The influence of environmental marketing mix on the non-financial performance of solar energy firms: The mediating role of corporate image

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Abstract
In the current market scenario, there is a number of organizations that are concern towards increasing their non-financial efficiency through the execution of the environmental marketing mix. The purpose of the study was to analyze the impact of the environmental market mix on the non-financial performance of the organization with the help of selected 280 companies that are in the solar energy back in Jordan. The researcher has used the software of SPSS 21.0 in order to assess the relations among the various variables or construct of the study. The results of the study suggest that corporate image developed through the environmental marketing mix increases the non-financial performance of the firms.

Keywords: environmental marketing mix, non-financial performance, solar energy firms, corporate image.

Introduction
Jordan is the Middle East country that considered as the Semi-Arid that is having scare resources of nature (Gougazeh and Al Shabatat, 2013). Jordan is facing the change in the weather that has urged them the corporate sector to support the green products or technology; the country is having a severe shortage of water supply and having a high cost of electricity (Zyadin et al., 2014). Jordan government is highly investing in the oil sector because it is the only dominating factor in the energy sector of the country. The country is also having the infrastructure for the solar and wind energy but it is abundant; therefore; it has been attracted the government and the scholars to focus upon this sector as well (Aagreh and Al Ghzawi, 2013). It considered that Jordan is having scare natural resources, therefore; back in 2011, Jordan has the 82.3% consumption on the energy by importing crude oil and 10.8% of natural gas. That past figures of the imports as compared to the year 2011 suggests that oil products imports increased by 21% while the import of gas decreased by 65%. These instances related with the existence of the Egyptian area towards the Arab Gas Pipeline in Sinai (Hamamre et al., 2014; Novosel et al., 2014; Al-Ghandoor, 2013A; Al-Ghandoor, 2013B). Jordan has produced about 6.680 million tons of trash back in 2011. The government has enabled to get the 70% of the trash, used for the energy products, and suggested that it is only contributing in the country energy production by 2% (Hamamre et al., 2014). It is about 1,960,000 tons of community solid waste produced by the Jordan per year; an estimate suggests that 0.95 kg/cap/day and 0.85 kg/cap/day of trash developed by the urban and rural areas of the Jordan (Aljaradin and Persson, 2012). It is expected that the trash figure can reach the maximum of 2.5 million tons of trash by the year 2015 (Aljaradin and Persson, 2012).

In the corporate sector, they are recommending the green products should be used because it is a highly sensitive issue for the people of the country; the reason is that people having the concern of the environmental changes and Jordan is having the direct impact of the climate change which has reduced their ability of having the natural resources. Therefore; in the Jordan, there is a high focus upon the use of green technology or products for the safety of the environment and for the country as well (Leonidou et al., 2013A). It is evident that a large number of the customers are demanding the green products (Eneizan and Wahab, 2016d).
It is evident that there is lack of interest of the researchers towards the sustainability of the environmental market strategies while in the corporate sector managers are highly keen to focus upon the environmental marketing strategies (Leonidou et al, 2013A) [40]. It is required for the corporate sector to adopt these environmental marketing strategies in order to make the environment-friendly and promote their green products adequately. It is also a fact that these strategies are able to attract the attention of the scholars in the low percentage (Raska and Shaw, 2012; Cronin et al, 2011) [52, 21].

It is highly concern issue that there is limited information or researches done on the environmental marketing in Jordan therefore; it is required to increase the research area by the scholars and analyze the environmental marketing strategies influence upon the corporate sector of Jordan. Environmental marketing strategies are the most highlighted issue for the different organization but there is a lack of information or knowledge among the managers regarding the benefits in adopting the environmental marketing strategies (El Samen et al, 2011) [27]. In Jordan; green products and strategies of environmental marketing is not common and do not have information about it (Al Shatrat et al, 2013) [3]. It is also a fact that most of the green organizations do not implement the environmental marketing strategies (Dief and Font, 2010) [25]. After the successful use of green products and environmental marketing strategies in the developed countries; therefore; most of the developing countries like Jordan they are reluctant to discuss the issue and benefit of the environmental marketing strategies in their culture. It is the need among the Jordanian corporate sector; that they should adopt and know about; the green products and environmental marketing strategies (Eneizan et al, 2016b) [50]. It is the demand for the green products that organization should reduce the harmful waste during the process of the product (Hashem and Al Rifai, 2011) [35]. In Jordan; lack of environmental safety programs that attached to the customers; therefore; they are not able to satisfy their customers as well (Abdalkrim and Al Hrezaa, 2013) [2]. It is required from the organizational perspective that they should focus on their strategies to satisfy the customers (Polonsky, 2011) [52]. The adoption of the green technology or products used by the developed countries organization but there is lack of adoption in the developing countries in the Asian region (Saxena and Khandelwal, 2012) [55].

It observed that a large number of organizations in the Jordan is not having consideration regarding the environment and sell their products on a high price, which is not rationalized pricing strategy without considering the environmental marketing strategy (Papadopoulos et al, 2010) [50]. Globalization has emerged the concept of using the environmental strategies for the betterment of the environment in the Jordan. There is a large amount of growth in the population of Jordan in the last decade. The industrialization has changed the lifestyle and vision of living in the society due to the change in the environment and approach of the organizations. The change in the industrialization has also brought changes in the living standards of the people but in this way; there are some scarce resources such as; lack of water and air pollution, biodiversity loss and other features. That is the reason; it is required to assess the adoption of environmental marketing strategies by the Jordanian organization and the efficiency of its corporate sector should be analyzed (El Smen et al, 2011) [6].

In the current study; researcher has used the environmental marketing mix as an independent variable; on the other hand, corporate image as the intervening variable in the study. Non-financial performance used as the dependent variable; this study can be analyzed the causal impact relations with each other variables. The study includes the adoption of green products in order to validate the impact of the environmental marketing mix on non-financial performance.

**Literature review**

Environmental marketing defined as the dedication of the organization with the environment to product safety, using the recyclable packaging material, reducing pollution and using the energy efficiently (Kotler, 2006) [39]. Green marketing is having the less impact upon the product’s life, material, selling, and consumption (Bustaman, 2015a; 2015b) [12, 13]. Using or adopting of green marketing is the result or demand of the environmental safety (Peattie, 1992) [51]; that can be analyzed in the four different features such as; green products, green price, green distribution and green promotion.

Corporate image is the ambassador of representing the organizational entity (Ditcher, 1985) [26]. It suggested that the corporate image is the final goods of the impact of experience, feeling, beliefs and perception regarding the organization based on the information they hold about the organization (Worcester, 1972) [59]. Image of the corporation includes the perception about products, feeling and stakeholders and others (Hatch Gill Body and Portney, 2003) [36]. Developing the image of the strong brand among the customers it is required to satisfy them and increases the word of mouth marketing and publicity in the society (Rojgerson, 1983) [54]. The corporate image includes three more features such as; institution image, functional and merchandise (Walters, 1978) [58]. The present research work utilizes the features to analysis the impact of corporate image.

The financial indicators; for measuring the organizational performance includes; efficiency, productivity, profitability, growth, using environmental safety strategies and sustainability (Campbell, 1977) [14]. Performance of the organization divided into two features that are business and market performance (Delaney and Huselid, 1996) [24]. Researchers have found that the service feature among the corporate sector increases the employee performance and organizational performance as well (Lytle and Timmerman, 2006) [44]. it is suggested that marketing bring the positivity in the performance whether it is financial or nonfinancial performance (Eneizan et al, 2016a; Eneizan et al, 2016b; Eneizan et al, 2015; Azizi et al, 2009) [30, 31, 29, 9].

Environmental marketing strategies used in order to gain the long-term benefits such as; increasing the market share, financial benefits and performance of the organization (Leonidou et al, 2013A, 2013B, 2015) [40] and with the increased abilities of the employees as well. Supporting the environmental activities increases the satisfaction of the customers and increasing the value of the organization that helps them to reduce the threats to the organization. The organization can save the cost by selling more and more green products. Those organizations that are using the green technology achieve the waste and energy reduction through
their processes. In this feature; DuPont put the money on the green project about 50 Million USD in order to save energy in 2008 but they are able to recover that amount in one year and bringing the cost-saving options for the future as well. There are several benefits and positive feature associated with the environmental marketing strategy for the organizational performance but it is required to use the strategies in depth in order to increase the efficiency of the organization (Cronin et al, 2011) [21].

Conceptual Framework and Hypotheses Development

The influence of environmental marketing mix on non-financial performance

It is suggested that the environmental marketing mix is effective for the organization’s non-financial performance in regards to the two important grounds; that are; using the products, which are supportive to the environment increase the good image of the organization and bring satisfaction among the customers (Fraj-Andres et al, 2009; Miles and Covin, 2000) [46]. It is evident that using the green products reduces the negative publicity in the market and increases the good image of the organization (Menon et al, 1999) [45]. The second ground is the organization should use the appropriate environmental marketing mix that will increase the sales figure but it will bring the new segment in the market; for those customers that highly concern over the environmental safety (Banerjee et al, 2003) [11]. It also helps the organization to increase the market share along the customer satisfaction and developing loyalty among the customers of the organization, which will increase the sustainability, and competitiveness of the organization in the market (Fraj Andres et al, 2009; Shrivastava, 1995) [33, 56].

Following are the hypothesis of the study

H1A non-financial firm performance is positively associated with the deployment of green product
H2A non-financial firm performance is positively associated with the deployment of green price
H3A non-financial firm performance is positively associated with the deployment of green distribution
H4A non-financial firm performance is positively associated with the deployment of green promotion

The influence of environmental marketing mix on corporate image

The environmental marketing mix is the representative of the organizational perspective on the environmental strategies in order to bring the image of the corporation among the people (Chen et al, 2006) [17]. It is evident that environmental marketing mix increases the goodwill, image, and profitability of the corporate (Dangelico and Pujari, 2010). The use of environmental marketing mix is to increase the image of the corporate sector (Chen, 2010) [19].

H5: A green marketing strategy can have a significantly positive influence on the corporate image.

Influence of corporate image on non-financial performance

In the current market, customers like to increase the relation with the organization those who are having goodwill and good image in the market (Keller, 2003). An effective image of the organization develops the loyalty, increases sales and organization cost saves on promotional activities. This image of the corporate will be having an impact on the customer’s decision-making, satisfaction and having repeated purchase experiences (Oliver, 1981) [49]. It is evident that the strong image of the corporate increases the non-financial performance of the organization (Courtright and Smude, 2009) [20]. Image of the corporation has a positive impact upon the nonfinancial performance which is having the significant feature for the organizational strategy (Herstein, Mitki, & Jaffe, 2008; Liu, Wang, & Chen, 2009). The following hypothesis has developed in view of the above discussion.

H6: Corporate image can have a significantly positive influence on non-financial performance.

Methodology

Research framework

Research constituted on the research framework that also includes the hypothesis (Fig. 01) that supported by the questionnaire. Environmental marketing mix has used as an independent variable while corporate image used as a mediating variable while the dependent variables are the nonfinancial performance of solar energy organizations in Jordan. The aim of the study is to analyze the correlation between each variable.

Fig 1: Research framework

Sampling

Researchers have used the 280 solar energy organization and visited personally in the span of two-month time. The researcher has received the valid questionnaire about 188 that used in the analysis of the study. It is evident that the most of the studies used the sample size more than 30 and less than 500 (Roscoe, 1975). Solar energy firms selected for the sample size and conducting the survey because they are having an association with the solar energy which are the phenomena for the study conducting on Jordan.

Measurement variables

The questionnaire has been developed that are having questions that are developed in view of the research problem, other studies extractions and covering the scope of the study to get the findings for the study (Synodinos, 2003). The researcher was highly focused upon the development of questionnaire because it requires vigilance, choice of questions, the order of questions and their appropriate wording of the questions. The questionnaire was developed in view of the green marketing strategy experience from the respondent’s perspective.

Environmental marketing mix includes four other constructs that used from the source of (Leonidou et al., 2013a; Leonidou et al., 2013b). The corporate image was the part of the study of Wu and Lin, (2016). The non-financial
performance constructs used from the (Leonidou et al., 2013a; Leonidou et al., 2013b). The researcher has used the suggested value of Alpha should be in between 0.6 to 0.7 (Nunnally, 1978). The following tables represent the values of the Cronbach Alpha, which is greater than 0.7 for each variable. It concludes that entire variables are reliable and fit for the model to conduct the study.

### Descriptive statistics

The researcher has used the descriptive statistics for the analysis of six variables that used in the research framework of the study; the following tables show the values of descriptive statistics.

<table>
<thead>
<tr>
<th>Construct</th>
<th>No of Items</th>
<th>Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green Product</td>
<td>04</td>
<td>0.705</td>
</tr>
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<td>Green Price</td>
<td>04</td>
<td>0.801</td>
</tr>
<tr>
<td>Green Distribution</td>
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<td>0.771</td>
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<td>05</td>
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<td>07</td>
<td>0.716</td>
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### Research results and findings

The research framework is having six constructs and every construct having multiple variables. The constructs are presented in the below table.

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<td>1</td>
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### Reliability Analysis

The researcher has used the Cronbach Alpha to test the reliability of the questionnaire. The use of Cronbach Alpha is best for the assessment of the multiple items of the construct (Nunnally, 1978). The value of the Cronbach Alpha considered as 0.60 (Churchill and Peter, 1984). The Cronbach Alpha is best for the assessment of the multiple items of the construct (Nunnally, 1978). The value of the Cronbach Alpha, which is greater than 0.7 for each variable. It concludes that entire variables are reliable and fit for the model to conduct the study.

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The variables of the framework are having the value of 1 to maximum 5 while the mean of the variable is 3 that suggests the respondents having responses mostly neutral. The standard deviation of the variables was 1 only one exception was there that the nonfinancial performance has the 0.7. It is evident from the table that there is no- unusual value suggested by the data.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Relationship</th>
<th>P-Value</th>
<th>Result</th>
</tr>
</thead>
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<tr>
<td>Green product positively effects the Non-financial performance.</td>
<td>Green Product → Performance</td>
<td>0.042</td>
<td>Supported</td>
</tr>
<tr>
<td>Green price positively effects the Non-financial performance.</td>
<td>Green Price → Performance</td>
<td>0.022</td>
<td>Supported</td>
</tr>
<tr>
<td>Green distribution positively effects the Non-financial performance.</td>
<td>Green Dist → Performance</td>
<td>0.040</td>
<td>Supported</td>
</tr>
<tr>
<td>Green promotion positively effects the Non-financial performance.</td>
<td>Green Promo → Performance</td>
<td>0.049</td>
<td>Supported</td>
</tr>
<tr>
<td>Green product positively effects the Corporate Image.</td>
<td>Green Product → Corp_Image</td>
<td>0.000</td>
<td>Supported</td>
</tr>
<tr>
<td>Green price positively effects the Corporate Image.</td>
<td>Green Price → Corp_Image</td>
<td>0.006</td>
<td>Supported</td>
</tr>
<tr>
<td>Green distribution positively effects the Corporate Image.</td>
<td>Green Dist → Corp_Image</td>
<td>0.046</td>
<td>Supported</td>
</tr>
<tr>
<td>Green promotion positively effects the Corporate Image.</td>
<td>Green Promo → Corp_Image</td>
<td>0.019</td>
<td>Supported</td>
</tr>
<tr>
<td>Corporate Image positively effects the Non-financial performance.</td>
<td>Corp_Image → Performance</td>
<td>0.000</td>
<td>Supported</td>
</tr>
<tr>
<td>Corporate Image mediates the relationship of Green Product and Non-financial Performance</td>
<td>G_Product → Corp_Img → Perf</td>
<td>0.000</td>
<td>Supported</td>
</tr>
<tr>
<td>Corporate Image mediates the relationship of Green distribution and Non-financial Performance</td>
<td>G_Dist → Corp_Img → Perf</td>
<td>0.01</td>
<td>Supported</td>
</tr>
<tr>
<td>Corporate Image mediates the relationship of Green Promotion and Non-financial Performance</td>
<td>G_Promo → Corp_Img → Perf</td>
<td>0.11</td>
<td>Not Supported</td>
</tr>
<tr>
<td>Corporate Image mediates the relationship of Green Price and Non-financial Performance</td>
<td>G_Price → Corp_Img → Perf</td>
<td>0.01</td>
<td>Supported</td>
</tr>
</tbody>
</table>

The hypotheses developed from the research framework were found to be supported except one of the hypothesis regarding the role of corporate image in the relationship of green promotion and non-financial performance of the firm. The results suggest that green marketing having a positive effect on the corporate image and both features are having an impact on the non-financial performance of the organization.

**Conclusions and suggestions**

**Discussion**

It is an increased pressure on the corporate sector for the safety of the environment; therefore, only a few studies helped the research to analyze; the impact of the environmental marketing mix on the non-financial performance. Researcher sample size based upon the solar energy organization and the motive of the study was to analyze the impact of environmental marketing mix in relation to the developed model and using the measurement scale. This study finding is the most important feature for the industries and scholars to conduct the correlation analysis among the constructs.

The aim of the research was to provide the analysis in order to undertake the impact of environmental market mix on the non-financial performance of solar energy organization by using the corporate image as mediating variable. The study suggests that there is a significant and positive relationship among the environmental marketing mix on non-financial performance with the factor of the corporate image. The finding suggests that solar energy organization should be having the consistent strategy for the environmental marketing mix that will increase the non-financial performance and contributes towards the better image of the corporate. This theory advocates the other findings of the researchers as well such as Eneizan et al., (2016a) [30]; Eneizan et al., (2016b) [31]; Eneizan et al., (2015) [29]; Azizi et al., (2009) [9]; Leonidou et al., (2013a) [40]; Leonidou et al., (2013b) [41].

**Hypothesis Testing**

The researcher has used the regression analysis to test the hypotheses of the research. The relationship of the variables and hypotheses with the p-values are exhibited in the table below.

**References**

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