Integrated Green Purchase Model: An Empirical Analysis on Jordan

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This study aims to explore the influence of green perceived value, green perceived risk, green trust, and eco-labeling upon green purchase intentions in Jordanian households, as well as to discuss the role of household demographics (gender, age, educational level, and income level) on green purchase intention. The study sample consisted of 250 respondents. Multiple Regression and One Way ANOVA tests were applied to validate the research framework. Results showed that green perceived value, green perceived risk, green trust, and eco-labeling do affect green purchase intentions. Additionally, the research demonstrated that there is a statistical difference in green purchase intention between all demographics, excluding age.

Keywords: green purchase intentions, green perceived value, green perceived risk, green trust, eco labeling, Jordan

INTRODUCTION

Environmental issues have become an increasingly important factor in consumer decision-making, significantly affecting product perception and purchasing choices given their close relation to consumers’ health and the earth’s sustainability (Sarigollu, 2009). As knowledge on these issues has spread, consumers have become more aware of the impacts that their consumption habits have upon the environment, often seeking out products that conserve natural resources, use less energy, and reduce waste and pollution – often denoted by terms such as, “sustainable”, “environmentally friendly”, “green”, and “pro-environmental” (Simula et al., 2009). The degree to which they pursue such green behavior is affected by factors including the availability of green products in multiple, nearby locations, the availability of product information, the products’ contribution to a sustainable future, and the perception of the products’ green value (Fallahpour, Olugu et al. 2015).

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Successful businesses have taken note of changing consumer preference, producing and marketing greener products to gain a competitive advantage through product differentiation, among other benefits. Businesses aiming to go green should investigate, from a marketing perspective, how consumers build their purchase decisions regarding green products, incorporating these lessons into their marketing policies in order to stimulate green purchase intention and take advantage of consumers’ rising environmental awareness (Haden et al., 2009).

Green marketing is relatively new in Jordan and is being encouraged by a growing minority of environmentally conscious consumers (Alsmadi, 2007; Jahamani, 2003). According to the World Environmental Performance Index, conducted by Yale University in 2010 (Yale University), Jordan was ranked 97 of 163 countries. The Index ranks are based on environmental public health and ecosystem vitality, and suggest that Jordan’s population is becoming more aware of environmental issues, as well as revealing a great deal of room for potential growth (Lim 2015). Given Jordan’s fairly young green market, it is imperative to fully understand the attributes affecting the buying intentions of Jordanians in order to successfully expand the market and make environmentally friendly products more appealing to the wider Jordanian population.

LITERATURE REVIEW

Jordan is facing a variety of challenges in sustainable development. These challenges arise from limitations in natural resources, poor water quality, a high population growth rate, a high level of pollution, and a lack of proper methods of recycling (GCEP, 1999). Although Jordanian consumers are environmentally aware, they still show favor towards traditional products in their purchase intention (Alsmadi, 2007).

While the Jordanian government has begun to respond to these green challenges, through actions such as issuing the Law of Environment Protection in 1995 and pressuring firms to adopt green business strategies (Jahamani, 2003), the country remains in the early stages of green initiation. The Ministry of Environment and Greater Amman Municipality has recently launched a number of campaigns, as have several prominent nongovernmental organizations, in order to promote the benefits of environmental conservation and prevention of excess consumption (JMoE). There is also an effort to include environmental education and awareness at all levels in the public education system (GCEP, 1999).

In the private sector, international companies were the first to start promoting green products such as personal care items, detergents, organic food, and energy saving products in the Jordanian market. Since then, a number of local businesses have followed suit (Choudhary, Sarkar et al. 2015). It is no longer uncommon to find organic food, green cleaning products, cosmetics not tested on animals, the use of recycled materials, or the use of green shopping bags in stores (Cozmo, JEIS). Additionally, there has been an increase in available financing for environmentally friendly projects. Al Ahli bank has recently launched the “Go Green Loan” aiming to protect the environment and assist in saving energy through affordable financing to both households and enterprises for eco-friendly products. The loan is budgeted up to 40,000 Jordanian Dinars with zero interest (Jordan Ahli Bank). The World Bank also funded several projects in 2012 to assist in sustainability projects throughout Jordan (World Bank Group).

A number of factors have been found to affect consumer purchasing intentions of green products. Ahmad and Juhdi (2010) argue that consumers’ green perceived value and their belief about a product’s environmental safety have a significant positive impact on their intention to buy green products. Similarly, if consumers believe that a green product would damage the environment or fail to fulfill their green demands, they would avoid purchasing it (Al-Zu’bi, 2010; Abdallah et al., 2009; Abdallah and Matsui, 2008). Another major variable is customer trust (Heizer et al., 2013; Abdallah and Matsui, 2009; Abdallah and Phan, 2007). Both Chen (2010) and Schlosser et al. (2006) state that green trust influences consumers’ green purchase behaviors based on the green product’s
A 1993 study by Carlson et al. found that eco-labels may directly induce buying behavior, as some consumers show interest in reading labels and searching for information about the products’ environmental safety.

Additionally, demographic characteristics – such as age, gender, education, and income – may have an impact on consumer purchasing intentions, as well. Mainieri et al. (1997) indicated that females buy more green products and partake in recycling activities more than men. Some researchers support the significant correlation between age and green purchase intention (Jain and Kaur, 2006, Roberts, 1996), while others argue that there is no significant relationship between the two (Straughan and Roberts, 1999). Studies by Granzin and Olsen (1991) and Panni (2006) found the level of consumers’ education to directly correlate with a higher level of environmental awareness. In regards to income level, individuals with high income were found to be more likely to support environmental sustainability and have a higher tendency to buy eco-friendly products (Straughan and Robert, 1999).

RESEARCH QUESTIONS

This study aims to identify the influence of green perceived value, green perceived risk, green trust, and eco-labeling on green purchase intention, taking into account selected household demographics (gender, age, educational level and income level).

Considering all of the above factors, the following research model can be formed, which consists of four main variable categories that affect the green purchase intention:

1-Independent Variables:
A. Green Perceived Value. B. Green Perceived Risk. C. Green Trust D. Eco-Labeling

2-Dependent Variables: Green Purchase Intention

H₀₁: There is no significant relationship between the independent variables (green perceived value, green perceived risk, green trust, and eco-labeling) taken together and the green purchase intention.

H₀₂: There is no significant relationship between the independent variables (green perceived value, green perceived risk, green trust, and eco-labeling) taken separately and the green purchase intention.

H₀₃: There is no difference in green purchase intention due to the household’s characteristics, such as: “gender, age, educational level, and income level” taken separately.

THEORETICAL FRAMEWORK

Data Collection Method

As the population of environmentally conscious consumers is unknown in Jordan and there are no prevalent statistics on green consumers within the country, the researchers reviewed previous studies concerning green purchase intentions among households in order to determine an appropriate sample size, finding that the majority of these studies used a sample size of approximately 250 green consumers (Akehurst et al., 2012; Mei et al., 2012). Based on these numbers, an appropriate sample size for this study was determined to be 250 individuals. The subjects of the sample were households shopping in locations selling green products, in addition to people who regularly buy green products in the capital Amman. Accordingly questionnaires were manually given to consumers in these selected locations, as well as through referrals or by email. We selected the large malls in Amman to ensure the availability of green products. We interviewed potential respondents in order to determine whether or not they were regularly buying green products before asking them to fill the questionnaire. The process of data collection continued until the targeted number of questionnaires was obtained. The estimated percentage of customers buying green products who agreed to participate and fill out the questionnaire was 65%. This response rate is higher than response rates reported in other empirical studies in Jordan (e.g. Al-Zu’bi et al.,
Measures
The independent and dependent variables’ measurements are adopted from a range of previous studies and have been modified to adhere with the constructs of the study. We selected this method in order to ensure the validity and reliability of our constructs. This method is widely used in the published empirical studies (e.g. Tsinopoulos and Al-Zu’bi, 2014; Al Hasan, and Al-Zu’bi, 2014; Al-Abdallah et al., 2014; Al-Zu’bi and Tsinopoulos, 2012; Tsinopoulos and Al-Zu’bi, 2012; Phan et al., 2011; Al-Zu’bi et al., 2011; Abdallah and Matsui, 2007). The study used a five-point Likert scale, ranging from strong disagreement to strong agreement, to measure the questionnaire items. The measurement of Green Perceived Value is adopted from Chen and Chai’s 2010 study. Green Perceived Risk is adopted from a 2012 study by Chen and Chang. Green Trust is derived from the studies of Chen (2010) and Hart and Saunders (1997). Eco-labeling is adapted from an assortment of studies by Mei et al. (2012) and Abdul Rashid (2009). Green Purchase Intention is adopted from a study by Chang and Chen (2008).

ANALYSIS
Multiple regression analysis and analysis of variance were conducted in order to examine the effect of the independent variables (taken separately or taken together) on green purchase intention and to test the first and second hypotheses of the study.

One Way Analysis of Variance was used to test the effect of the consumers’ demographics on green purchase intention and to test the third hypothesis of the study. Additionally, Tukey’s post hoc tests were used to find the difference in variance.

Testing the first hypothesis:

**TABLE 1 HERE**

a. Predictors: (Constant) green perceived value, green perceived risk, green trust, eco-labeling

**TABLE 2 HERE**

b. Dependent Variable: Green purchase intention

The analysis of variance (ANOVA) in Table (2) shows that there is a significant relationship between the independent variables taken together and the green purchase intention since the sig. level is below 0.05. Consequently, the main null hypothesis should be rejected meaning that there is a significant relationship between the independent variables (green perceived value, green perceived risk, green trust and eco-labeling) taken together and the green purchase intention.

Testing the second hypothesis:

**TABLE 3 HERE**

Table 3 shows the estimation of beta for each independent variable of this study. Eco-labeling has the highest beta among all independent variables, with a value of .325, followed by green perceived value and green trust that had similar beta values of .233 and .232. Green perceived risk had a lower beta of -.165.

Table 3 also illustrates the analysis of coefficients and presents the values of significance for the independent variables; green perceived value = .000, green perceived risk = .012, green trust = .002 and eco-labeling = .000. These values are all below .05. Consequently, the null hypothesis should be rejected and the alternate verified; there is a significant relationship between the independent variables taken separately and the green purchase intention.

Testing the third hypothesis:

**TABLE 4,5,6 & 7 HERE**

Results in Table 4 show that the values are significant below 0.05, indicating a statistically
significant difference in green purchase intention according to gender. Therefore, the null hypothesis related to gender should be rejected and the alternative hypothesis, which states that there is a difference in green purchase intention due to gender, should be accepted, showing females are found to have higher green purchase intention than males.

Regarding age, results in Table 5 show that values are significantly above 0.05 (.073), revealing no statistical difference in green purchase intention according to the age of the consumer. Therefore, the null hypothesis should be accepted.

Table 6 shows the results of education level with values that are significantly below 0.05, demonstrating a statistical difference in green purchase intention according to education level. Therefore, the null hypothesis related to educational level should be rejected. Tukey's Post hoc comparisons in the Green Purchase Intention show that the source of variation is caused from consumers with higher educational levels.

The results of consumers’ income levels are presented in table 7, which shows that values are significantly below 0.05. This reveals a statistically significant difference in green purchase intention according to income level. Therefore, the null hypothesis related to income level should be rejected. Tukey's Post hoc comparisons in the Green Purchase Intention show that the source of variation is caused by consumers with higher income levels.

DISCUSSION

This study observed the factors affecting green purchasing intention among households in Jordan and was able to conceptualize how green perceived value, green perceived risk, green trust, and eco-labeling affected green purchase intention. The results showed a statistically significant relationship between the independent factors, taken together or separately, and the green purchase intention. Thus, a synergistic relation between these factors is recommended in order to ensure their effect on green purchase intention.

As for the independent variables taken separately, the results of testing the second hypothesis demonstrated the presence of a statistical significant relationship between each independent variable and the green purchase intention. Green perceived value and green purchase intention were found to have a positive relationship (Sato 2015). This result is in line with the findings of Ahmad and Juhdi (2010) and Wier et al. (2008), who found a positive relationship between green perceived value and green purchase intention. Moreover, the study concluded the existence of a negative relationship between green perceived risk and green purchase intentions consistent with previous studies by Chen and Chang (2012) and Mitchell (1999). The consumer is highly unlikely to buy the product if it is perceived that the product will malfunction or harm the environment. The study also found a positive relationship between green trust and green purchase intention, supported by Chen and Chang (2012), indicating that when consumers believe in the green product’s credibility to perform its environmental functions and green promises, they are far likelier to buy it more frequently (Kwok, Wong et al. 2015). Finally, the study developed a deeper understanding of consumers’ understanding of green labels and indicated a strong positive relationship between eco-labeling and green purchase intention, which aligns with the findings of previous studies by D’Souza (2004) and Lannuzzi and Haviland (2006).

As for analysis of the respondents’ demographic characteristics (age, gender, education, and income) and their difference upon green purchase intention, the results revealed that females were found to have a higher tendency to purchase green products than males. This result is supported in literature by Brody et al. (2004), Laroche et al. (2001), and Mainieri et al. (1997). On the contrary, age was found to cause no difference in green purchase intention and the null hypothesis was accepted, as there was no statistical difference in green purchase intention according to the age of the consumer. This is in line with particular researchers such as Straughan and Roberts (1999). The analysis on educational levels revealed a statistical difference in green purchase intention, revealing university degree holders and high
school diploma holders as more likely to have green purchase intentions. This is supported by previous literature showing that highly educated people are more likely to adopt pro-environmental behaviours (Tilikidou and Delistavrou, 2001; Zimmer et al., 1994). Income level was also investigated, with the results revealing that consumers who have higher income levels are more likely to purchase green household products. This finding is supported by many previous studies showing that consumers with high income were likely to support environmental sustainability and tend to buy eco-friendly products (Finisterra et al., 2009; Straughan and Robert, 1999).

Figure 2 shows the modified theoretical framework of the research according to the value of Betas. The independent variables are listed in a descending manner to show their significance upon green purchase intention. Moreover, R-square indicates the changeability of green purchase intention by the independent variables taken together. The demographics were also modified by omitting age (Sekerka, McCabe et al. 2015).

**FIGURE 2 HERE**

**CONCLUSION**  
The structural model of the study added a new concept by trying to analyze the effect of all the independent factors together on green purchase intention. In order to enhance green purchase intention, companies should combine the concepts of green perceived value, green perceived risk, green trust, and eco-labeling in the marketing planning and research stage to ensure proper synergy between these variables.

Among the factors affecting green purchase intention, eco-labeling was found to have the highest beta of all the independent variables. This indicates that marketers should give eco-labeling a priority in their marketing strategy and try to educate Jordanians about green labels and their meanings as consumers currently identify eco-labels as a guarantee that the product will not harm the environment. In addition, the environmental labels may provoke green purchase intention. Consequently, marketers should use green labels as a marketing tool to create a product's image and as a product differentiation tactic. As for the consumer’s perception of value, it was found to have the second highest correlation coefficient, which implies that consumer perceptions of value play a key role in affecting green purchase intention. Thus, according to the findings of the study, companies should enhance their green perceived value, although they may also need to invest in communication strategies that stress the product will not harm the environment in any way, whether in design, function, or usage. Moreover, since some consumers evaluate products in terms of greenness, additional green value information should be applied by companies gain a competitive advantage over traditional products.

Green trust was viewed by the sample as a major factor affecting green purchase intention. A useful starting point for marketers is to develop strategies that raise green purchase intention by being transparent in their green claims and by helping potential customers develop sufficient green trust, which will lead to a build up in longer-term relationships and increase consumers’ frequent buying of green products. Conversely, green perceived risk was found to have a negative effect on green purchase intention. If the consumers believed that there is probability a green product will negatively affect the environment, they show no intention of buying it. Therefore, companies should provide sufficient information that will reduce any risk associated with the product design, usage and performance.

Regarding demographic results, the study concluded that there is a difference in green purchase intention in all of the demographic variables, excluding age. The majority of consumers who showed willingness to purchase green products were females, which implies that there should be segmentation for the green product markets with communication strategies concentrating on women. As for education level, the study revealed that consumers who had completed a higher level of education showed more intention to purchase eco-friendly products as these consumers were more aware of the
benefits of eco-friendly or health conscious products. Moreover, consumers with higher income were found to have higher green purchase intentions as they can afford to spend more in order to buy green products. Accordingly, marketers should develop strategies targeting consumers with higher educational levels obtaining middle to high levels of income.

On a micro level, the green marketing in Jordan is still in its introductory stage. This is visible in the study as a result of analyzing the gross amount spent on green products purchased per month from the respondents’ disposable income, which revealed that the majority of respondents spend less than 50 Jordanian Dinars per month, or a percentage of 67.4. This implies that the awareness of the Jordanian consumer about environmental problems is starting to drive the market for green products, albeit slowly. Given Jordan’s increasing environmental challenges and its slow rate of change, this paper recommends that the government create long-term strategies to protect the environment and introduce a substantial environmental awareness component to all levels of education. Additionally, more green legislation should be created and the efforts and coordination amongst various constituents of society should be increased to create a positive response towards environmental issues.

REFERENCES


consumers. *Canadian Social Science, 6*(6), 119-129.


## APPENDIX

**Table 1: Results of regression analysis for the effect of the independent variables upon green purchase intention**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.890a</td>
<td>.792</td>
<td>.789</td>
<td>.28048</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant) green perceived value, green perceived risk, green trust, eco-labeling
Table 2: Analysis of Variance for the effect of the independent variables taken together upon green purchase intention

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>67.545</td>
<td>4</td>
<td>16.886</td>
<td>214.648</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>17.701</td>
<td>225</td>
<td>.079</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>85.246</td>
<td>229</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Testing the second hypothesis: Table 3 demonstrates the results.

Table 3: Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td>T</td>
</tr>
<tr>
<td>(Constant)</td>
<td>- .086</td>
<td>.138</td>
<td>-.625</td>
<td>.532</td>
</tr>
<tr>
<td>Green perceived value</td>
<td>.238</td>
<td>.065</td>
<td>.233</td>
<td>3.647</td>
</tr>
<tr>
<td>Green perceived risk</td>
<td>.169</td>
<td>.067</td>
<td>-.165</td>
<td>2.538</td>
</tr>
<tr>
<td>Eco-labeling</td>
<td>.372</td>
<td>.070</td>
<td>.325</td>
<td>5.283</td>
</tr>
</tbody>
</table>

Table 4: One-Way Analysis of Variance for the differences in Green Purchase Intention according to Gender

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>18.959</td>
<td>1</td>
<td>18.959</td>
<td>65.210</td>
<td>.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>66.287</td>
<td>228</td>
<td>.291</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>85.246</td>
<td>229</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 5: One-Way Analysis of Variance for the differences in Green Purchase Intention according to Age

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>3.164</td>
<td>4</td>
<td>.791</td>
<td>2.169</td>
<td>.073</td>
</tr>
<tr>
<td>Within Groups</td>
<td>82.081</td>
<td>639</td>
<td>0.268</td>
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</tr>
<tr>
<td>Total</td>
<td>85.246</td>
<td>643</td>
<td></td>
<td></td>
<td></td>
</tr>
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</table>

Table 6: One-Way Analysis of Variance for the differences in Green Purchase Intention according to Educational Level

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>12.780</td>
<td>4</td>
<td>3.195</td>
<td>9.920</td>
<td>.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>72.466</td>
<td>225</td>
<td>.322</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>85.246</td>
<td>229</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 7: One-Way Analysis of Variance for the differences in Green Purchase Intention according to Income Level

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>3.616</td>
<td>4</td>
<td>.904</td>
<td>2.492</td>
<td>.044</td>
</tr>
<tr>
<td>Within Groups</td>
<td>81.629</td>
<td>225</td>
<td>.363</td>
<td></td>
<td></td>
</tr>
</tbody>
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