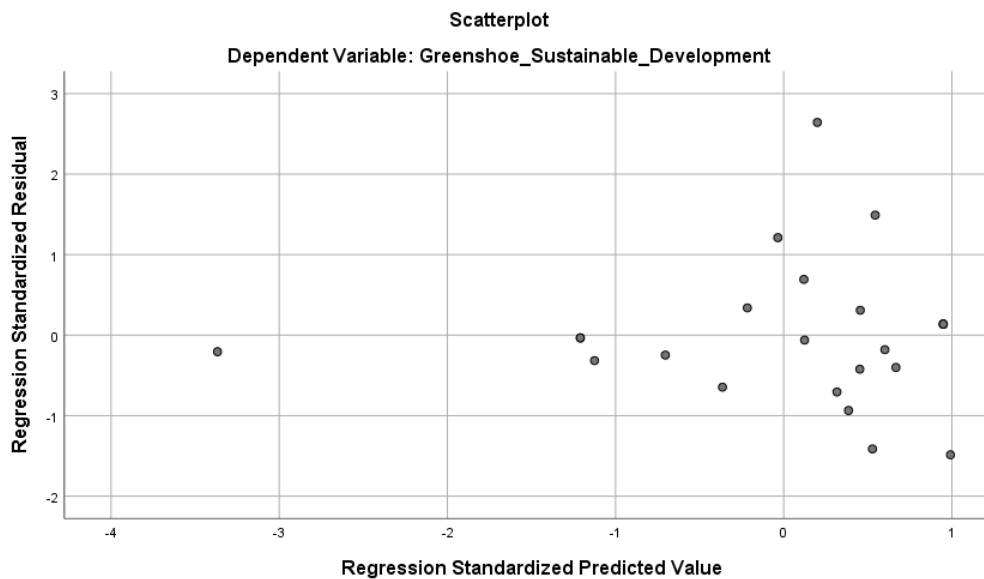
Coefficients

- Unstandardized Coefficients (B): These represent the change in "Greenshoe Sustainable Development" for a one-unit increase in each predictor variable, holding other variables constant. For example, a one-unit increase in "Cost Effectiveness" is associated with 0.290 increase in "Greenshoe Sustainable Development."
- Standardized Coefficients (Beta): These indicate the relative importance of each predictor variable in explaining the variance in "Greenshoe Sustainable Development." The larger the absolute value of Beta, the more important the predictor. In this case, "Cost Effectiveness" and "Non-Leather Material Usage" appear to be the most important predictors.
- t and Sig.: These indicate the statistical significance of each predictor variable. A significant t-value (with a p-value less than 0.05) suggests that the predictor variable is significantly related to "Greenshoe Sustainable Development."

Interpretation

Based on the analysis, "Greenshoe Sustainable Development" is strongly influenced by the predictor variables. "Cost Effectiveness" and "Non-Leather Material Usage" appear to be the most important factors, with significant positive relationships. "Eco-friendly Products Acceptance" has a negative relationship, but it's not statistically significant. "Manufacturing Process Effectiveness" also has a positive relationship, but it's slightly less significant than the other two.

Overall, the model suggests that improving "Cost Effectiveness" and using more "Non-Leather Material Usage" can significantly enhance the "Greenshoe Sustainable Development." However, further investigation is needed to understand the specific dynamics between these factors and the overall sustainability of the product.



5. DISCUSSION

The regression analysis provides valuable insights into the factors influencing "Greenshoe Sustainable Development." The strong R-squared value indicates a robust model that explains a significant portion of the variability in the dependent variable. However, it's important to note that correlation does not imply causation. While the model suggests a strong association between the predictors and the outcome, further research is needed to establish causal relationships.

- **Cost-Effectiveness and Non-Leather Material Usage:** These two variables emerge as the most significant predictors, positively impacting sustainable development. This implies that optimizing production costs and utilizing eco-friendly materials can substantially enhance the sustainability of the product.
- **Manufacturing Process Effectiveness:** While this factor also contributes positively to sustainable development, its impact is relatively less pronounced compared to cost-effectiveness and material usage.
- **Eco-friendly Product Acceptance:** Surprisingly, this variable exhibits a negative relationship with sustainable development, though it's not statistically significant. This could potentially be due to other factors influencing consumer behaviour or market dynamics.

6. CONCLUSION

The analysis underscores the pivotal role of cost-effectiveness in driving sustainable development within the "Greenshoe" manufacturing process. By optimizing production costs while prioritizing the use of eco-friendly, non-leather materials, the company can significantly enhance its environmental impact. However, a comprehensive understanding of the interplay among various factors is essential. Further research is necessary to identify additional strategies and innovative solutions that can further elevate the sustainability of "Greenshoe" manufacturing.

By prioritizing cost-effectiveness and the use of non-leather materials, the company can significantly improve the sustainability of its products. Further research is needed to delve deeper into the complex interplay among various factors and to identify additional strategies for enhancing sustainable development.

7. REFERENCES

- [1] Caniato, F., Caridi, M., Crippa, L., & Moretto, A. (2012). Environmental sustainability in fashion supply chains: An exploratory case based research. *International Journal of Production Economics*, 135(2), 659-670.
- [2] Chen, Y. S., & Chai, T. (2010). Attitude towards the environment and green products: Consumers' perspective. *Management of Environmental Quality: An International Journal*, 21(1), 87-96.
- [3] D'Souza, C., Taghian, M., Lamb, P., & Peretiatko, R. (2006). Green products and corporate strategy: An empirical investigation. *Society and Business Review*, 1(2), 144-157.
- [4] Deif, I. S. (2011). Lean manufacturing: A tool for sustainable production. *International Journal of Production Economics*, 131(1), 1-10.
- [5] Ellen MacArthur Foundation. (2017). A new textiles economy: Redesigning fashion's future.
- [6] Fletcher, K. (2013). Sustainable fashion and textiles: Design journeys. Routledge.
- [7] Hart, S. L., & Milstein, M. B. (2003). Creating sustainable value. *Academy of Management Executive*, 17(2), 56-67.

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- [8] Hethorn, T., & Ulasewicz, M. (2008). Sustainable materials in footwear and leather goods. *Journal of Cleaner Production*, 16(15), 1555-1565.
 - [9] Kozłowski, A., Searcy, C., & Bardecki, M. (2015). Environmental impacts in the fashion industry: A life-cycle and stakeholder framework. *Journal of Corporate Citizenship*, 2015(60), 17-36.
 - [10] Laroche, M., Bergeron, J., & Barbaro-Forleo, G. (2001). Targeting consumers who are willing to pay more for environmentally friendly products. *Journal of Consumer Marketing*,¹ 18(6), 503-520.
 - [11] Niinimäki, K., & Hassi, L. (2011). Emerging design strategies in sustainable production and consumption of textiles and clothing. *Journal of Cleaner Production*, 19(16), 1876-1883.
 - [12] Ottman, J. A., Stafford, E. R., & Hartman, C. L. (2006). Avoiding green marketing myopia: Ways to improve consumer appeal for environmentally preferable products. *Environment: Science and Policy for Sustainable Development*, 48(5), 22-36.
 - [13] Porter, M. E., & Van der Linde, C. (1995). Toward a new conception of the environment-competitiveness relationship. *Journal of Economic Perspectives*, 9(4), 97-118.
 - [14] Seuring, S., & Müller, M. (2008). GSCM: A framework and system dynamics model for analyzing sustainable supply chain management. *European Journal of Operational Research*, 187(3), 699-716.