

## **IMPACT OF GREEN MARKETING MIX (4PS) ON FIRM PERFORMANCE: INSIGHTS FROM INDUSTRIAL SECTOR PESHAWAR, PAKISTAN**

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**Abstract.** *In the present condition, environmental poverty has appeared as a very scorching issue of concern. The alarming level effects of commercial sector on climate and atmosphere have shaped several life threatening worries and has become a great challenge for organizations. The current research work aims to achieve a better understanding of the corporate sector and their adaptation of green strategies in their production and decisions. Through purposive sampling technique data from 264 respondents were taken. Structure Equation Modeling was used to test the hypothesized relationship of the model. Findings of the study suggests that green product (GPD), green price (GPC), green promotion (GPM) and green place have significant relationship with firm performance. The current research study can help industrial sector in identifying best solutions for replacing conventional activities used. This research has all the limitations of any social science research. It is suggested for the forthcoming research to splay the study background across the country. Larger sample size is also recommended.*

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**Keywords:** Green Marketing Mix& Firm Performance

### **Introduction**

In current situation the competitive setting is significantly improved by the growing concern headed for ecological sustainability. Today organizations are trying to come up with green practices to define the implementation of “green” marketing practices and how these practices can assist their corporate activities (Leonidou et al., 2013). The growing knowledge of the community, no leniency of principles, and pressure from shareholders and patrons have motivated professionals to think of “green activates” in business choices

(Leonidou et al., 2013). Ecological goods attracted high devotion from consumers (Kotler, 2011; Luchs et al., 2010). Later on, corporate executives are started to include green practices in schedule, sustainability of promotion plans has been inadequately accepted in practical studies (Cronin et al., 2011). Thus, the impacts of espousing ecological marketing rehearses persist comparatively unidentified amongst the executives of organizations (Chabowski et al., 2011).

Green marketing scheme (GMS), which means set of marketing practices and features, that permits firms to assist the marketplace and customers to triumph organizational objectives without spoiling the natural environs (Al-Salaymeh (2013). Participation in environmental shelters motivates the consumers to buy green products, which resulted the justifiable and sustainable development in the surroundings (Gopalakrishnan & Muruganandam, 2013). It is evident by the literature that GM includes marketing practices, set of rules, and techniques deeply considered environmental issues; such practices aimed to produce profits and deliver results that justify the line of the product, goals of both the business and entities. The concept of GMM refers the tool that are intended to attain the planned and commercial goals of a firms, mainly in term of dipping their harmful effects on the natural setting. This conceptualization of GMM is compatible with earlier definitions of ecological (Leonidou et al., 2013).

We are acquiescent this fact that companies are trying to move towards green marketing activities, but for this they need to pass a number of barriers and fences. To ensure reasonable advantages in market, they need to invest more and more on R&D actions to embrace modern technologies and cooperate with nearly other appropriate green plans in there developmental process. Another barrier is the customers who are not willing pay more for such products. It has also been observed that firms are facing promotional problem. People's knowledge of green product is weak. Therefore, companies must concentrate on suitable advertising plans to address this problem.

### **Literature Review**

Green goods can be named green if the process of production involves alternative procedure which is eco-friendly and have a reduced amount of harmful effects for the ecology. It is obvious by literature that it is the responsibility of every business to lessen pollution in their fabrication and manufacturing process (Leonidou et al., 2013). The provision of raw material used for the product is essential to be gained in way that natural properties remain safe. A product may be named green if there is a proper waste management program, which is essential for the environment.

Reverse logistic (i.e., a method used in which consumers giving back used packaging, containers, wrappers and second hand product itself) would meaningfully support in maintaining the surroundings (Arseculatne & Yazdanfrd, 2014). Overall process of packing, labeling and handling the goods in an environment friendly way is a challenge for today's organizations. Green products are aimed because of pollution and waste reduction, energy and environment conservation. For example, in the France HP addressed the issue of packaging and accept the challenge to supply laptops in a container rather than to use a not reusable packaging, which reduced the use 97% of throwaway packaging (Belz & Peattie, 2009). On the other side Nestle' also confronted the packaging challenge and they reduced the extent of paper used on its bottle water brand up to 30% (Ottman, 2011).

### **Green Price**

Green pricing refers to premium price, which can additionally be increased with the accumulation of other cost. Going green process is luxurious and costly in terms of bed in new technology, bringing new machinery, external cost, employee training and renovating waste into recycled goods. The expenses need to be rationalized through marketing efforts; on one side consumers need to be fortified to shell out extra charges or premium prices. Companies trying to reduce the cost of green goods by lessening per unit cost of packaging because packaging establish a larger portion of the element cost (Arseculeratne & Yazdanifard, 2014). Green valuing mean giving preference and value simultaneously to consumers and reasonable profit to business. The pre-emptive perspective of motivating the consumers towards green goods is the use of rebates for returning wrappers and the use of charging high prices for conventional products. In UK, Mark & Spencer emboldens the high use of ecologically friendly shopping bags by indicting the consumers (Belz & Peattie, 2009). Firms can use their prices within the green sustainability framework if they seceded in converting the cost of research to disposal. They need to lessen the life cycle charges of the product (Dahlstrom, 2011).

### **Green Distribution or Place**

It is refers to the selection of distribution channels in way that decrease or minimizes the environmentally damages or having less impact on the ecology. It is evident by the literature that many ecological issue or environmental concerns occurs during the distribution of the goods and services (Arseculeratne & Yazdanifard, 2014). The arrangements of disposal and also make sure that consumers are capable to make returns of ecological things are the two main and strategic ways that organizations could pursue in the green distribution. For instance HP and cock etc. (Matthews 2011). From the strategic

point of view the corporate sector and suppliers may develop rules and policies that compelled both the manufacturer and suppliers to be within the boundaries of environmentally responsible standards. Fewer and fuller cargos can be helpful in reducing the harmful impact of distribution and placement of the product on the surroundings (Dahlstrom, 2011). For example, Pepsi, Nestle, and L'Oreal are get together and have a strategic alliance with Tesco, the largest retail partner to have a supply leadership association which works for advancing and rebuilding strategies for to reduce the carbon footprints of the firms (Leonidou, 2013).

### **Green Promotion**

Green marketing or green promotion are used for projecting the overall look of green activities used for attracting the people towards green goods and services by using the renowned techniques like sales promotion, direct marketing and public relation etc. For organizations green promotion means to inform the stockholders about their ecological commitment with the society, preservation efforts and green achievements. Green promotion is using as an effective mean to provide platform to the corporate sector with competitive edge (Belz & Peattie, 2009; Dahlstrom, 2011). Strategic and tactical point of view companies need to adopt programs that are healthier for the environment and society (Kotler, 2011). Green promotional techniques can be utilized to disseminate the green and environmental benefits of their goods and services to the final users.

### **Firm Performance**

It is one of the critical issues for the companies. Many researchers provide insights and alike explanations but the overall standards of measuring performance varies from class to class, product to product etc. (Holsapple & Wu, 2011). DuPont in 2008 spent \$50 billion on energy saving projects and succeeded to recover all investment in only one year. Thus we can say that profits and positive impact of green activities and initiatives are certain.

### **Firm Performance**

Firm performance (FP) was measured on the basis of 6 items which were haggard and adapted from number of studies. Two items were in use from Pornpratang et al. (2013) and rest of the items were developed by the author himself.

### **Green Product**

Green product was measured on the basis of 4 items. In pursuance to measure green product two items were modified and adapted from (Numraktrakul et al., 2011). The remaining items used in the present study were taken and adapted from Flavian, Guinaliu and Torres (2005).

### **Green Price**

The measurement scale for green price includes 4 items which were nominated to base on previous authenticated instruments utilized“(Jain & Srivastava, 2000; Numraktrakul et al., 2011; Zhen & Mansori 2012)”. One item each be present taken from the above authors respectively. The other remaining item were taken from (Numraktrakul et al. (2011) from the study named green purchase intent of green products (Jain & Srivastava, 2000).

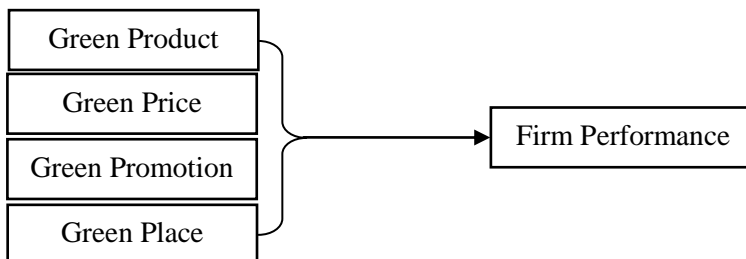
### **Green Promotion**

The construct green promotion have 4 items. Like the other dimensions green promotion items were modified from (Mukherjee & Hoyer, 2001; Roehm & Sternthal, 2001; Sakthirama & Venktram, 2012; Zhen & Mansori, 2012). In the current research work one item each were adapted from the above authors respectively.

### **Green Place or Distribution**

The current variable green place has limited studies. The items needed that could appropriate for measuring the variable were scarce and limited in numbers. Most of the items used for green place were structured by the author himself, hence one item additional item were adapted though without Cronbach’s alpha reading.

### **Conceptual Framework**



*Figure: 1 Model of the Study*

### **Hypothesis of the study**

- H1: There is a significant impact of green product on firm performance.
- H2: There is a significant effect of green price on firm performance.
- H3: There is a significant influence of green promotion on firm performance.
- H4: There is a significant control of green place on firm performance.

## Methods Adopted for the study

Populaces for the existing work are the private limited companies of Peshawar. Over-all 264respondent were nominated by using Krejcie and Morgan (1970) formula of determining the sample size. Statistics were composed from the high officials belongs to management and production departments.

A five-point Likert scale” was employed to measure the constructs. Current research study adopted purposive sampling technique. Factor analysis were used for item reduction that were not loaded considerably on a factor or cross loaded or having small suppress coefficient of  $<.35$ . Later on “SEM” was utilized to check the relational hypotheses.

## Analysis and Results

Table 1 *Reliability Statistics*

Variables	$\alpha$ Values
Firm Performance	.800
Green Product	.780
Green Price	.899
Green Promotion	.810
Green Place	.872

Cronbach’s Alpha or Coefficient Alpha is the most commonly reported consistency index in literature. All the constructs have been tested for reliability. The results of the current table indicates and establish to have a consistent Cronbach’s alpha reading above .80 except one variable green product less than .80. The value 0.60 is also still within the acceptable limits“(Cooper & Schindler, 2003)”. Current alpha assessment of each variable is well above the threshold or acceptable range. The greater the reliability value suggests higher consistency amongst measured items.

Table 2 *Descriptive Statistics (N=264)*

Variable	Minimum	Maximum	Mean	Std. Deviation
Firm Performance	3.11	4.67	3.8519	.25605
“Green Product”	2.80	4.60	3.8167	.45649
Green Price	3.21	4.61	3.8778	.32875
Green Promotion	2.82	4.82	3.8175	.43092
Green Place	3.22	4.82	3.9380	.36336

Statistics of the overhead table specify outcomes of descriptive figures comprises sum of respondents, smallest, supreme, mean values and SD of research work utilized to locate the topographies of cool data from nominated

section of the companies of Peshawar, Khyber Pakhtunkhwa. The effects shown that firm performance (*FP*) is having least worth of 3.11 with highest value 4.67, mean of *FP* is 3.85 and with st. dv 0.26. *GP* aspect of the study is come up with the lower most grades of 2.80 with uppermost of 4.60, the mean of (*GP*) is 3.842 and SD is .457. *GPric* facet requiring least value 3.21 with highest 4.61, *GP* have mean of 3.878 and SD is .32875. “Green promotion” (*GP*) have smallest value is 2.82 with “highest” value of 4.82 mean of *GP* is 3.818 and SD 0.431. To conclude values of final variable “green place” (*GP*) have least value of 3.22 with utmost value of 4.82. Mean of green place is 3.938 with st dev of 0.363.

Table 3 *Assumptions’ Statistics for Factor Analysis*

Constructs	DCM	KMO	BTS	Sig
Firm Performance	.021	.770	1699.894	000*
Green Product	.138	.800	524.984	000*
Green Price	.176	.813	640.784	000*
Green Promotion	.258	.899	732.633	000*
Green Place	.084	.723	1555.701	000*

DCM: Determinant of Correlation Matrix

Kaiser-Meyer-Olkin Measure of Sampling Adequacy

Bartlette’s Test of Sphericity

Kaiser-Meyer-Olkin (KMO) Measure is an alternative method to check the sample size adequacy. Figures are adjudged factorable if the measure of sampling adequacy is larger than .60. It is ranged from 0-1. If the value of KMO is less than .50 it indicates that you have sample size issue. The values of KMO in the above mentioned table is well above the threshold values which demonstrate that there is no sample issue.

Bartlett’s test of sphericity basically means that there should at least one significant correlation b/w two of your items somewhere. In this test we look for its p-value which is labeled sig in SPSS. The P-value should below .001. Here in this table the P-value is lower than .001 which shows that the data set is accurate. DCM inter-variable correlation need to be computed and correlation matrix should display at least some correlation.

### **Structural Equation Modeling**

SEM was employed to check hypothesized association between dependent and independent variables. Before to check hypothesized relationship all individual construct were tested to get good model fit.

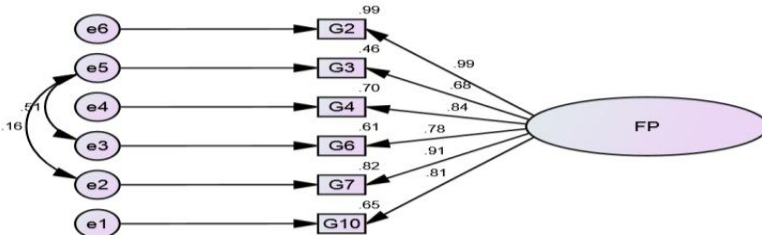


Figure 2 Measurement Model for Firm Performance

<i>CMIN/DF</i>	<i>SRMR</i>	<i>GFI</i>	<i>CFI</i>	<i>TLI</i>	<i>RMSEA</i>
1.518	.05	.982	.991	.977	.050

Latent side of the frame work confined to firm performance which were originally composed of 10 objects. In the conduction of exploratory factor analysis 4 items were removed due to cross loading and do not laden substantially on a single factor. Modification indices were done and covariance were down where it is needed. The values of *CMIN/Df*, *SRMR*, *GFI*, *CFI*, *TLI* and *RMSEA* were amongst the favorite range which clearly demonstrate the goodness and fitness of model.

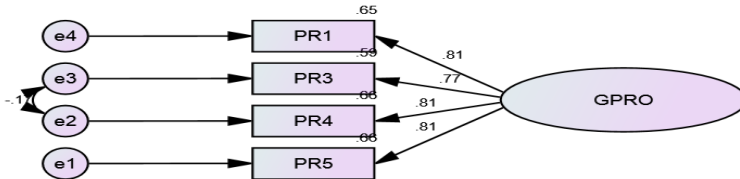


Figure 3 Measurement Model for Green Promotion

<i>CMIN/DF</i>	<i>SRMR</i>	<i>GFI</i>	<i>CFI</i>	<i>TLI</i>	<i>RMSEA</i>
3.019	.06	.990	.992	.964	.041

Green product was initially made up of the total five items. P2 were eradicated owing to low stacking on a single factor . The values of the fit indices were among the desire range which indicates reasonable fit of the model. Covariance existed where it is needed.

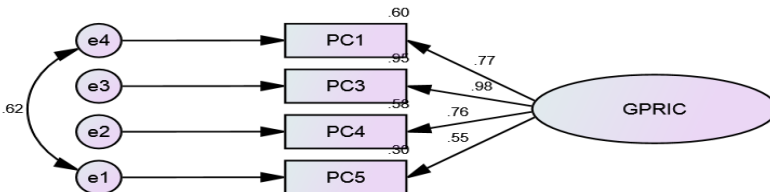


Figure 4 Measurement Model for Green Price



<i>CMIN/DF</i>	<i>SRMR</i>	<i>GFI</i>	<i>CFI</i>	<i>TLI</i>	<i>RMSEA</i>
2.515	.03	.990	.994	.957	.071

Green price construct was comprised of a total of 5 items. The values of the fit indices used for the goodness of the model were in between the threshold values. The value of RMSEA is little high which does not affect the overall fitness. RMSEA is used for the purpose to check the error of approximation in the examined population. The values indicate a decent apt of the model.

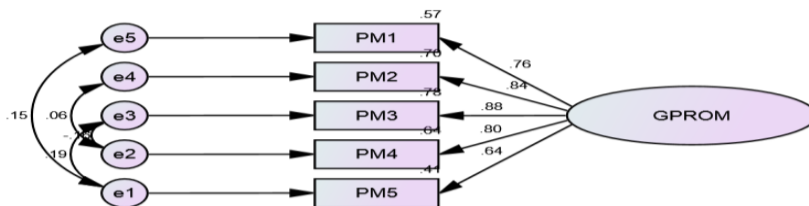


Figure 5 Measurement Model for Green Promotion

<i>CMIN/DF</i>	<i>SRMR</i>	<i>GFI</i>	<i>CFI</i>	<i>TLI</i>	<i>RMSEA</i>
3.123	.04	.994	.996	.946	.057

For the construct green promotion in the beginning 5 items were subjected to EFA, not a single item were excluded due to loading on one factor. The result of the model used in the study indicates a good fit. Amendment and covariance were pinched to achieve worthy fit.

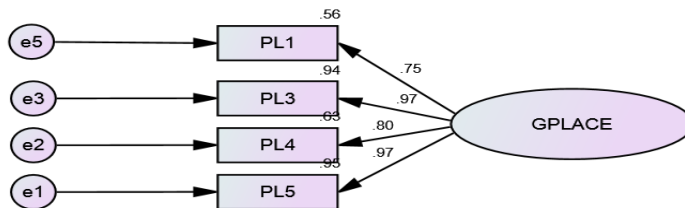


Figure 4 Measurement Model for Green Place

<i>CMIN/DF</i>	<i>SRMR</i>	<i>GFI</i>	<i>CFI</i>	<i>TLI</i>	<i>RMSEA</i>
3.210	.08	.980	.982	.988	.063

The construct green place had over-all five items. PL2 were omitted because of low loading on a single factor. Fit indices used to check the good and fitness of model directs a best fit of model. Concluding loadings are equated in the below table.

Table: 4 Measurement Model Indices Summary

Construct	CMIN	SRMR	GFI	CFI	TLI	RMSEA
Firm Performance	1.518	.05	.982	.991	.977	.050
Green Product	3.019	.06	.990	.992	.964	.041
Green Price	2.515	.03	.990	.994	.957	.071
Green Promotion	3.123	.04	.994	.996	.946	.057
Green Place	3.210	.08	.980	.982	.988	.063

**Hypotheses Testing**

In the current research study SEM was utilized to check the relationship between the outlined hypotheses. Overall path investigation was through to check hypothesized relationship of observed and unobserved.

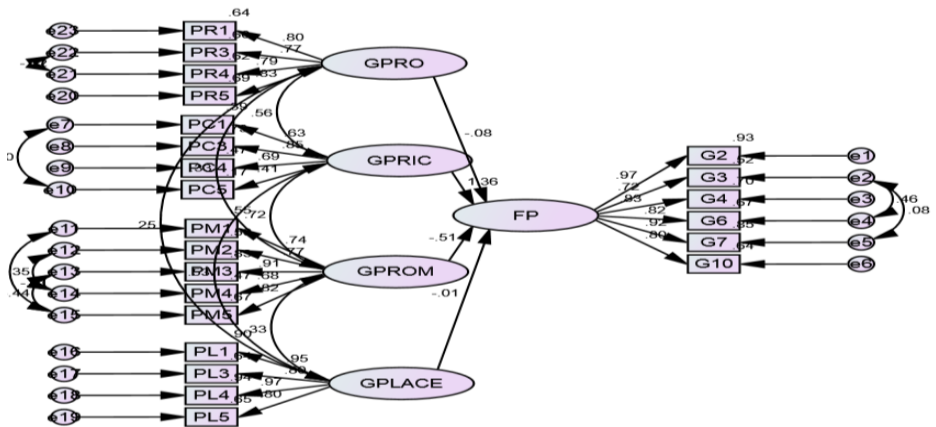


Figure 7 Structural Model

CMIN/DF	SRMR	GFI	TLI	CFI	RMSEA
4.743	.06	0.938	0.967	0.944	.068

Table 5 Hypotheses Results

Hypothesis	Structural Paths	Estimates	Std. loading	C.R	P	Results
H1	GPRO→FP	-.157	.079	-1.99	.006	Supported
H2	GPRIC→FP	2.106	.912	2.31	.001	Supported
H3	GPROM→FP	1.530	.674	2.27	.013	Supported
H4	GPLACE→FP	-.011	.054	-.21	.036	Supported

A total of four hypotheses were framed in the current research study. It was tested with SEM. The result of the hypotheses demonstrate significant effect on “firm performance”. The aforementioned independent variables contributing positively to firm performance with the significant p-value <.05. The value of

CMIN/df, SRMR, GFI, CFI, TLI and root mean square error of approximation among the chosen range that clearly demonstrate the goodness and fitness of the model. Therefore all the hypotheses H1, H2, H3, H4 is supported.

H1: *There is a significant impact of green product on firm performance .*

H2: *There is a significant impact of green price on firm performance .*

H3: *There is a significant impact of green promotion on firm performance .*

H4: *There is a significant impact of green place on firm performance .*

### **Conclusion**

SEM existed and utilized to square the relationship of suppositions used in the study. The outcomes of the study discovered that green product (GPRO) having significant control on firm performance. It is supported by the earlier literature (Gould, 1990). Similarly, ecological concerns and green availability from the opinion of (Ali & Ahmad, 2012; Ahmad & Juhdi, 2010; Kim & Han, 2010) might openly affect the buying intent to purchase “green product”.

Green price (GPRIC) is found an optimistic predicate element of firm performance. The present statistics revealed positive impression of green price on *FP* and find reliable with the previous studies. A constructive association was bring into being between green promotion and firm performance. Awareness plays an energetic role in accomplishment of every organization goals. Green promotion is a strong forecaster for the reception of green products. The independent constructs find significant in relationship with firm performance. From the entire tested and established hypothesis it is decided that four out of four hypotheses were found significant in relation with firm performance.

### **Theoretical Implications**

The current research backs significantly to the current literature as the issue of green marketing across Pakistan is rarely discussed, and nearly no study exist on the exact issue in background of KP. Thus, it expands the body of knowledge in this particular field.

### **Managerial Implications**

Corporate sector should prioritize their resources in term of R&D, technological investment, manpower in most effective and efficient way to consider possible ways of reducing pollution. Non-governmental organizations need to arrange some motivating sessions with public to disseminate

information while discussing the existing model of the study. How the corporate sector work closely on the determinants of green purchase intention. To consider possible ways to reduce the use of conventional marketing programs and to focus on learning processes like to learn from within and outside organization.

### **Limitations and Recommendations**

This research has all the limitations of a social science research. It is suggested for the upcoming research to broadening the work setting through Pakistan. Longitudinal statistics will offer more reliable results. Larger sample size recommended. It can provide more faultless data, though, the current population and sample size was enough for the justification of results. It is vital for the government to come up with some timely decisions, because government playing a part of key participant. Mixed-method approach is further recommended for future research studies.

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