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Article

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Green Energy Products and The Relationship of The Customer's Consideration for The Environment and Perceived Risk Involved with The Mediating Position of Customer Purchasing Intentions; The Point of View of Foreign Tourist in Jordan

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ABSTRACT

The goal of this study is to examine green energy goods and the relationship of the consumer concern for the atmosphere and perceived danger associated with the mediating role of the customer buying intentions; the point of view of international tourists in Jordan. The sampling technique was accompanied by a cross-sectional, quantitative, and explanatory design, whereby 340 individuals were chosen using a random population method reflecting the tourists of the Jordan for a 2-week span beginning on 11/11/2020. By circulation of a paper questionnaire and with the aid of some tourist guides, the person sample was achieved. Moreover, through two stages, the structural model was being analyzed. In the first stage (direct effect) the effect (PK-appropriate CPI) was not important, so H1 was not sponsored. However, the result was important with regard to (PK ΔPR), and hypothesis 2a was supported. (PK ΔEC) were not significant, so hypothesis 2a was not supported. Furthermore, the direct impact of product danger and environmental problems on purchasing intentions were explored, resulting in negative/positive and important findings (PR over CPI, $P < 0.05$; and environmental concerns over purchase intentions, $P > 0.05$), so H3awere was endorsed, however, H3b was not supported.

Keywords: Green Energy, Customer Purchase Intentions, Environmental Concern, Perceived Risk, Product Knowledge
JEL Classifications: Q42, M30, Q51, G32, D8

1. INTRODUCTION

Green energy supplies are continuously restored by nature and extracted explicitly thermal and photovoltaic or indirectly wind and hydro from the solar or other natural environment mechanisms (geothermal and tidal energy). Renewable is a central component in decarburizing economies. Renewable technology excludes fossil fuel capital, fossil fuel waste products, and inorganic waste products (Ainou et al., 2022; Ellabban et al., 2014). Cleaned technology (Renewable) is also essential climate-neutral and resource-saving.

Jordan will face big obstacles in its attempts to satisfy the rising energy requirements and, in particular, the need for electricity. While at the same time, enhancing the energy market in a way that it shows the detrimental consequences on social life, economy, and climate are minimized. The Department of Statistics shows the figure of 270 listed hotels which are

comprised of 37 five-star hotels, 63 three-star hotels, 68 two-star hotels, and finally 67 one-star hotels. Moreover, Ministry of Tourism and Antiquities in Jordan (MOTA) indicates that due to the detrimental effects, hotels are bound to increase the usage of electricity for daily operations and other leisure activities. This can be seen in the hotel's temperature control and general facilities design.

Consumption of energy is considered to be the most critical factor of economic development and, even now, consumption of energy is mostly in the form of fossil fuels. Nevertheless, the redundant use of fossil fuels as a means of supplying non-renewable energy sources presents numerous environmental problems, especially in the form of a decline in natural resources and a decade-long increase in carbon emissions (Chien et al., 2021a; Gomez-Trujillo and Gonzalez-Perez, 2020; Forcadell and Aracil, 2019). In this regard, the authorities clamorously stressed the value of sustainable energy in complementing non-renewable sources of energy. Renewable energy has an important function in the hospitality processes for a healthier world. As a result, several countries have begun to channel funds to develop technologies that allow the transition to renewable sources of energy to mitigate environmental problems.

Thus, several benefits can be gained when improve environmental-friendly energy usage in hotels and other related places (Al Fahmawee and Jawabreh,2022). It can be accomplished through the reduction of resources and cost, consumer satisfaction, improved brand profile, hiring and maintaining devoted employees, preventing penalties by environmental regulators, and enhancing competition around the globe. These advantages for industry and, most critically, for the climate, all render hotels' energy savings and maintenance a critical necessity for sustainable growth.

As the utilization of energy is higher in tourism and other hospitability-related industries. Therefore, many hotels prefer to keep a record of their energy usage. However, they pay less attention to the certain use of various end-use applications. In tourism, typical energy loads might be influenced by numerous operational factors such as hotel size, climatic situation, place, demographics (guest), and the type of services.

Entry to clean energy is not only an environmental problem, it is also critical to sustainability and poverty reduction. Multinational corporations, especially those operating in institutionally poor countries, have a greater capacity to contribute to the economic and social growth of economies through their corporate social responsibility (Huang et al., 2021; Letcher, 2008)

Effective utilization of electricity for green conservation is considered to be poundage in the difficult times of oil scarcity. In a country like Pakistan, the supply of electricity has always been in demand, especially in hot weather. Hence, the shortage of energy occurs because of the persistent imbalance situation between demand and supply to generate power. The void did not arise in just one night but the lackluster and inefficient policies played a bigger role during the last three decades (Letcher, 2008; Kessides, 2013). In addition, the marketing literature is curious about the influences that have a significant and indirect connection to the influencing of consumer purchasing intentions (Mydock et al., 2018; Tuu and Olsen, 2012; Sarmad et al., 2020; Chen and He, 2003). Sales analysis relies on consumer purchasing patterns for emerging technology services and also assists in decision-making on product demand, market segmentation, and promotional strategy.

Perceived risk illustrates and offers an understanding of market assessment, preference, and purchasing trends (Campbell and Goldstein, 2001; Liu et al., 2022). Existing evidence also encompasses the increased consumer awareness because of the information or experiences that enhance learning processes and helped to mitigate perceived risk. In comparison, awareness, and certainty mitigate vulnerability (Kaartemo and Gonzalez-Perez, 2020) and the perceived risk of illegal customer-aware behavior (Mitchell, 1999; Moslehpour et al., 2021). Collectively analyzing these structures may gain more weight in the emerging economic scenario, where the risks associated with technological goods are typical due to low per capita income, and low technological advances (Daryono et al., 2019).

It is argued that technical products, priced products, novel products, and environmental concerns are supposed to be a significant predictor of purchasing behavior. Due to their association, they also mediate the relationship of product awareness with purchase intentions (Evanschitzky and Wunderlich, 2006; Lu et al., 2019). As discussed, awareness plays a crucial role to mitigates risks and threats but due to this factor of low income, people from certain class prefers espying the possibility of threatening constructs that may cause hindrance in their purchase intention. Having these arguments, the present research followed a cross-section framework of self-governing questionnaires to record primary data for actual answers. In addition, the present research explores the mediation impact of commodity awareness structures and purchasing intentions (Yahya et al., 2008). Greater changes have been observed in Jordan, especially in the last few decades. Moreover, various economic sectors' including tourism growth is interlinked to the higher energy demand and wealth. It is also to be noted that Jordan many of times imports resources in the context of petroleum goods. This is why, energy-saving means less dependency on oil imports and thus fewer greenhouse emissions.

Customer feelings are included in the appraisal of a potential product, when a person's confidence in the current existing assessment of the product is concerned (Westbrook and Reilly, 1983). By using current goods, consumers can settle on new transactions based on their experiences, however, it is not the same in the situation of new experiences with newly launched green energy products. Consumer attitudes and product loyalty have become compounded over time (Asemokha et al., 2019), which is why these frameworks communicate with some similar constructs, such as environmental considerations, engagement, and certain other constructs (Chandrashekaran et al., 2007). This research offers insights into the procurement of green energy equipment as risk expectations occur (Martinez-Poveda et al., 2009).

2. LITERATURE REVIEW

2.1. Knowledge about Renewable Energy Products

Clean technologies are comprised of energy supply technology, energy management technology, and other alternative renewable sources. These technologies are mostly used to increase energy efficiencies through various techniques such as combining eat and power, virtual power plants, or smart meters. The present research considers only alternate forms of green energy, i.e., solar energy, which were known to be citizens with a stronger propensity towards this technology. It is to shed light on the reality that the regeneration of the energy industry and the substitution of fossil energy by green energy are developmental phases correlated with technical transition and the development of markets (Kubiszewski et al., 2010). However, market awareness, which is the first point of reference in the quest for facts prior to the process of decision-making, hasn't gained as much consideration as is appropriate. Market awareness sometimes referred to as "Product-related knowledge" is the degree to which customers have understanding, skills, and identification with the product. It applies to internalizing knowledge to be used by customers when they make decisions (Kolyesnikova et al., 2010; Rortveit and Olsen, 2007).

Normally, tourists are asked to provide preparatory details about the products/goods they consider buying. Consumer awareness is composed of "familiarity and expertise." Familiarity refers to "the amount of product-related interactions acquired," on the other hand expertise is defined as "the capacity to execute effective product-related activities" (Darko et al., 2020). Consumers interested in acquiring more product awareness, perform an efficient quest of details, keeping in mind the qualities of utility and being able to differentiate between products and better selectors of brands (Jawabreh et al., 2020; Jahmani et al., 2020).

Consumers, who are highly aware of brand or any commodity, are successful in making buying choices and prefer an option that is closest to their purchase requirements as compared to the customer who possesses lower knowledge regarding the product (Jawabreh et al., 2022a; Pang and Ji, 2007).

2.2. Environmental Concerns

Hall et al. (2010) describe the environmental concern as a person's knowledge of and ability to resolve environmental concerns. On the other side, Saleh and Jawabreh,. 2020; Kalafatis, Pollard, East and Tsogas (1999), environmental issues could contribute to market interest and awareness that natural resources are scarce and that the ecosystem is at risk. Thus, Lamy (2008) and Saunders et al. (2009) have found that environmental issues are a central consideration in the decision-making phase for customers. Environmental issues are a big motivation for environmental attitudes (Dimitrovski et al.,2021; Jawabreh et al., 2022b; Yadav and Pathak, 2016). To escape this scenario, Jordan has many options: for example, to ramp up attempts to discover and exploit indigenous energy resources such as oil shale; to adopt energy-thrift and improved long-term environmental planning; as well as to steadily incorporate more economic unit-energy prices domestically (Jaber et al., 1997; Saleh et al., 2021b). According to Hanson (2013), environmental issues have been related to the mindset towards green customers in Canada. Yadav and Pathak (2016) have shown that environmental issues have a major effect on the approach of young consumers to green goods in India. Maichum et al., 2016) concluded that environmental issues have a significant effect on perceptions towards green goods among Thai consumers (Sleh and Jawabreh., 2020).

Humanity with a poor environmental concern is disturbing the equilibrium of nature (Verbruggen et al., 2010; Baños et al., 2011) with an opportunity to control nature when the awareness of the consumer is the clarity of the commodity and its uses. Increased awareness contributes to greater environmental concern (Sawhney and Kahn, 2012).

According to Mostafa (2009), environmental altruism is basically a kind of social activity that arises from a willingness to preserve the well-being from being poisoned especially the close relations and future generations. Environmental issues are defined as "a one-dimensional construction ranging from the low-end environment to the high-end environment concerned, as measured by the new environmental paradigm" (Mostafa, 2009). In other words, it also elaborates the attitudinal existence of the globe and its security. Therefore awareness is considered to play a crucial role in the sustainable buying and growth of buyer motivation for sustainable energy products, enabled by accessible media and educational options, whereas individuals with a lack of knowledge are viewed as disadvantaged (Cutler and Carmichael, 2010; Xu et al., 2015).

2.3. Purchase of Intents

Purchase purpose is a deliberate action, or strategy, which specifically involves actions to trigger it (Westboork and Oliver, 1991; Tsiotsou, 2006) suggested that the buying purpose should be closely associated with environmental and ethical considerations. Previous experiments have also demonstrated that aim is the greatest indicator of human actions (Tsiros and Heilman, 2005; Liobikienė et al., 2016). Purchase aim is a significant term that has been explored in the marketing literature (Johnson et al., 2006; Suh and Yi, 2006). According to Tsiotsou (2006), marketing managers are highly involved in customer purchase intention. Their involvement can be viewed in such a way that they could predict the purchase patterns and promote relevant marketing options that are more appropriate for new and existing products, advertising strategies, and target audiences. Johnson et al. (2006) and Oliver (2009) argued that the dynamics of product development must be integrated with customer purchase intention especially when you are entering a new market. The reason is that the early-stage offering is linked to satisfaction which plays a bigger role in customer purchase intention (Mazursky and Geva, 1989). The prior literature also indicates the correlation between satisfaction and customer purchase intention which can be altered in the presence of moderators such as customer/situational characteristics (Evanschitzky and Wunderlich, 2006; Walsh et al., 2008). However, only a few studies according to the author's knowledge investigated the role of moderators in said relationship in the case of the new products.

The definition outlined here is notable because consumers' awareness and level of comfort with emerging technologies (solar

panels) have often been seen to be unclear (Pegallapati and Frank, 2016) regarding the possible risks associated with renewable energy goods (Li et al., 2014). The impact of such influences on the perception of green energy products differs from those of existing goods. It is to be noted that, in the case of existing goods, customers may have more knowledge regarding the usage of products.

2.4. Risks Considered

Perceived risk, a central term of customer behavior, means that customers are at risk (Yeung and Morris, 2006). According to Bauer (1960), the pre-purchase confusion experience at times creates an obstacle in building purchasing behavior, hence, measuring calculated risk before making a mind to purchase a certain product. The author further argued with the help of a developed theme which indicates that consumer calculates risk in such a way that his/her decision is linked with a degree of ambiguity.

In fact, finance-based risk applies to the possibility that a certain transaction or fortune might end up in the loss of resources or capita. Whereas, performance risk is referred to "the likelihood that the commodity purchased may result in a failure to perform as anticipated." Social danger relates to the possibility that the commodity bought will result in rejection from relatives or associates. Psychological risk relates to the chance that a commodity will result in self-image inconsistency (Cary, 2004). Physical danger relates to the possibility that the commodity bought will result in personal injuries and time risk, which refers to the likelihood that the transaction may result in a lack of time to purchase or keep the product. Overall, the perceived danger is the aggregated effect of these different variables.

Consumers are conscious of elevated risks during purchasing decisions for unfamiliar products, thereby pressuring consumers to prefer the most suitable brands (Bhukya and Singh, 2015) noticed that practical and time threats had a detrimental effect on the purchasing decisions of such privately branded products, whereas environmental, physical, psychological and social risks had no major impact on them (Beneke et al., 2012; Liebermann and Stashevsky, 2002). The confusion about the achievement of the objectives established in the procurement of goods. Customers with risk-averse patterns have a lower propensity to build buying plans and vice versa (Stern et al., 1979). There are various kinds of risks involved with the buying of a commodity, such as potential functional, economical, physical, and psychological risks that have a significant detrimental impact on the purchase.

Perceived threats have a huge effect on the consumer's decision to buy private label premiums (Glynn and Chen, 2009; Alic et al., 2013). In addition, the sophistication of the product is observed to be associated with functional harm. Discovered that manufacturing Private Branded Labels is more difficult than the famous brands that can be used in the case of respectable energy goods.

3. METHODOLOGY

This study relied on the explanatory analytical method, where the research aims to show relationships between some variables. The sampling strategy was followed, whereby 340 individuals were selected using a random method from the community, which represents the tourists of the Jordan for a period of 2 weeks, starting on 11/11/2020. The individual sample was reached by distributing a paper questionnaire and with the help of some tourist guides. Some simple inquiries were answered on some paragraphs of some respondents personally or over the phone. The study faced the problem of some tourists refusal to cooperate for the main reason, which is the desire to use time for recreation. This problem was overcome by convincing most of them, and the relatively small number of paragraphs helped in this and the use of the five-point Likert scale, which requires less intellectual effort than the seventh, for example.

Data were collected from the sample members using a questionnaire, which was translated into more than one language so that all the sample members could answer it. It was designed to measure the four study axes, and several references were used to select the questions of the axes and were judged by some experts. The stability of these questions was confirmed through an experimental study of a sample of 50 tourists, and their stability and reliability were confirmed and the extent of saturation of the paragraphs. No paragraph has been canceled, and none of the paragraphs have been merged at this stage.

After collecting the questionnaires, 19 of them were excluded due to the great lack of answers. Six of them contained questions ranging from one to two unanswered questions, so they were filled out based on the answers of the rest of the questionnaires. Bringing the number of analyzable questionnaires to 321.

SPSS and Amos were used to analyze the collected data, where the analysis unit represents one individual tourist, in order to obtain some statistical measures to be used to reach the validity of the data, as well as the quality of the data and its suitability for the path model used, and then test the hypotheses using appropriate tests. Some hypotheses have been tested based on Bias-corrected bootstrap. As for the hypotheses related to the mediating variable, the standardized estimates were calculated by multiplying the special values of the two branches from the independent to the dependent. The significance value was statistically certified 0.05.

3.1. Hypothesis

H1: PK is positively correlated with CPI.
H2a: PK is negatively correlated with PR.
H2b: PK is positively correlated with EC.
H3a: Perceived risk is negatively correlated with CPI.
H3b: Environmental concern is positively correlated with CPI.
H4a: PR mediates the association of knowledge with CPI.
H4b: EC mediates the association of knowledge with CPI.

3.2. Description of Personal and Functional Factors

The males consist (53.58%) of the sample. Highest class (25.55%) their ages (51–60 years), and less class (15.26) their ages <31 years. (56.70%) their educational level is a bachelor, Postgraduate (11.21%) only (Table 1).

3.2.1. Measurement model

The study first performed CFA to evaluate the reliability and validity of constructs and the integrity of the overall model. The scale is a better fit for the study as per the standard of Hooper et al. (2008). In the next step, discriminant and convergent validities were examined and considered Hair et al. (2012a) recommended thresholds as a benchmark for Cronbach alpha, composite reliability, and AVE. As depicted in Table 2, Hair et al. (2012b) discriminant validity was calculated through the AVE's Sq. root. It can be seen in Table 3 that all the rooted AVE values of constructs are greater than the partial correlation among constructs. Table 4, however, is indicating the model fitness ratio and exhibited an acceptable filling in view with target range of each index. From Figure 1, we can see the validity of each construct which has been calculated through AVE and factor loadings. From figure, it can also be depicted that the figures of convergent validity are >0.5, hence fulfilling the criteria (Anderson and Gerbing, 1988).

3.3. Hypotheses Testing

In two phases, the structural model was analyzed. In the earlier phase (direct effect) the effect (PK→CPI) was no significant (Table 5), therefore H1 was not supported. But the effect was significant in (PK→PR), and hypothesis 2a was supported. (PK→EC) were not significant so hypothesis 2a was not supported.

Further to more, the direct impact of product risk and environmental concern on purchase intention was investigated. The findings revealed the positive association of product risk with purchase intention as the path coefficient is positive and the $P < 0.05$. however, environmental concern has no significant impact on purchase intention. Therefore, we can say that results support H3a but do not support H3b.

Table 6 shows the indirect effect PK on PCI results. PR is significant mediation ($P < 0.05$). So PK effect on PCI through PR (Coefficient: 0.069). But EC is not mediation ($P > 0.05$). So, PK

Table 1: Demographic information

Variable	Frequency	Percentage
Gender		
Male	172	53.58
Female	149	46.42
Age		
60 and more	77	23.99
51–60	82	25.55
41–50	53	16.51
31–40	60	18.69
Less than 31	49	15.26
Education		
High school	40	12.46
Bachelor of	180	56.07
M.A.	65	20.25
Postgraduate	36	11.21

Table 2: Convergent validity tests

Variable	Cronbach's alpha	Ave	The square root of AVE	Cr
PK	0.87	0.53	0.73	0.87
PR	0.61	0.72	0.85	0.86
EC	0.90	0.7	0.83	0.9
CPI	0.87	0.65	0.8	0.88

Table 3: Standard deviations, mean, correlations

Measures	Mean	SD	PK	PR	EC	CPI
PK	4.05	0.89	1			
PR	2.85	0.82	0.114*	1		
EC	4.06	1.13	0.007	0.065	1	
CPI	2.41	0.98	0.061	0.34*	0.089	1

**P<0.01. *P<0.05

Table 4: The goodness of fit statistics

SRMR	RMSEA	GFI	CFI	TLI	IFI	P	χ^2/df
0.040	0.035	0.937	0.984	0.982	0.984	0.00	1.40

Figure 1: Standardized parameter estimates

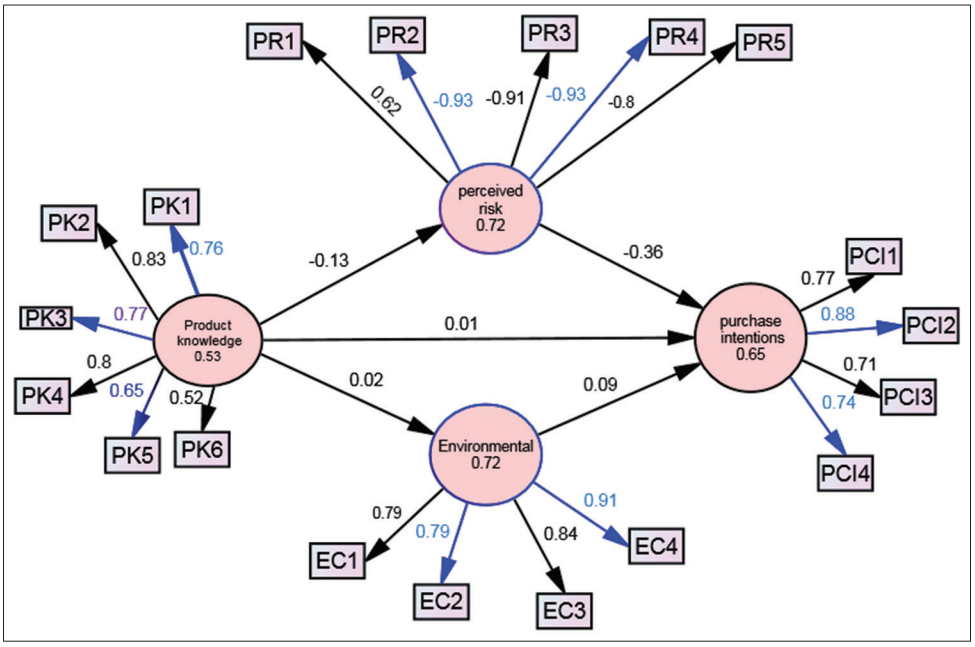

Table 5: Bias-corrected bootstrapping results (direct effect)

Links	Coefficient	Confidence limits		P-value
		Lower	Upper	
PK→CPI	0.01	−0.139	0.123	0.977
PK→PR	−0.13	0.305−	0.037−	0.023
PK→EC	0.02	−0.157	0.24	0.856
PR→CPI	−0.36	−0.535	−0.285	0.003
EC→CPI	0.09	0.004	0.126	0.088

Table 6: Mediation effects result

Links	Coef	Confidence limits		P-value
		Lower	Upper	
PK→PR→CPI	0.069	0.018	0.133	0.017
PK→EC→CPI	0.002	−0.011	0.024	0.567

does not affect PCI through PR. Hypotheses 4a (mediation effects) are supported. And 4b is not supported.

4. CONCLUSION

The structural model was examined through two crucial stages. In the 1st phase (direct effect) the effect (PK-appropriate CPI) was not important (Table 5), so H1 was not sponsored. However, the result was important with regard to (PK ΔPR), and the 2a hypotheses were supported. (PK ΔEC) were not significant, so the 2a hypotheses were not supported. There has been increasing doubt about the large volume of energy that hotels use for their operating purposes. In addition, a variety of reports have analyzed the usage of electricity and the environmental efficiency of hotels (Yahya et al., 2008). The studies were able to boost hotel performance through good operating standards in these hotels. A major increase in the size of Jordan's hospitality sector needs more sustainable facilities in terms of environment. The implementation of energy-saving practices would also offer a major method for hotels to compare before, for example, installing and installing energy-saving appliances. In addition, the use of many forms of energy sources for efficiency is a crucial concern in environmental protection.

Measurement Model In the first instance, the confirmatory factor analysis (CFA) for the credibility of the measurement models was carried out. Table 4 indicates that the scales were best matched to the criteria are given by Hooper et al. (2008). Subsequently, Hair et al. (2012) guidelines explored the convergent and unequal validity.

Figure 1 demonstrates the validity of the build using factor loading and the estimated variance derived. In fact, the findings of the Convergence Validity Evaluation. Figure 1 indicates that all uniform loading values are above the 0.5 stage (Anderson and Gerbing, 1988).

Jordan's economy relies on utilities, including tourism and transport operations, which account for 66% of GDP. The industry contributes 30% to GDP. Tourism may be a productive industry. However, tourism – both visitors and hotels, restaurants, and other catering services – may lead to environmental deterioration. Environmentally-friendly tourism must ensure not only those tourists value the environment (demand aspects), but also that the interests of industries and societies that share the needs of tourists are addressed (supply aspects). Sustainable tourism thus encourages better usage of green energies, requires less water, avoids pollution, preserves biodiversity, and promotes the cultural heritage of the region.

Hotels have often developed energy-saving facilities, although it has been stated that the management of one-star hotels is not quite capable of implementing such modifications in their hotels, whereas other ranked hotels (2-5-star hotels) have shown a deep commitment to making adjustments to their hotels in order to reduce the usage of different types of energy.

There can be many outlets of information, from food labels, publishing and electronic media advertisements, and sales personnel of shops with certain items. It is often recognized that environmental concern tends to build perceptions towards particular goods and eventually helps to develop purchasing intentions.

The value of solving environmental problems is well known as a means of, in different forms, satisfying consumer desires and social responsibility or corporate ethics. However, hotel managers ought to be persuaded that environmentally sustainable or ecological practices can be cost-effective, performance-enhancing strategies in the long term. For e.g., is the re-use of towels or the use of energy-efficient lighting merely a measure that shows the hotel's involvement in environmental programs or simply a cost-saving tool for the hotel? And does it actually lead to improving overall efficiency? It is this latter query that this thesis is intended to address.

Primary energy usage in Jordan has risen over the last 20 years, accounting for 7.064 kilotons of oil equivalent, which is 46% higher than the country's overall energy consumption 10 years earlier. Energy demand per capita was constant over the last 10 years, rising by 16% between 2001 and 2011 Gross electricity use increased by 58% to 10.4 billion kWh, and annual electricity usage per capita grew by 25% between 2001 and 2011, from 1.280 to 1.598 kWh per capita.

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