

## Article

# A Moderated Mediation Analysis of Lebanon's Food Consumers' Green Purchasing Intentions: A Path Towards Sustainability

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**Abstract:** As the concern for climate change and ecological disasters grows globally, different elements that can encourage and increase green behaviors have become a point of attention for scholars and practitioners. The current research primarily focuses on the factors that can impact green purchasing intentions and steps toward achieving sustainable development goals in the Lebanese context and specifically Tripoli. This study examines the role of consumer spirituality in determining green purchasing intentions along with the moderating effect of subjective norms and environmental concerns and the mediating effect of perceived consumer effectiveness. By deploying a cross-sectional survey, 350 responses from food industry consumers were collected using a judgmental sampling technique. The data were analyzed using partial least square–structural equation modeling (PLS-SEM) under the premises of the theory of planned behavior and norm activation theory. The findings suggest that a direct linkage exists between consumer spirituality and green purchasing intentions among Lebanese food consumers. Moreover, the mediating role of perceived consumer effectiveness was partially supported along with the moderating impact of subjective norms. This is while the moderating effect of environmental concerns was not found statistically significant, which implies a distance between being environmentally aware and actions that support this concern. This finding highlights the importance of considering consumers' spiritual orientation when analyzing the impact of spirituality in the realm of green marketing. The implications of the findings can be beneficial for strategic improvements among firms as well as directions for scholars to expand upon the current understanding.

**Keywords:** consumer spirituality; environmental concerns; perceived consumer effectiveness; consumer behavior; food sector; sustainability



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## 1. Introduction

People across the world have become more aware and concerned about sustainability, particularly regarding the environment. This has led to rapid and vivid changes in marketing strategies that ought to match the changing consumer behavior [1]. This has gained the attention of scholars to better understand the dynamics that affect green consumer behavior. For instance, some scholars [2] found that green purchasing intention impacts green purchasing behavior (GPB). Other scholars [3] underscored that consumers' ecological ideas, ecological elements, awareness of green products, and consumer's values affect consumers' GPB. Uddin and [4] uncovered that ecological attitudes impact young consumers' GPB. Ref. [5] showed ecological attitude, ecological concern, perceived behavior control, ecological knowledge, subjective norm, perceived consumer effectiveness, and collectivism as

the most explored factors affecting GPB. Ref. [6] highlighted that the COVID-19 pandemic positively affected the formation process of conscious GPB. Ref. [7] showed that green purchasing intention favorably impacts GPB. This shift in awareness represents personal factors, including values and ethics that can be considered similar to (religious) beliefs, which can affect an individual's perceptions towards behavioral outcomes (i.e., environmental purchases in this case) [8,9]. Single-use plastics, unnecessary packaging (e.g., fruits), water pollution, ineffective waste management, and greenhouse gas emissions are among the key contributors to the deterioration of the environment both locally and globally with Asian nations having a direr situation, when compared to Western developed nations. It is noteworthy that the primary issue is regarded as an environmental problem that surpasses the economy, healthcare, unemployment, and crime [10]. As a result, purchasing decisions among consumers have shifted towards green and sustainable products.

The current research focuses on Lebanon, a developing country in the Mediterranean region which has diverse cultural, social, economic, political, and trade relationships with over 20 countries that border this sea. As distinct commonalities have been reported [8], marketing strategies should be aligned with the values of each nation to achieve success. Hence, investigating relevant topics in this region can provide a crucial understanding of the Mediterranean and Middle Eastern marketing context [1,11]. Notably, there is a shortage in the literature when it comes to the investigation of various consumer behavior aspects (i.e., green purchasing intentions) in this region, which is a major drive for the conduct of this research, particularly for Lebanon, as it bridges Western and Middle Eastern nations. The food sector uses a large number of plastics, which strengthens the importance of green behavior among consumers [12]. This study argues that lifestyle, along with characteristics of individuals and their surroundings (i.e., subjective norms, environmental concerns, spirituality, and perceived consumer effectiveness), are major determinants of their green purchasing intentions as a behavioral outcome. Moreover, with increased green consumption (i.e., green purchasing intentions), societies can have smooth movement towards sustainable and long-term outcomes that are designed to preserve and be efficient [1].

Organizations can achieve higher success rates if they manufacture products through green means and can enhance the perception of consumers towards their brand as it is perceived as eco-friendly [9]. However, it is argued that consumers and, particularly, their beliefs carry a major role in terms of battling environmental issues (i.e., green purchasing intentions) [13]. In this respect, perceived consumer effectiveness has been regarded as a vital element in determining green behavior among consumers [9]. Within a spiritual context, individuals are more conscious of their purchasing behaviors, consumption, and their actions in the market due to considerations regarding sustainability issues. It has been reported that recyclable packaging, energy-efficient appliances, fair-trade items, and other green products are preferred among consumers.

Green purchase intentions (GPIs) are regarded as a major determinant of positive outcomes that can show their benefits both in the short and long terms under the notion of Triple Bottom Line (TBL), which entails the three pillars of sustainable development, namely social, economic, and environmental aspects. As the decision-making process and human behavior are highly complex by nature, further investigation of underlying effects and relevant factors has been called for by scholars [8]. Within the context of this study, spirituality is operationalized as a significant driver of attitudes such as societal responsibilities and environmental stewardship. Spirituality can contribute to efficiency in terms of consumer behavior under the right analytical context. Organizational and individual aspects of spirituality have been discussed in the literature under contexts such as leadership, performance, coping mechanisms, and stress-related aspects [9], while the

notion of green consumption along with relevant subjects is less examined [9]. Spirituality guides individuals to show more care towards societal and human issues (i.e., environment) and adjust their actions according to ethics, honesty, and morality. This shows a linkage between spirituality among consumers and their GPI as responsibility and accountability have arisen for such individuals, encouraging eco-friendly actions and behaviors.

Connection, synergy, and enlightenment are among the feelings that an individual can grow through spirituality, which manifests in their daily lives as it transcends as an intrinsic motivational element that becomes a part of their personality [9]. These values are linked to the perception of consumers towards the effectiveness of their actions in relation to their beliefs, which is measured as perceived consumer effectiveness (PCE) [14]. The extent to which an individual is conscious regarding their actions (i.e., purchase intentions) towards environmental issues is stimulated by PCE, rendering it a highly influential element in this context. This study focuses on addressing the linkage between spirituality and GPI, which is lacking in the existing literature, through the mediating effect of PCE on how Lebanese food consumers perceive environmental issues and responsibility towards these problems [14,15]. The action of green purchasing is more likely to occur when individuals have developed positive attitudes toward green issues, which goes beyond mere knowledge and/or awareness of the subject [16]. Thus, the mediating impact of PCE is under investigation in this research.

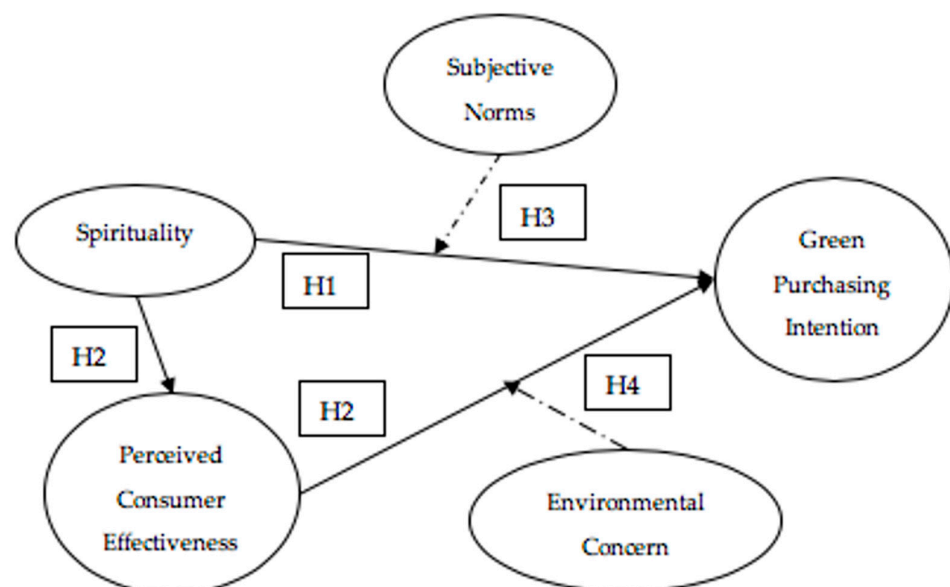
In addition to what was noted, subjective norms are included in the current model (see Figure 1), which entail the perception of individuals under societal pressures and influences that can be exerted via the groups that they belong to. These will have a direct impact on the values, beliefs, intentions, and attitudes of individuals, especially in the context of GPI. These influences can be derived from family members, peers, and social expectations that encourage or discourage green intentions and behaviors due to group belonging and a collective sense of responsibility. Subjective norms as an indirect factor are examined in this research. Furthermore, the current study investigates the indirect effect of environmental concerns with respect to behavioral outcomes (i.e., GPI). This factor has been regarded as vital in terms of shaping the behavior of consumers, particularly in the context of GPI. Depletion of resources along with drastic changes in the climate and pollution that deteriorates both air quality and other resources are key elements that have led to a growing sense of awareness and care towards environmental issues [17,18]. Individuals have become more attuned to the importance of daily purchases and their impact on the environment. For instance, in Malaysia, health, food safety, and environmental benefits have led to a significant rise in purchases of organic rice and similar green products [19].

In light of what was mentioned, the aim of this research is to address factors that influence GPI among food consumers in northern Lebanon, Tripoli. This aids manufacturers and distributors towards a greener design, pricing, and positioning that can lead to sustainable development in economic, social, and environmental aspects of society. The examination of spirituality delves into the impact of one's actions on others and nature. This offers significant potential in elucidating consumers' intrinsic motivations towards environmentally friendly intentions. By viewing GPI through the lens of spirituality, it becomes apparent that individuals with transcendent goals in life tend to exhibit greater concern for environmental issues, support environmental protection, and engage in more pro-environmental behaviors. As the literature suggests a lack of direct correlation between spirituality and GPI, the current study explores this linkage to highlight the alignment of spiritual inclinations and green consumption of food products in the context of Tripoli, Lebanon [20]. The current research deploys a theoretical setting, including and embedding the theory of planned behavior and the norm activation theory [21], which create a pathway to contribute to the understanding of these theories and their application in the context

of the Lebanese consumer market. Accordingly, this research seeks to address multiple investigative queries, which are the following:

1. How does a consumer's spirituality influence their green purchasing intentions, specifically in the context of Lebanese food products?
2. In what ways does perceived consumer effectiveness mediate the relationship between an individual's spiritual inclinations and their green purchasing intentions?
3. What role do subjective norms play in shaping the connection between an individual's spiritual proclivities and their propensity to engage in eco-friendly procurement?

The main contributions of this research can be highlighted with regard to the strategic solutions that can be deployed for environmental sustainability among various consumer markets as well as focusing on the long-term sustainability outcomes among consumers (i.e., green purchasing intentions). Notably, the conduct of studies that address the countries in the Middle East and Northern African (also known as MENA) region (e.g., Lebanon) can be used for neighboring nations to improve their strategies in this context due to the similarities that lie among the people [22]. Moreover, this study has another contribution to the literature, since the concept of spirituality has neither been fully understood nor examined in various markets (e.g., food), which shows a gap in this regard, especially when it comes to the MENA region and, specifically, Lebanon. As the concept of spirituality is complex, varies by individual, and is hard to explain or create a solid definition of, it creates a barrier and challenge for academics and practitioners alike. These complex issues also apply to the findings in the literature regarding applicable theories in different settings across the globe (i.e., theory of planned behavior).



**Figure 1.** Factors influencing green purchasing intention: a conceptual framework.

The structure of this study is organized as follows: Section 2 explains the theoretical framework. Section 3 discusses the research design. Section 4 shows the results. Section 5 presents the conclusions.

## 2. Theoretical Framework

Based on the context, aims, and research questions as well as reviewing the literature, a theoretical framework is developed to test the hypotheses of this study. Firstly, the theory of planned behavior (TPB) is used in this research to explain and predict different scenarios in which individuals conduct themselves with regard to intentions of green

consumption. Under the premise of TPB, actions are determined by cognitive decision-making and willingness. Specific behaviors are more likely to be engaged when intention exists. This in turn is under the effects of three distinct components, namely perceptions towards the behavior, subjective norms, and perceived behavioral control [21]. Under this premise, subjective norms, which are under examination in this research, are explained in terms of their influence on determining the purchasing intentions and behaviors of consumers. Individuals who prioritize quality, safety, availability, and convenience are more likely to engage in green purchases as their evaluation of the value of the product is aligned with environmental concerns, leading to the formation of purchase intentions. TPB allows marketing efforts to motivate consumers towards sustainable purchases, leading to increased development of green and sustainable products [23]. This theory has been used to address consumers' green purchases among developed countries [24] and developing countries alike (e.g., [13]). Environmental concerns directly influence specific environmental behaviors, reflecting consumers' attitudes toward these actions.

Moreover, research findings have highlighted the significant impact of subjective norms and perceived behavioral control on individuals' inclination to engage in green and environmentally friendly behaviors. These findings collectively support the utility of TPB in understanding and predicting individuals' intentions in the context of environmental well-being [25]. Ref. [21] proposes that environmental attitude, environmental concern, altruism, environmental knowledge, and skepticism towards environmental claims are the major factors influencing consumers' green purchasing behavior. Ref. [10] further examined social influence and found them as factors that impact green purchasing behavior. Accordingly, it can be stated that GPI is encouraged through environmental attitudes along with normative beliefs and perceived control that stem from the TPB premises.

Secondly, the norm activation theory (NAT) is used in this research to further explain and support the arguments posed. Under the premises of NAT, personal norms are the cause of green actions that can include GPI [26]. Personal norms are initiated under certain circumstances that entail moral standards governing the perception of individuals towards performing or avoiding certain practices [27]. This theory consists of four vital components, namely awareness of the outcome (understanding the consequences of actions on others and the environment) and attribution of responsibility for one's acts (acknowledge of the personal role in mitigating negative impacts). These two are combined to form or activate personal normative beliefs, leading to behavior [27]. The combined premises of TPB and NAT provide theoretical support for the hypotheses of the study that are detailed in the following section. Notably, other theories, such as value-belief-norm, and affect, behavior, and cognition models have been used in other studies [13]. However, the contextual setting of the study is supported by the combination of TPB and NAT theories.

### *2.1. Hypothesis Development*

In the context of this research, it is important to distinguish between religiosity and spirituality. While both are influential in shaping attitudes towards sustainable activities, religion refers to belonging to a specific religious organization and engaging in behaviors that are approved by the ideology. However, spirituality refers to having experienced divinity beyond oneself and establishing connections with external elements. While religious beliefs can foster philosophies of sustainability (e.g., Catholicism and Buddhism), the current study focuses on the role of spirituality and its role in determining GPI among Lebanese food consumers.

**Hypothesis 1.** *Consumer spirituality significantly and positively impacts their intention to engage in green purchasing behavior.*

### 2.1.1. Consumer Spirituality and Green Purchase Intention

According to previous studies, spirituality can be defined as an individual's personal pursuit of profound insights into the ultimate questions about life and interpersonal connections. Spirituality in this study is operationalized as a deep sense of connection with nature and the surrounding world, which is considered as a predictor of GPI. It can be translated into consciousness towards the environment through recognition of one's role in the larger scheme of the ecosystem. This goes beyond the personhood of an individual, encompassing their awareness towards preservation. It is believed that individuals holding such attitudes are more inclined to engage in eco-friendly behaviors. It highlighted that green or sustainable consumption is primarily driven by four key factors: (a) government laws and regulations; (b) educational programs offering incentives to alter attitudes; (c) community-based management; and (d) moral, religious, or ethical appeals. Similarly, spirituality consists of four distinct dimensions that are, namely, personal, communal, environmental, and transcendental. These dimensions link the individual with nature in the current context. Personal spirituality refers to self-awareness, inner peace, and a sense of meaning in the life of an individual; the communal aspect pertains to the quality of relationships, empathy, and connection with others; the environmental aspect addresses the respect for nature, earth, and other living beings; and transcendental spirituality entails a sense of connection to higher beings, divinity, hope, and meaning beyond the physical world.

Spirituality entails several positive attributes such as love, care, kindness, satisfaction, tolerance, accountability, and accepting coexistence. Manifestations of spirituality can vary for individuals: intrapersonal (self-intimacy), interpersonal (relationships with others and nature), and transpersonal (connections with higher powers). This subjective understanding of spirituality reflects an individual's connection to the earth and nature, encouraging green purchase intentions as was found among young Indians. Moreover, previous studies suggest that instilling spiritual values can cultivate a propensity for eco-friendly buying behavior. Consumers' consumption behavior, as well as their overall well-being, are significantly influenced by spirituality, according to [9]. Conversely, they noted that consumerism encourages materialistic values, which have a negative impact on society's welfare. Spiritual goods are more likely to be purchased by those who have a spiritual orientation due to intangible perceptions and attitudes held by individuals, which include purchasing goods that are not harmful to the environment.

The features of green products have been described as beneficial to the environment, conservation-centric, recyclable, and sensitive and responsive towards the resources being used for production. Therefore, these products provide immediate benefits to the consumers while inherently having long-term benefits via their sustainable structure. In this context, GPI directly contributes to the well-being of consumers by addressing the TBL pillars (i.e., economic, social, and environmental) as it pertains to the current and future generations [23]. The personal beliefs of consumers are disregarded as the concepts of spirituality and advertising have been intertwined due to the artistic nature of advertising. The findings in this context are inconsistent, as the literature suggests a direct contribution to ethical behavior among individuals [13], along with overconsumption and consumptive behaviors that are unsustainable. This research addresses this inconsistency, as it incorporates behavioral outcomes of consumers in response to organizational elements (i.e., PCE), personal elements (i.e., environmental concerns), and social elements (i.e., subjective norms) under the influence of spirituality among individuals.

Green advertisements specifically aim to highlight the importance of eco-friendly products and encourage consumers to adopt sustainable lifestyles, thereby fostering positive environmental behavior as noted. Additionally, they reported that consumers tend to interpret green advertisements either positively or negatively based on their specific needs and

exhibit selectivity in processing the presented information. Similarly, it has been stated that spirituality can be highlighted by organizations to further encourage GPI [9,13]. Marketers can better segment consumers based on spiritual values, their concern towards the environment, and the subjective norms that can steer them towards or against green consumption. As cognitive and attitudinal elements, the intentions of individuals to spend their money on sustainable products are influenced by these elements among others. With more conscious and sustainably concerned consumer intentions, spirituality can be a significant factor in determining intentional outcomes toward green purchasing. The understanding of GPI can be crucial for policymakers and organizations that strategize toward sustainable practices. Therefore, the following hypothesis is poised.

### 2.1.2. Mediating Role of Perceived Consumer Effectiveness

The interconnection of consumer spirituality and the PCE offers a very complex conceptualization regarding environmental decision-making. The perception of consumers towards ecological sustainability is affected by their sense of spirituality and is linked to environmental consciousness as they perceive their effects on the environment that can bring about change through their purchasing choices (i.e., GPI) [28]. Within the same context, it has been reported that PCE can have a desirable impact on solution findings for environmental challenges and issues. This is linked to the beliefs (i.e., perception) that an individual can have contributions towards environmental conservation, which encourages them to engage in positive and proactive green intentions and behaviors [9]. Self-evaluation and personal judgment towards environmental issues are key in this regard, which defines consumers' inclinations towards acting green as a consumer. This supports the notion that spirituality has a relationship with PCE, which is the assumption of the current study. Personal judgment and self-perception at the cognitive level are influenced by the degree of spirituality which manifests itself in the behavior of individuals (i.e., GPI) whether in a specific manner or a pattern.

Individuals measure their impact on environmental preservation through the manifestation of PCE, which is a belief that is closely tied to green attitudes and environmental stewardship [9]. When the degree of PCE is high, it is more likely that consumers will engage in eco-friendly purchasing due to heightened intentions. PCE determines whether the actions of individuals will yield desired outcomes, particularly regarding GPI [10]. The sense of contribution to environmental solutions is also influenced by the degree of spirituality, especially when spiritual beliefs coincide with green values. This can greatly enhance the intentions towards green purchasing as it improves PCE, which increases the sense of responsibility through GPI [9]. GPI originated from environmental consciousness, motivation, and a love for nature, which is driven by the orientations of an individual (i.e., spirituality) towards engaging in meaningful actions that are aligned with their values as well as those of the society [13].

The four dimensions of spirituality (personal, communal, environmental, and transcendental) create a bridge between the individual and their surroundings as an integral part of their beliefs that are embedded in their personalities. Under this premise, the individual perceives a fundamental connection with nature, the ecosystem, and others that becomes unbreakable and drives intrinsic motivation for various behaviors (i.e., GPI). This study suggests that PCE could impact GPI as spirituality has been found to influence an individual's behavior and mindset based on their level of consciousness. Therefore, this research delves into the connection between spirituality and GPI among consumers through PCE. Few studies have examined its correlation with GPI with the intermediary factor of PCE. Hence, this study aims to address this research gap by investigating the indirect effect of PCE. Based on these considerations, the following hypothesis is proposed:

**Hypothesis 2.** *Perceived consumer effectiveness has a mediating effect on consumers' spirituality and Green Purchasing Intention.*

### 2.1.3. Moderating Effect of Subjective Norms

Subjective norms can be described as the perception of social pressure and influence that is exerted by group(s) on an individual's attitudes, values, and interactions with others and in the current context, GPI. The influence can originate from peers, family members, or extended societal expectations. As collective responsibility and belonging to the various groups are fostered, individuals can be directed towards purchasing green products, further strengthening the link between consumers and eco-friendly practices. There are several studies that demonstrate the crucial role of subjective norms in steering the intentions of customers, reflecting the perceived social pressure that encourages engagement or refraining from certain behaviors. Conformity with the majority within social groups is sought by consumers with the aim of gaining acceptance.

The tendencies of the groups that an individual belongs to are a driver for certain behaviors due to the mentioned desire for acceptance. The opinions and perceptions of others are great influences which are operationalized as subjective norms that impact the decision outcomes of consumers in terms of purchasing green products. Under this influence and combined with the notion of spirituality (that can be enhanced by group values), an indirect link appears in the relationship between spirituality and GPI through subjective norms, which also falls under the premise of TPB as subjective norms along with perceived behavioral control are addressed. It has also been reported that subjective norms can be a source of extensive knowledge development for individuals due to the attention and emphasis that is spread regarding environmental issues [29]. Recent studies have shown that subjective norms can have a vivid impact on purchasing intentions among consumers. The social groups (e.g., peers, family members, and friends) are influential in steering individuals towards or against GPI based on the level of their perception, care, and attitude toward resource usage, energy efficiency, and other sustainable concerns. This is while personal benefits gained from purchasing goods are the major driver for individuals as some studies have noted a lack of significant impact on GPI through social influences [9].

Under the premises of spirituality and GPI in this study, subjective norms are assumed to be influential as a moderating element that can boost spiritual values in favor of environmental conservation and amplify intentions to purchase green products. When groups endorse and emphasize sustainable lifestyles, and spiritual learnings are in line with ecofriendly choices, GPI can be reinforced, which manifests as an impact on the linkage between spirituality and GPI by the prevailing social milieu. Accordingly, the following hypothesis is proposed:

**Hypothesis 3.** *Subjective norms have a moderating effect on consumers' spirituality and green purchasing intention.*

### 2.1.4. Moderating Effect of Environmental Concerns

Environmental concerns are a vivid and important factor in shaping behaviors among consumers of various products, particularly in the context of GPI. The previously noted increase in global awareness of environmental challenges (e.g., climate change, pollution, and resource depletion) has shifted the inclination of many people towards eco-friendly products and services [17]. The impacts of purchases on the environment have become more attuned among consumers in recent years, leading to an increased preference for green products. Environmental concerns (ECs in this research) can be described as the degree to which consumers understand and are prepared to address and tackle issues related to the environment. There have been recent studies in which the positive influence



of ECs was reported on the consumers' GPI [17]. While the general level of environmental responsibility has been reported to be low [9], higher levels have also been reported to be more inclined towards GPI, which highlights the lack of consensus that drove the conduct of this study.

The extent to which an individual perceives themselves as being at the level of their standards that are in association with societal roles can be reflected in their self-identity and can be manifested in increased EC. The literature suggests that purchasing green products can boost self-image, self-concept, and self-identity which are in line with preserving meanings through a shared framework [10]. These are under the influence of one's behavior, falling under the premise of both TPB and NAT as it pertains to individuals' willingness to engage in green actions through developing green intentions. These behaviors may include personal sacrifices that enable the individual to better align their purchasing habits with their environmental responsibilities, affecting their lifestyle [1]. The role of social actors along with environmental responsibility is driven by the willingness to purchase green products. As the Lebanese context of environmental concerns is under examination in this research, it is essential to increase awareness, consciousness, and knowledge of locals to enhance green conditions and face ecological challenges. PCE has been reported to be a highly important factor in determining EC. When PCE is high, consumers are more likely to engage in green actions (i.e., GPI) as the sense of contribution drives intentions and behaviors [9].

It has been noted that through the provision of positive feedback to consumers, businesses can increase the demand for green products by addressing PCE [1]. This becomes particularly important for the case of Lebanon, as there are no clear governmental regulations, which can cause doubt and hesitations regarding the effectiveness of consumers' actions (i.e., GPI). This can be obtained by emphasizing the importance of EC and its impact on the relationship between PCE and GPI. In this context, GPI has been noted to be driven by EC, responsibility towards the environment, and self-image in green activities [10], which shows that Lebanese consumers are more inclined to purchase green products when EC is in high levels and the sense of effectiveness (i.e., PCE) is high. This shows that an indirect and positive effect can be poised on the relationship between PCE and GPI that is enhanced through environmental concerns. This leads to the following:

**Hypothesis 4.** *Environmental concerns have a moderating effect on consumers' spirituality and green purchasing intention.*

Figure 1 illustrates the research hypotheses. The directions of the arrows are based on the hypothesis developed by assuming exogeneity among the independent factors.

### 3. Research Design

This research deploys a cross-sectional approach that lies in the ability to probe into values and habits as discussed by [16], which is deemed appropriate for understanding the link between spirituality and GPI through the moderating effect of PCE among food consumers in Lebanon. Through a quantitative technique, a survey is designed that enables a trustworthy and applicable conclusion [30]. According to [15], perceived environmental problems, intention effectiveness, and environmental responsibility, along with self-image, are highly important for Lebanese GPIs. This is why businesses in the country are reported to be negligent regarding the incorporation of EC in their advertising efforts, slowing the awareness of consumers [14]. The lack of abundance in green products is another aspect that diminishes the GPI among Lebanese food consumers (e.g., continued usage of single-use plastics for their convenience, affordability, and ease of use). Therefore, the current results can be beneficial for decision-makers in the food sector of Lebanon.

### 3.1. Sampling and Measurement Procedures

The data for this study were collected from customers of the food sector in Tripoli in North Lebanon. A total of 400 questionnaires were distributed in Tripoli, and the researchers aimed at guaranteeing the respondents filled the questionnaire. Collected data resulted in a sample size of 350 customers and a response rate of 87.5%. The participants for this study were selected using the judgmental sampling technique, which involves the author's discretion in choosing a specific number of individuals to focus on [31]. Respondents were selected from the normal markets and the green farms. The approach used here, commonly referred to as voluntary sampling, gives the researcher the leeway to select study participants based on their demonstrated preference for eco-friendly purchasing habits. The collection of data spanned a fortnight, where the first week was designated for questionnaire dissemination, followed by 14 days to collect the respondents' feedback during August 2024. For the purpose of reducing common method bias, a number of aspects were considered during the data collection process, which include (a) providing information to the participants regarding the aims and context of the research; (b) the voluntary nature of the survey; (c) right to withdraw from the survey at any stage; (d) anonymity (no personal/sensitive data); and (e) data confidentiality, which was followed by an informed-consent form obtained from the respondents [32,33]. This criterion was essential for design, implementation, as well as the analytical steps of the current study. We also applied Harman's one-factor pre-estimation test to assess common method bias. Since the extraction sums of squared loadings % of variance is 31.376, which is less than 50%, we will proceed with further analysis.

The measurement of consumers' spirituality (CSP) in this study is an adaptation of the 11-item measurement of [9] work. For green purchasing intention (GPI), a 4-item measurement derived from previous research conducted by [9] was utilized. To quantify subjective norms, a scale consisting of four items was employed and adapted to the variables of interest of the study, which was adapted from previous surveys. To measure perceived consumer effectiveness (PCE) initiatives, a modified measurement comprising six criteria from [9] work was utilized. Moreover, the inclusion of control variables in a study serves the purpose of mitigating statistical confounding factors (i.e., gender, education, age, and marital status). Spirituality and customers' GPI, PCE, subjective norms, and EC were evaluated using a 5-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (5).

### 3.2. Respondents' Characteristics

Male respondents made up the majority of the respondents by a small margin (50.57%). The results showed that 45.69% of respondents were in the age group 31–40 years, whereas 36.78% of respondents were younger than 30 years, and the rest were distributed in other age groups (41–50 and 51 and above). In addition, 48.85% of participants were married, 45.98% were still single, and 5.17% were divorced. In terms of the level of education, 39.88% of the respondents had a post-graduate degree, 36.42% of the respondents had a high school degree, and 23.7% had an undergraduate degree. In terms of occupation, 52.3% of respondents informed that they had a full-time job, 24.77% informed that they had a part-time job, and 22.99% of the respondents informed that they were unemployed. Lastly, the questionnaire inquired about the family status of the respondents, with 52.87% of the respondents informed that they had no kids, 32.76% had either one or two children, and 14.37% of respondents had three or more children.

#### 4. Analysis

To analyze the proposed model (see Figure 1), partial least squares–structural equation modeling (PLS-SEM) was deployed, as the model consists of a latent variable, adequate statistical power with a relatively smaller sample size can be achieved, and there were no concerns of normality for the data distribution [34]. Tables 1 and 2 show the assessment of the measurement model that has been found to be qualified, as the outer loadings are above 0.708 [35]; internal consistency Rho A and alpha along with composite reliability are between 0.7 and 0.9 [36–38]; average variance extracted (AVE) are satisfactory, as they are above 0.5, stating that convergent validity is adequate [34]; and heterotrait–monotrait (HTMT) values are below 0.85, which states that discriminant validity is satisfactory [39].

**Table 1.** Measurement model assessment.

Constructs	Indicators	Outer Loadings	Alpha	Rho A	CR	AVE
Spirituality VIF = 2.230	SP1	0.767	0.818	0.821	0.815	0.601
	SP2	0.878				
	SP3	0.901				
	SP4	0.765				
	SP5	0.763				
	SP6	0.819				
	SP7	0.820				
	SP8	0.788				
	SP9	0.794				
	SP10	0.733				
	SP11	0.788				
Green Purchasing Intentions VIF = 2.309	GPI1	0.811	0.873	0.875	0.864	0.737
	GPI2	0.845				
	GPI3	0.823				
	GPI4	0.834				
Subjective Norms VIF = 1.989	SN1	0.843	0.854	0.871	0.863	0.622
	SN2	0.802				
	SN3	0.876				
	SN4	0.742				
Perceived Consumer Effectiveness VIF = 2.131	PCE1	0.872	0.821	0.832	0.821	0.711
	PCE2	0.854				
	PCE3	0.729				
	PCE4	0.713				
	PCE5	0.864				
	PCE6	0.786				

The structural model assessment results are presented in Table 3, where the hypotheses of the research have been tested. The requirements of a model fit have been met in the results as the normal fit index (NFI) is 0.922, and the standardized root mean square residual (SRMR) is 0.027 [40]. Additionally, there was no concern regarding multicollinearity, as the variance inflation factor (VIF) was found to be below 3 (as shown in Table 1).

Furthermore, the values of R-squared and Q-squared (in-sample predictive power and predictive relevance, respectively) are within the satisfactory thresholds recommended by [41]. Thus, Table 3 shows that the hypotheses of the research have been supported.

**Table 2.** Heterotrait–monotrait ratio (HTMT).

	SP	GPI	SN
SP			
GPI	0.632		
SN	0.751	0.468	
PCE	0.578	0.469	0.544

SP = spirituality; GPI = green purchasing intentions; SN = subjective norms; PCE = perceived consumer effectiveness.

**Table 3.** Structural model assessment.

Effects	Relations	$\beta$	t-Statistics	$F^2$	Decision
<b>Direct</b>					
H1	SP $\rightarrow$ GPI	0.312	4.203 ***	0.121	Supported
<b>Mediation</b>					
H2	SP $\rightarrow$ PCE $\rightarrow$ GPI	0.115	2.920 **	0.032	Supported
<b>Interaction</b>					
H3	SN * SP $\rightarrow$ GPI	0.042	2.204 *	0.025	Supported
H4	EC * PCE $\rightarrow$ GPI	0.037	2.223 *	0.012	Supported
<b>Control Variables</b>					
	Marital Status $\rightarrow$ GPI	0.130	2.401 *		
	Age $\rightarrow$ GPI	0.105	2.152 *		
	Gender $\rightarrow$ GPI	0.121	2.077 *		
	Education $\rightarrow$ GPI	0.114	2.234 *		
		R <sup>2</sup> <sub>PCE</sub> = 0.39/Q <sup>2</sup> <sub>PCE</sub> = 0.23			
		R <sup>2</sup> <sub>GPI</sub> = 0.68/Q <sup>2</sup> <sub>GPI</sub> = 0.44			
		SRMR: 0.027; NFI: 0.922			

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

According to the findings of Table 3, there is a direct relationship between consumers' spirituality and their GPI ( $\beta = 0.312$ ,  $t = 4.203$ ), which provides support for hypothesis 1. Similarly, hypothesis 2 was supported, stating that there is a mediating effect on the linkage between spirituality and GPI through PCE ( $\beta = 0.115$ ,  $t = 2.920$ ). The moderating effect of subjective norms on the linkage between spirituality and GPI was also found statistically significant ( $\beta = 0.042$ ,  $t = 2.204$ ), similar to the moderating effect of environmental concerns on the relationship between PCE and GPI ( $\beta = 0.037$ ,  $t = 2.223$ ), which provide support for hypotheses 3 and 4.

### Discussions

The level of consumption (especially food) has grown with income growth among nations and in Lebanon [23,42]. This implies that consumers can be directed towards spending on green products that are more aligned with societal values in terms of sustainable development (economic, social, and environmental). Focusing on an individual level in terms of improving green consumption (e.g., GPI) can be beneficial for scholars and practitioners alike, particularly in the region of the Middle East [43]. The TPB theory highlights the interplay between personal elements (moral behavior, self-evaluation, and environmental influence) that can drive a person toward developing intentions of purchasing green products. As food is a necessity and food packaging, as well as food

production, can be sustainable, understanding the psychological processes that shape and steer individuals toward GPI becomes an important matter for society.

This study's findings offer significant insights into the dynamics of consumer behavior in the context of environmental sustainability in Lebanon. The findings suggest that care for environmental issues plays a significant role in shaping consumers' intention to purchase green products. Additionally, the influence of spirituality and social factors also has a notable impact on green purchase intention. The current findings introduce a novel approach by combining the principles of green marketing and spirituality to establish a comprehensive research framework for GPI. This integration allows for a deeper understanding of the relationship between consumer behavior and environmental consciousness. Respondents expressed their preference for environmentally friendly options, indicating a growing awareness of ethical considerations and a reverence for the ecosystem during the purchasing process. This aligns with the understanding that spirituality, encompassing a deep connection with nature and ethical considerations, plays a critical role in shaping consumers' attitudes toward environmental responsibility [8].

Additionally, perceived consumer effectiveness (PCE) emerged as a significant mediator in this relationship. Consumers who perceive their purchasing decisions as effective in contributing to environmental sustainability are more likely to engage in green purchasing behaviors. This finding reinforces the TPB and NAT, which posit that personal norms and perceived behavioral control influence pro-environmental behavior [20]. The insights gained from this research can be leveraged by companies to enhance their marketing strategies aimed at promoting environmentally friendly goods. Subjective norms also play a crucial moderating role, shaping the connection between an individual's spiritual inclinations and their propensity to engage in eco-friendly purchasing. This underscores the influence of societal pressures and norms in reinforcing or diminishing the impact of spirituality on GPI. Restoring trust in the organic food system requires collaboration between marketers and regulators. By taking these steps, the organic food industry can begin to rebuild its reputation and regain the trust of Lebanese consumers.

Furthermore, environmental concerns significantly moderate the relationship between spirituality and GPI. This suggests that as environmental awareness is high, it may directly strengthen the impact of spirituality on green purchasing decisions. Marketers can enhance their legitimacy by obtaining the approval of organic certification agencies in countries that are perceived to have well-regulated, modern, and effective food safety systems. This endorsement can provide reassurance to Lebanese consumers and increase their confidence in the products. The research highlights spirituality as a significant driver of green purchases, suggesting that marketers should incorporate this aspect into their campaigns to connect green consumption with a higher power. By emphasizing the spiritual connection of green purchases, companies can appeal to consumers seeking to reflect their inner selves and moral values through sustainable consumer behavior. Companies that have implemented sustainability strategies have seen success globally, enhancing their brand image and consumer goodwill. Therefore, focusing on sustainability in communication strategies, particularly targeting individuals who value spirituality and religiosity, can lead to positive outcomes in the current market context.

Overall, this study shows that marketing efforts can be tailored to entail green strategies that further encourage GPI among Lebanese consumers. These results are in consensus with some studies conducted in Lebanon and the region [10,29,42]. This research highlights the complex interplay of spirituality, consumer effectiveness, and societal norms in shaping green purchasing intentions. It contributes to the growing discourse on sustainable consumer behavior and offers strategic directions for promoting environmental sustainability in consumer markets.

## 5. Conclusions

Despite earlier works, this research focuses on the factors that can impact green purchasing intentions in the Lebanese context and, specifically, Tripoli. The present study also aims to examine the role of consumer spirituality in defining green purchasing intentions along with moderating the impact of subjective norms and environmental concerns and the mediating effect of perceived consumer effectiveness. To do so, we use a cross-sectional survey from a total of 350 responses from food industry consumers using a judgmental sampling technique. In this study, the data were analyzed using partial least square–structural equation modeling (PLS-SEM) under the premises of theory of planned behavior and norm activation theory.

The findings suggest that a direct linkage exists between consumer spirituality and green purchasing intentions among Lebanese food consumers. Moreover, the mediating role of perceived consumer effectiveness was partially supported along with the moderating impact of subjective norms. This is while the moderating effect of environmental concerns was not found statistically significant, which implies a distance between being environmentally aware and actions that support this concern. This finding highlights the importance of considering consumers' spiritual orientation when analyzing the impact of spirituality in the realm of green marketing. Overall, this research highlights the complex interplay of spirituality, consumer effectiveness, and societal norms in shaping green purchasing intentions. It contributes to the growing discourse on sustainable consumer behavior and offers strategic directions for promoting environmental sustainability in consumer markets.

### 5.1. Theoretical Implications

Various research studies have explored environmental issues through the lens of the theory of planned behavior (TPB) as proposed by previous studies, which suggests that individuals' intentions and actions are influenced by their perceived behavioral controls, subjective norms, and attitudes toward the behavior. Factors that may impact green purchasing behavior can be drawn from disciplines like psychology and sociology, encompassing aspects such as religion, education, culture, and personal habits. Additionally, influences from marketing and environmental factors like pollution and the economy are also significant. According to [21], key factors affecting consumers' green purchasing behavior include environmental attitude, concern, altruism, knowledge, and skepticism toward environmental claims.

The research findings generally align with the TPB and NAT theories presented in the literature review. For instance, the analysis confirmed that consumer spirituality positively affects green purchase intention, supporting existing theoretical perspectives. The mediating role of perceived consumer effectiveness and the moderating impacts of subjective norms and environmental concerns on the consumer spirituality–green purchase intention relationship were empirically validated, aligning with logical expectations. This suggests a profound influence of societal pressure on consumers' perceived efficacy in green purchasing decisions. The study's outcomes contribute significantly to scholarship on environmentally conscious consumer intention by empirically validating the link between consumer spirituality and green purchasing intention. It confirms the intermediary role of perceived consumer efficacy and the regulatory roles of subjective norms and environmental apprehensions in this link. These findings illuminate the importance of these variables in fostering sustainable consumer intention, thus bridging a gap in contemporary understanding of this area. Additionally, the research provides nuanced insights into the relationship between these variables, highlighting the complexities and interconnectedness involved. The high correlations, despite low construct reliability, underline the need for fur-

ther exploration of these constructs and their relationships, enriching the body of literature on green purchasing intention and prompting future research.

### 5.2. Managerial Implications

The outcomes of this study carry substantial implications for marketers and policy-makers interested in fostering green purchase intentions. The role of customer spirituality and perceived customer effectiveness have emerged as crucial in influencing such decisions. This suggests that marketing strategies targeting environmentally friendly products should not merely emphasize the product's green attributes but should also resonate with the spiritual beliefs and the perceived effectiveness of consumers. Lebanese consumers exhibit a significant level of skepticism toward the authenticity of food products and certification labels. This skepticism presents a lucrative opportunity for international agribusinesses to expand their export market by establishing trust with consumers. One effective strategy for gaining consumer trust is for marketers to showcase the quality of their products through transparent production and processing practices, as well as by distributing their products through reputable outlets that are trusted by Lebanese consumers [42]. In order to tap into the potential export opportunities in Lebanon, international agribusinesses need to address the prevailing skepticism among Lebanese consumers regarding the authenticity of food and certification labels. One effective approach is for marketers to establish trust by being open and transparent about their production and processing procedures while providing feedback to the consumers regarding the effectiveness of their green purchasing. Additionally, selling products through outlets that are trusted by Lebanese consumers can further enhance their credibility.

These environmentally friendly products represent a novel addition to the existing range of product categories. In nations like Lebanon, there is a prevalent lack of awareness among the general population regarding environmental issues [10–29]. Religious factors, specifically intrinsic religiosity, can be effectively employed across various levels of marketing communication to persuade consumers to embrace environmentally friendly practices. Advertisements that emphasize the significance of nature preservation within the context of religion can yield remarkable results. A crucial insight derived from the findings is the potential development of a distinct market segmentation based on religiosity. Corporations aiming to capitalize on this potentially new segment can do so by targeting individuals with specific personal attributes, as discussed in this study. The marketing division of these corporations should formulate a comprehensive marketing plan to promote environmentally friendly green products to prospective customers who possess a religious mindset.

The impact of customer spirituality on green purchasing is significantly moderated by subjective norms and environmental concerns. This underlines that societal norms and environmental attitudes can both enhance and diminish the connection between customer spirituality and green purchasing. As a result, campaigns designed to establish societal norms around sustainability and heighten environmental awareness can boost the influence of individual beliefs on green purchasing intention. Additionally, organic and green food companies should educate consumers about the health and environmental advantages of organic products to cultivate a more favorable perception of organic food. This positive perception is likely to result in an uptick in organic food sales, as consumers become more inclined to choose these products over conventional options. Given the potential for green to serve as a unique positioning strategy for both products and companies, it is imperative for firms to capitalize on environmental concerns and the growing consciousness of consumers. To achieve this, firms should emphasize the role of spirituality among consumers.

Marketers must actively demonstrate their commitment to environmental preservation in order to effectively influence green consumerism. The findings of this study also emphasize the significant influence of consumers' knowledge on their green purchasing behavior. Marketers should ensure that the messages conveyed in their green advertisements appeal to consumers' rationality and provide them with relevant information. Particularly, targeting children is recommended, as habits are easier to form at a young age. The involvement of family, teachers, peers, and media is vital in the early formation and reinforcement of green habits, which eventually become ingrained and socially accepted behaviors. Additionally, providing systematic reinforcement and incentives, such as bonuses, rewards, and prizes, can further encourage the habit of purchasing green products by highlighting their benefits and increasing the likelihood of repeated behavior.

Moreover, strategies should also seek to capitalize on subjective norms and environmental concerns. Instigating a social norm around green consumption and raising awareness of environmental issues could nudge consumers towards making greener choices. In addition to promoting sustainability, companies can enhance consumer psychological well-being by raising awareness about products and service reuse. This approach benefits companies by fulfilling corporate social responsibility through environmentally friendly practices and contributing to the preservation of ecological systems. When heightening awareness of environmental issues, care must be taken to avoid inducing feelings of powerlessness or apathy among consumers. By identifying and engaging with key influencers for word-of-mouth marketing, as well as showcasing authentic conversations among everyday consumers in their advertising efforts, agribusinesses can effectively tap into the power of social influence to drive consumer behavior towards organic food products. In terms of policy implications, this study suggests that lawmakers should strive to cultivate an atmosphere that fosters green purchase intentions. This could encompass implementing educational programs about the influence of consumer actions on the environment or offering incentives to companies that prioritize the production and promotion of environmentally friendly products.

### *5.3. Limitations*

The current research is limited by a number of factors that have hindered the process of its conduct. Due to the complexity of understanding human behavior and subsequently, the process of decision-making among consumers, the current proposed model of the research is limited to the inclusion of the variables that fit the context of this research. Therefore, the proposed model is limited contextually despite the valuable insights that it has provided through its examination and understanding. Additionally, the current research is limited regarding the territory of the sample which was conducted only in Tripoli in North Lebanon. This can affect the generalizability of the results. Moreover, the current research found that the reliability of key variables was close to the satisfactory thresholds, which can be derived from the internal consistency of the data at hand along with the measurements used. This could have implications for the robustness of the findings, which is addressed as limiting the current understanding of the obtained results. Furthermore, the study relied on self-reported measures which are subject to social desirability and recall bias. Lastly, the cross-sectional design of the study limits the ability to draw causal inferences from the observed relationships.

### *5.4. Directions for Future Research*

With regard to the mentioned limitations of the research, a number of recommendations for future studies have been derived that are mentioned in this section for scholars who are interested in developing the current understanding and expanding the results



of this research. Future research could use longitudinal designs and conduct the study across multiple geographical locations to validate and extend the findings of this study. Additionally, future studies can expand their sampling methods both in location terms and the number of samples. Furthermore, the variables that have not been included in the current proposed model can be namely, cultural characteristics, economic drivers, societal differences and trends, as well as organizational elements such as leadership, organizational climate and culture, and marketing strategies that specifically target green audiences can be examined. In addition, factors like environmental, social, governance (ESG), and also environmental tax and policy uncertainty [44–49] could be considered in the estimation model. Future studies might consider investigating other potential moderating or mediating variables in the association between spirituality and eco-friendly purchasing, such as a consumer's economic status, cultural background, or educational attainment. Evaluating the impact of various forms of spiritual beliefs on eco-friendly purchasing could also yield interesting results. An essential field for future investigations could also include scrutinizing the precise techniques that can successfully nurture consumer efficacy and spiritual ties to environmental care, without inciting feelings of impotence or indifference. Such research may offer more detailed advice for marketers and policymakers striving to encourage eco-friendly purchasing habits.

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