

IMPACT OF GREEN MARKETING MIX STRATEGY ON ORGANIZATIONAL PERFORMANCE: MEDIATING ROLE OF CORPORATE IMAGE AND MODERATING ROLE OF FRUGAL INNOVATION. A STUDY OF MANUFACTURING SECTOR OF PAKISTAN

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ABSTRACT

The objective of this study is to analyze the link between green marketing mix strategy and organizational performance using corporate image as mediator and frugal innovation as moderator. The type of this study is quantitative research, using convenience method sampling with 580 manufacturing firm. Data is analyzed through Structural Equation Modelling on SMART PLS 4.0. The study data were obtained from the CEOs and managers of manufacturing firms of Pakistan. The study give rise to in an indication of the positive outcome of green marketing mix strategy execution on organizational performance. Frugal innovation is positively associated with corporate image and organizational performance.

Key words: green marketing mix strategy, corporate image, organizational performance, frugal innovation

1. INTRODUCTION

Population growth and industrialization harm the ecology, infrastructure, and natural resources (Khandelwal and Yadav, 2014). Direct transfer of toxic waste, ozone consumption, global warming, massive deforestation, and diminished resources are now lifestyle highlights (Dangelico and Vocellelli, 2017). Recent studies have used the term “sustainable” frequently. Businesses must meet human needs and desires while protecting divine nature (Awan and Wamiq, 2016). Organizations must carefully develop pollution-controlling and miraculously resource-preserving strategies to address present natural concerns. According to Agnihotri and Sharma (2019), many important executives struggle to integrate sustainability into their organizations.

Green economy has been promoted worldwide as a way to gradually build the economy and increase society's economic well-being while safeguarding the environment. If fully implemented, green economy policies and tactics will create business

possibilities, green jobs, and greatly improve the world poor economic situation, according to Rodgers (2016). Green growth promotes economic progress while protecting the environment for future generations. Capital investment and innovation from green economy projects support sustainable growth and create new company opportunities (OECD, 2011:9). Profitable companies are using green marketing methods.

Corporate environmental sustainability is difficult for firms, especially in poor nations, because they must prioritize financial goals over environmental responsibility (Gupta et al., 2018). Manufacturing companies contribute to global environmental issues as water pollution, carbon emissions, global warming, and environmental deterioration (Ali et al., 2021). Pakistan, the fifth most populous nation in the world, employs a considerable portion of its workforce in manufacturing, its second-largest industry after agriculture. Thus, industrial enterprises' dependence on natural resources and

vulnerability to global warming threaten their economic and environmental performance in developing nations like Pakistan (Sharma et al., 2021). Businesses in developing nations improve sustainable business practices and operations to overcome these problems and boost economic growth and environmental protection.

Green marketing practices develop, produce, package, label, and consume eco-friendly products, according to Majeed et al. (2022). Many companies use green marketing to boost their image and performance. Green marketing entails creating safe, eco-friendly products and services with recyclable and decomposable packaging, pollution control, and energy efficiency. Despite the expanding literature on green marketing and its benefits in business (Mukonza and Swarts, 2020; Sana, 2021), this study discovered minimal research on green marketing mix techniques in Pakistani manufacturing businesses. This study explores how green marketing mix (green product, green price, green site, green promotion, green packaging) influences Pakistani enterprises' performance, corporate image, and frugal innovation.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Theoretical Underpinning

Resource-based vision (RBV) is used in many green marketing and company performance studies (Mukonza and Swarts, 2020). The resource-based view of the firm asserts that different resources produce diverse results (Barney, 1991; Dierickx & Cool, 1989). Heterogeneity results from rare, valuable, non-substitutable, and imperfectly imitable resources and competences creating competitive advantages. Based on Hart's (1995) methodology, this study views green marketing mix strategy (GMMS) as a valuable resource or capability that helps organizations maximize organizational performance and gain competitive advantages. In this theory, corporate image and corporate activism are considered as intangible asset that mediated and moderates GMMS and organizational performance (OP) respectively, therefore organizations with a strong image are more likely to convert their green marketing strategy (GMS) into higher profits.

2.2 Green Marketing Mix and Corporate Image

Green marketing (GM) makes, packages, labels, and consumes eco-friendly items (Majeed et al.2022).

Marketing mix factors include green product innovation, logistics, advertising, price, and consumption (Eneizan et al., 2018; Sana, 2021). Image gives companies a competitive edge (Woo, 2020). The study demonstrated that eco-friendly marketing effects of Lagos citizens' views of FMCG companies (Folasayo, 2019). Green marketing improves customer impression and gives companies an edge. Woolworths' green image was aided by eco-friendly packaging (Mukonza & Swarts, 2020). Dangelico and Vocalelli (2017) confirmed that green marketing empathically boosts commercial and non-profit businesses while reducing environmental damage. Eco-friendly marketing affects business results and environmental marketing boosts image. Keyna construction companies' image got improved by green marketing. The result was based on 1000 construction CEO surveys (Shah, 2022). We explored how eco-friendly marketing influences fast-moving consumer goods' reputation in Lagos State, Nigeria.

H1: There is significant relationship between green marketing mix and corporate image.

2.3 Green Marketing Mix and Organizational Performance

Globally, green methods reduce environmental impact and increase financial performance (Miroshnychenko, Barontini & Testa, 2017). Green manufacturing, pricing, distribution, and promotion increase organizational success in advanced environmental ethical organizations. Green product, price, and promotion impact business performance (Goh et al., 2019). Green marketing boosts business (Anggraeni, 2020). Goh and Anggraeni (2020) concur.

A European study studied how green marketing strategy influences operational, marketing, and economic financial performance. A significant positive link exists between green marketing strategy (GMS) and marketing performance (Fraj, Martínez, & Matute, 2011). Many studies have studied this association (Supaat, Ahamat, Nizam, 2020).

SMEs in South Africa benefit from green packaging and advertising (Maziriri and Maramura, 2022). Al-dmour, Hadad & Al-dmour (2021) found that GMS improves Jordanian non-profits. Green marketing improves financial and market performance, cost savings, marketing opportunities, and financial returns from green product sales, according to Sana (2021). Financial incentives are key to motivating firms to market "green" according to Nielsen et al.

(2019). Eco-friendly strategies may increase market share by recruiting green consumers (Borah et al., 2023). GM initiatives help lubricant companies (Hussain, 2023).

H2: There is significant relationship between green marketing mix and organizational performance.

2.4 Corporate image and organizational performance

Corporate image is intangible and vital to any firm (Almeida & Coelho, 2019). Emueje, Ifeanyi & Precious (2023) found that Delta State money deposit banks' performance increased 63% due to corporate reputation management practices like CSR, corporate governance, and workplace environment. Competitive advantage from corporate reputation is hard to copy and boosts profit margins (Almeida & Coelho, 2019). Businesses with a positive corporate image have better brand awareness, consumer and employee loyalty, and reputation (Platonova, 2018). Hsu (2018) found a strong correlation between company image and performance. Image helps organizations achieve goals. Because of its wealth-creating potential and intangible features that make duplication or imitation by other organizations harder, a good firm image is crucial.

Green marketing improves financial and market performance, cost savings, marketing opportunities, and financial returns from green product sales, according to Sana (2021).

H3: There is significant relationship between corporate image and organizational performance

2.5 Green marketing mix, corporate image and organizational performance

Many companies use green marketing to boost their image and performance. Green marketing entails creating safe, eco-friendly products and services with recyclable and decomposable packaging, pollution control, and energy efficiency. Shah (2022) explored how GM's image affects business. In 2016, Wu and Lin investigated 1287 certified organic farms in Taiwan to determine how GMS influences organizational effectiveness. GMS boosts organic farmers' corporate image and business performance. Green marketing has evolved to establish, implement, and convey environmental mission-focused business operations that boost corporate reputation and performance (Kumar, 2016). Environmental challenges are addressed by green marketing interventions. These interventions will boost organizational performance and the physical

environment, promoting sustainable development (Al-dmour, Hadad & Al-dmour, 2021). Business efficiency improves with green marketing. Green marketing improves profitability, brand reputation, and market share (Rajput et al., 2022).

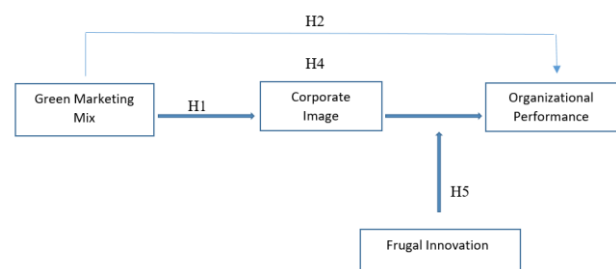
H4: Corporate image mediates the relationship between green marketing mix strategy and organizational performance.

2.6 Corporate image, frugal innovation, organizational performance

Several factors drive frugal innovation (Hossain, 2021). Bhatti et al. (2018) describe frugal innovation as core functions (Weyrauch and Herstatt, 2017) and cost reduction (Ray and Ray, 2011) with sustainable-shared engagement to support environmental and social sustainability from an efficiency-based perspective on enterprises. Local crises and uncertain environments (Santos et al., 2020), especially in emerging and undeveloped nations (Hossain, 2021; Tiwari and Bergmann, 2018), encourage frugal innovation (FI), which addresses social and environmental sustainability for competitiveness. Recent Jakarta Caniago (2020) service sector analysis, brand image, product innovation, and organizational performance were connected. Product innovation and OP are significantly linked. Innovative products improve sales and demand. He added brand image impacts OP. Thus, a good reputation increases an organization's value.

H5: Frugal innovation moderates the relationship between corporate image and organizational performance.

2.7 Theoretical Model



3. METHODOLOGY

This cross-sectional, three-pronged investigation began with a thorough literature review. It helped frame the research. The study explored how green marketing mix approaches effect firm image and performance. This needed establishing green marketing mix approaches. The study used four marketing Ps plus one to produce 5Ps: green products, pricing, promotion, distribution, and

packaging. All major, medium, and small Pakistani manufacturing enterprises were studied. Other manufacturing research includes Fraj, Martinez & Matte (2011). Pakistan Securities and Exchange Commission-listed manufacturing SMEs gave statistics. Manufacturing company listed on PSX. Larger companies have more green marketing funds. Industrial workers were chosen as a population because they cause air, waste, and water pollution, global warming, and overuse of natural resources. Managers at each manufacturing firms were examined. Lower, medium, and senior management know firm policies and processes, thus researchers collected data from them. They are essential department communicators and policy enforcers. Like Shahi (2022), non-probability convenience sampling is used to pick samples. The organizations gave permission to distribute the research questionnaire for this study. Researchers delivered the survey form online and on paper.

3.1 Measurements

A comprehensive literature review was used to generate measuring questions for all latent variables to explore construct relationships. Green marketing mix approach was assessed using (Fraj, Martinez & Matute, 2009). Most of this study's green marketing mix constructs are used in Fraj, Martinez & Matute (2009) and Leonidou, Katsikeas & Morgan (2013) studies on environmental marketing, orientation, and organizational performance.

Agarwal, Erramilli, and Dev (2003) and Narver & Slater (1990) assessed the OP, while Walter 1978 assessed corporate image. Wu and Lin (2014) used the same scale. Frugal innovation (FI) is assessed by using Rossetto et al. (2017). Le 2023 studied FI with the same scale. For all questions, Likert scales range from “1” for strongly disagree to “5” for strongly agree.

4. ANALYSIS OF DATA

PLS variance-based structural equation model (SEM) was used to analyze data. SEM uses Smart-PLS, and route analysis analyzes hypotheses. For explanatory study, Farooq et al. (2018) recommend PLS-SEM. SEM measures and structures construct validity, reliability, and variable correlations (Anderson et al., 1988; Smith, 2003). These findings confirm data quality and structural model consistency (Hair et al., 2016b).

4.1 Descriptive Statistics

Study questionnaires were obtained from 580 Pakistani industrial companies. In addition to out-of-range values, missing values are the biggest issue for accurate and reliable results (Dong et al., 2019). Missing data reduces statistical power and may skew estimates (Kang, 2013). 405 scores were collected with a 70% response rate after the researcher removed incomplete questionnaires. We found 340 male and 65 female respondents to this quiz. Workplace data reveals 84% male and 16% female. Below is a detailed demographic assessment of the respondents:

Table-1 Demographic variables

Demographic Variable	Category	Count	Percentage
Employee age	25-30	41	10.1
	31-35	135	33.4
	36-40	173	42.8
	41-45	28	6.9
	Above	27	6.7
Gender	Male	308	76.2
	Female	96	23.8
Formal education	Intermediate	84	20.8
	Bachelors	184	45.5
	Master	91	22.5
	Above	45	11.1
Firm age	0-5 years	28	6.7
	6-10	53	15.1
	11-15	121	32.7
	16-20	176	39.6
	Above	26	6.4

Size of company (No. of employees)	Less than 50	63	15.6
	51-100	125	30.9
	101-150	96	23.8
	Above	120	29.7

4.2 Analysis Strategy

Data distribution matters in multivariate analysis (Hair et al., 2017). An advantage of Smart-PLS is that it ignores normal data distributions. Hair et al. (2017) found PLS-SEM valid for non-normal data. Skewness and kurtosis determined data normality. Tabachnick & Fidell (2007) set skewness and kurtosis thresholds of 2, Blanca et al. (2013) set 1.38 and 5.045, and Stevenson (2002) sets 2 and 7. Latent and exogenous variable correlations determine multicollinearity. High multicollinearity casts doubt on estimations (Hair et al., 2009). Calculating the variance inflation factor (VIF) measures indicator multicollinearity by measuring how much variance other indicators of the same construct account for.

For $p > 0.05$, VIF should be below 5 to avoid multicollinearity. This investigation found that all values were below 5, with corporate social responsibility (3.334) being the highest and activism (1.411) the lowest.

4.3 Structural Equation Modelling (PLS-SEM)

In this paper, Hair et al. (2017) investigates the theoretical model utilizing the “Partial Least Square Structural Equation Model”.

PLS models are highly predictive.

4.4 Discriminant validity- Fornell-Larcker Criterion

All HTMT values were below the acceptable threshold. As a result, discriminant validity is good in this research, as shown in Table.

Table-2 Fornell-Larcker Criterion

	CI	FI	GMMS	OP
CI	0.869			
FI	0.820	0.788		
GMMS	0.368	0.460	0.742	
OP	0.083	0.123	0.279	0.823

4.5 Construct reliability and validity

According to Blumberg, Cooper, and Schindler (2005), validity is whether an instrument measures what it says. Blumberg, Cooper, and Schindler (2005) define reliability as consistent, equal results. The measuring model was refined through reliability tests. By supplying enough internal consistency,

items were reliable with a minimal alpha threshold of 0.50 and reliability maximization iterations. To assess the instrument's internal consistency, construct dependability is assessed. The Average Extracted Variance (AVE) is calculated to validate construct item convergent validity.

Table-3 Construct Reliability and Validity

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
CI	0.918	0.919	0.939	0.755
FI	0.929	0.997	0.935	0.62
GMMS	0.824	0.917	0.858	0.551
OP	0.932	0.934	0.944	0.677

Table 4 indicates model validity by the above measures. Table 3 meets all construct requirements.

Homogeneous constructs have Cronbach's alpha greater than 0.5 for validation. Nunnally's criteria

(Gotz, Liehr-Gobbers, and Krafft, 2009) suggest 0.5–0.9. This score implies all factors must be trustworthy over 0.70, proving the scale is reliable. Discriminant validity tests examined construct linkages. Hair et al. (2017) say manifest variables explain over 50% of variance if AVE is greater than 0.5. AVEs above 0.4 are acceptable (Henseler et al., 2009). Convergent validity and measurement scale strength were indicated by AVE values over 0.50 for the all latent components in the table.

4.6 Structural Model

Looking at latent variables' associations shows latent concept links. PLS non-parametric models are tested by Rodgers (1999) using jackknife and bootstrap. Bootstrap outperforms other approaches (Gotz, Liehr-Gobbers, and Krafft, 2009). R² and t value are critical to structural model. The Bootstrap-generated R² value evaluates model predicting. This study model fits data well based on all central R² values for each dependent variable. The minimum R² value shows how exogenous variables affect endogenous variables, OP, in this study. All latent variables are

Cronbach's alpha-reliable. All outside loadings surpass 0.50, showing a significant association (0.000, p<0.05) between variables. GMMS has strong latent variable reliability with Cronbach's Alpha of 0.824, CI of 0.918, OP of 0.932, and CA of 0.929.

4.7 Hypotheses Testing

This study validates hypotheses using Chin (2020). Hypothesis acceptance or rejection was determined by bootstrapping. A significant hypothesis meets the p < 0.05 threshold, and all values meet the p < 0.5 conditions. Using 5000 bootstrapping, we test the significance of the relationship at p < 0.05. Hair et al. (2017) applied PLS-SEM to estimate path coefficients, which represent latent variable associations. Lists direct and indirect path coefficients. Relationship direction is demonstrated by model results. Other statistically significant direct and indirect path coefficients are listed. Table 4 presents all hypothesized relationships at P<0.05 in this investigation.

Table-4 Structural model estimation on the total sample

	Beta Coefficient	Standard deviation (STDEV)	T statistics (O/STDEV)	P values	Hypothesis
GMMS -> CI	0.455	0.267	5.561	0.000	Supported
GMMS-> OP	0.332	0.223	4.590	0.000	Supported
CI->OP	0.073	0.084	1.691	0.092	Not Supported
GMMS -> CI -> OP	0.023	0.026	0.520	0.603	Not Supported
CI xFI -> OP	0.013	0.007	0.054	0.051	Supported

5. CONCLUSION

Our H1 “there is significant relationship between GMMS and CI” is supported and shows that there is direct effect of the independent variable (GMMS) on a mediating variable that is CI. Hence, the result is consistent with the study of Shah (2022). Our H2 “there is significant relationship between GMMS and OP” is supported. The result is consistent with the studies of Anggraeni, (2020), Han et al., (2019) and Goh et al., (2019). The H3 “there is significant relationship between CI and OP” is not supported, which shows that CI (mediator) does not have any impact on OP (dependent variable). Therefore, this result is inconsistent with the results of (Hsu, 2018; Lee et al., 2017). In the past, no evidence of this negative association is found but, Roberts and Dowling, (2002) mentioned that it is difficult for the

companies to build corporate reputation. The H4 “CI mediates the relationship between GMMS and OP” is not supported. The H5 “FI significantly moderates the relationship between CI and OP” this hypothesis is supported. This represents that FI strengthens the relationship between CI and OP. As per best of knowledge, this study is first one to investigate the relationship between GMMS, FI and OP, therefore no support from the literature is found in favor or against the study’s result.

6. IMPLICATIONS

By investigating how green marketing mix strategies affect organizational performance, the Resource-Based Perspective paradigm progresses. This study analyzes how product, pricing, geography, and promotion affect organizational effectiveness in

complex ways. Strategic management is improved by illustrating how firms may utilize green marketing to gain a competitive edge and promote performance, especially in environmentally conscious markets. Examining frugal innovation's moderating role advances innovation management theory. Frugal innovation can improve business image and performance by saving money and resources. Growing scholarly research helps us understand how corporations might achieve sustainability goals in novel ways. Frugal innovation links corporate image to performance, improving organizational effectiveness. Strategic marketers can use this study's conclusions. These recommendations may assist companies develop green marketing mix strategies. Integrating these data into operational plans lets organizations tailor product lines, pricing, distribution, and marketing to environmental sustainability goals, boosting performance. Frugal innovation as a strategy boosts green marketing. Prioritizing resource-efficient and cost-effective solutions helps companies produce green products and expand markets. Market competitiveness, efficiency, organizational performance, and environmental sustainability improve with this method.

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