Role of Health Literacy in Shaping Consumer Organic Purchase Intention: A TPB-Based Perspective

Faiqa Kiran, Assistant Professor, Government College University, Faisalabad, Pakistan
*Muhammad Asim Nawaz, Assistant Professor, Government College University, Faisalabad, Pakistan
Naveed Akhtar Qureshi, Assistant Professor, Department of Business Administration, Sukkur IBA University
Sumran Ali, PhD Candidate, Department of History of Science and Technology, University of Science and Technology of China, China, Hefei, Anhui.

*Corresponding author’s email address: asimkahlon@gcuf.edu.pk

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ABSTRACT

Purpose: this study will examine the consumer intention to purchase the organic eatable items in the context of naive organic market of Pakistan. Further, the study establishes the moderating role of price elasticity between TPB and consumer purchase intention.

Design/Methodology/Approach: 440 responses were obtained from the respondents. SEM (Structural Equation Modeling) engaged to study the measurement and structural model.

Findings: The organic attitude is a prime predictor of consumer purchase intention towards organic food products. In light of the theory of planned behaviour (TPB) study helps to understand the primary perspectives of consumer purchase intention of the organic food in the Pakistani market that is price sensitive.

Implications/Originality/Value: This study makes a theoretical contribution to the academics by enhancing the knowledge base in context of theory of planned behavior and practical contribution to the policymakers to shift the farmer focus towards the organic farming practices due to lucrative profit margins and at the same time working on the primary health knowledge to enhance the health-related literacy.

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Introduction

The sustainable growth and consumption of food have gained significant attention in international politics and research. In past studies, humans’ bad consumption choices are among the most vital contributors to health degradation (He, Breiting, & Perez-cueto, 2012). But the present decade has seen a growing consciousness in the society for health protection. The ubiquitous nature of information traveling from the internet and social media has fueled the situation, and consumers are more concerned about intake quality...
(Hilverda, Kutschreuter, & Giebels, 2017). Considering health as an issue of importance for the survival of human beings, healthy consumerism has prospered (Michaelidou & Hassan, 2008). This health concern developed from information gained from different sources to a paradigm shift in consumers’ dietary choices in recent years. The “Organic Food” concept flushes fast as consumers consider it a healthier concept (Ryan & Casidy, 2018). This phenomenon raises questions about modern agricultural production and stimulates the demand for organic foods (Nie et al., 2017). Organic food is defined as “food that is not genetically modified and produced in the natural habitat without the artificial support from chemical-based pesticides and fertilizers (Chen, 2007). Consumers consider conventional food injurious to health, and organic is healthy, safe and less damaging to human health (C. Teng & Lu, 2016).

So far, we have determined how consumers perceive and define health about organic food products is overlooked in studies regarded attitude to organic foods. It is astonishing as the concept of health in terms of organic food is considered absolute and out of ambiguity (Bisogni et al., 2012). As a result of how consumers understand healthiness and gain required information, not much research is done on this aspect. The literature illustrates that consumers who prefer organic food describe health and environment as an essential motive behind the choice, but there is also evidence that it’s the health that drives the preference to an actual purchase decision that helps to move on from feeling that organic food is more expensive than the traditional food products (Witzel & Zielke, 2017).

However, the current study is unique as it comprises the role of ‘Health Literacy’ as an external/environmental factor in the proposed persuasive psychological mode. Moreover, the moderating role of ‘income elasticity’ supports the author’s claim about the uniqueness of the current study. Literature provides evidence that organic preference may not be the reason for purchase as price comparison is done against conventional food (Witzel & Zielke, 2017). Organic food carries higher prices, it is worth studying health literacy alone. Similarly, availability is a concern, as organic is sold at a premium price, and consumers have to travel and find the product from a specific outlet (Scalco et al., 2017). This Study takes the data from underdeveloped nations to test the TPB-based framework and differences in the organic preferences.

Literature Review
The single model extensively applied in organic food purchasing intention, and other sustainable consumer behaviour is the Theory of planned behavior (TPB), e.g., (Lee & Yun, 2015). TPB allows predicting consumer behavior, which three constructs can determine: Attitude, Subjective norm and perceived behavioral control. Attitude evaluates the cognitive part of behavior with a positive or negative outcome, Subjective norms investigate the behavioral evaluation done by others, and perceived behavioral control (PBC) studies the level of difficulty that a person has to face during performing behavior. Health literacy, defined as personal characteristics of the consumer to engage in a health evaluation would impact perception built based on these three factors. These factors make it essential how health-aware consumers respond to organic intentions.

The consumer is aware of harmful chemicals and artificially modified food products that hurt human health (Lee & Yun, 2015). As an alternative to conventional food, organic food is gaining popularity. Raising awareness about organic stuff being friendly to human health adds to acceptability. Organic food free from contamination and human interference to increase growth is the obvious choice. At the same time, TPB’s first construct is an attitude, defined as “the evaluative effect of positive or negative feelings of the individual in performing a particular behavior (Fishbein & Ajzen, 1975). The prior experience and knowledge of specific products help to generate a positive attitude towards the purchase intentions (Suh et al., 2015). So, the study proposes that:

H1a. Health literacy makes a positive contribution to attitude towards organic food.

The second construct of theory is postulated as “the perceived easiness or difficulty of performing the
behavior called perceived behavior control (PBC), and it is assumed to reflect experience as well as anticipated barriers and personal strength that influences the consumer intention to make purchase (Biel & Thøgersen, 2007). The primary issue in final decision to buy the organic food is the price, brand and related trust along with the availability (Magnusson et al., 2001). Quality products come at some price, and many do not agree to pay a premium price for organic food (Millock & Hansen, 2002). The aware consumer would behave less chance of being cheated. Health literacy can be a factor that fits in this gap and prepare the consumer to pay the extra price and travel the extra mile to concede the healthier food. Hence, we postulate that health literacy positively influences consumers' price and availability concerns.

H1b. Health literacy positively contributes to perceived behavioral controls (credence attribute & availability).

The subjective norms are defined by (Ajzen & Fishbein, 1977) as “the individual’s perception of the likelihood that the potential referent group or individuals approve or disapprove of performing the given behavior.” Specifically, it is the sum of consumer belief that how much essential others think they should or not perform a specific behavior, and consumer motivation to comply with those individuals (Aertsens et al., 2009). The foundation of social pressure is often described as reference groups, such as friends, family and peers (Aertsens et al., 2009). We assume that health literacy will positively contribute to overcoming negative social pressure not to perform a specific behavior. Organic food has credence attributes and is priced higher that might draw the consumer into the comparative situation with ordinary food products. So, we consider that:

H1c. Health literacy makes a positive contribution to subjective norms.

Previous literature highlights the attitude as a blend of both cognitive and affective elements. Cognitive in the form of cost and benefit comparison and affective as a positive or negative feeling. Both combine to form favorable or unfavorable attitudes towards organic products (Ajzen, 1991). Literature supports the influence of attitude and provides substantial empirical evidence. Such as a positive relationship between attitude and purchase intention of grocery products existed (Chen, 2007), similarly for halal food, organic and genetically modified food products (Spence & Townsend, 2006). Thus, attitude is one of the strong predictors of consumer purchase intentions. So, we hypothesize as:

H2: The attitude positively affects consumer intentions towards organic food.

PBC is considered a barrier to performing the behavior, and in the context of this model, PBC refers to consumer perception of elements that may exert pressure to prevent behavioral performance (Prati et al., 2012). Literature have cited many factors that create hindrance to consumer motivation to purchase organic stuff (Schäfer & Heinrich, 2015). Availability and credence attributes are two factors that need manufacturer and retailer attention. Availability is considered a barrier to purchase (Lea & Worsley, 2005), but this issue is solved to some extent due to widened availability. Consumers claim that organic food is accessible at certain markets that require extra effort to purchase and organic food have shorter shelf life (Bryla, 2016). We consider that only health-aware consumers will put the extra mile to purchase organic stuff.

In the context of organic food, credence food can be the presence of harmful chemicals added during food items' production or processing stage. Research suggests that lack of knowledge and belief attributes of the organic product might create ambiguity, and putting extra effort to find organic products add to the situation. This implies that if consumers have difficulty in developing an understanding of organic stuff, it would be difficult for them to overcome the comparison with traditional stuff. So we state that:

H3a: The Credence attributes (perceived behavioral control) significantly affect intention to purchase.

H3b: Easy accessibility (perceived behavioral control) has a significant positive effect on the intention to
(Ajzen, 1991) considered subjective norms as the pressure asserted by the society as hurdle in performing a certain set of behavior. The prior research substantiates the role of social gravity experienced by the individual while making food choices (Chang, 1998). Organic food has a general perception of being a healthier and better option (Tarkiainen & Sundqvist, 2005). The approval or disapproval of the environmental circle in which consumer exist matters during decision-making process. Literature shows that subjective norms have significant influence on the consumer while making organic food assessments (Nie et al., 2017). Therefore, the study proposes that:

**H4:** The subjective norms make positive contribution to the purchase intentions of organic food.

Price elasticity is having moderating role between the TPB attributes and consumer purchase intention. The price elasticity of organic food is explained as the price difference between organic and ordinary eatable stuff (Bunte, Galen, Kuiper, & Bakker, 2007). The price plays a significant role in consumer evaluation of a product. Price is the amount of money that a consumer has to bear for a transaction (Lichtenstein et al., 1993). In case of organic food price is higher as compared to conventional food products (Lichtenstein et al., 1993), means additional costs for buyers. Whereas, price is also perceived as quality symbol. A high price can lead to the favorable perception that price of the product is positively associated to the quality of product (Lichtenstein, et al., 1993). The studies show that consumer have higher quality perception regarding the organic food products in comparison to conventional food products (Aschemann-Witzel & Zielke, 2017). So, it means that higher prices can have positive or negative effect on consumer intentions. So, the study offers four moderating role hypothesis as:

**H5a:** Price elasticity moderate positively between attitude and organic intentions.
**H5b:** Price elasticity moderate positively between credence attribute and organic intentions.
**H5c:** Price elasticity moderate positively between availability and organic intentions.
**H5d:** Price elasticity moderate positively between subjective norm and organic intentions.

![Figure 1. Conceptual Framework](image-url)

**Methodology**
The data is gathered from the Federal and provincial capitals such as the Islamabad, Karachi, and Lahore. The data collection approach is quantitative in nature. The data is collected through the self-managed structured questionnaire-based survey from 12 different supermarkets located in the abovementioned cities having organic sale points. The respondent selection was done on the basis of visit to the organic shops of the market. Further, this study choose the convenience sampling method for the sake of data collection.
The question constructs adapted from the previous body of literature to ensure the construct reliability and effectiveness. The questionnaire items of health literacy were adapted from the study of (von Wagner, Steptoe, Wolf, & Wardle, 2009). The scale items of organic attitude were adapted from Aggestam et al. (2017) study. Further, the scale for perceived behavioral controls, namely credence attributes and availability, were taken from the study of (Ayyub et al., 2021) and (Erikson & Eriksson, 2018). At the same time, scale items of subjective norms were adapted from the study of (Aggestam et al., 2017). In the end, the scale items of organic intention and price elasticity were adapted from the studies of (Asif, Xuhui, Nasiri, & Ayyub, 2017) and (Lockie et al., 2004), respectively. The constructs item was measured with a 7-point Likert scale. A sum of 453 questionnaires was given to the respondents, and 440 qualified for the further data analysis. 13 questionnaires were found having repetition of responses and few were having missing values. The data is collect in one go at the spot and have chances of data biasness and to ensure the data health this study uses series of test. First, Herman’s one-factor test and found 23.21% variance that is lower than the standard value of 50%. Second, the study uses the common latent factor technique along with the CFA based tool known as the marker variable (Podsakoff et al., 2011). These tests ensure that common method bias is not problematic for this study. The study framework is hypothesized as in figure 1.

### Table 1. Demographic profile of the respondents

<table>
<thead>
<tr>
<th>Demographics Profile</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>440</td>
<td>100</td>
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<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
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<tr>
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<td>50.23</td>
</tr>
<tr>
<td>Female</td>
<td>219</td>
<td>49.77</td>
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<tr>
<td><strong>Age group</strong></td>
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<tr>
<td>18-24</td>
<td>124</td>
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<tr>
<td>25-35</td>
<td>167</td>
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<tr>
<td>36-45</td>
<td>109</td>
<td>24.77</td>
</tr>
<tr>
<td>46-55</td>
<td>40</td>
<td>9.09</td>
</tr>
<tr>
<td><strong>Education</strong></td>
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<tr>
<td>SSC</td>
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<tr>
<td>HSSC</td>
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<tr>
<td>University Graduate</td>
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</tr>
<tr>
<td>Post Graduate</td>
<td>140</td>
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</tr>
<tr>
<td><strong>Income</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25000-45000</td>
<td>25</td>
<td>5.68</td>
</tr>
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<td>180</td>
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</tr>
<tr>
<td>66000-85000</td>
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<td>45.45</td>
</tr>
<tr>
<td>85000-105000</td>
<td>35</td>
<td>7.95</td>
</tr>
</tbody>
</table>

### Analysis and Results

The demographic profile of respondents reveals that almost half of respondents are females, with a percentage of 49.77% and 50.23%. The survey participants’ ages range between 18 to 55 years. Further, the income of respondents was between 25 thousand to 10500 thousand an amount. To ensure the convergent validity, the authors conduct reliability analysis, composite reliability, factor loading, VIF and Cronbach’s alpha. The VIF measurement was observed and the minimum values were less then the standard value of 3.3 (Chang et al., 2010). Further, Cronbach’s alpha all measurements were above the standard value of 0.70 (Hair et al., 1998). Similarly, 0.6 is the standard value of the composite reliability, and all values were higher than the cut-off minimum value (Bagozzi & Youjae Yi, 1988). The AVE (average variance extracted) is considered to evaluate the discriminant validity and all the values were found higher than the minimum standard of 0.5 (Hair et al., 1998). The CFA (confirmatory factor analysis) results validates the internal consistency in term of factor loading as all values were above the 0.6 (Chin et al., 1997). Further, the model fit values were found above the threshold value recommended by the (Bagozzi & Youjae Yi, 1988). Such as, GFI= 0.912, AGFI=0.886, TLI=0.910, RMSEA=0.047, CFI=0.913. Table 2 presents the results in tabular form.
After SEM analysis the estimation for the model fit were again found above the threshold value recommended by the Bagozzi & Youjae Yi, (1988). The measurements were; GFI=0.922, AGFI=0.891, TLI=0.952, CFI=0.980 and RMSEA=0.045. Further, the path coefficient results show that health literacy positively contribute to the all four perspectives of TPB. Health literacy makes positive contribution to the organic attitude, so H1a is accepted (β=0.211, p<0.001). More health literacy makes positive contribution to perceived behavior controls (credence and availability), so H1b is accepted (β=0.198, p<0.001). H1c is also accepted (β=0.178, p<0.001), as health literacy contributes to the social pressures in term of subjective norms. Whereas, the attitude is positive contributor to consumer intentions for organic food, so H2 is supported (β=0.220, p<0.001). H3a and H3b are also supported (β=0.201, p<0.001) and (β=0.169, p<0.001) respectively as they make positive contribution to the consumer intentions. Similarly, subjective norms also make positive contribution to the consumer intentions for organic food (β=0.199, p<0.001). In last, the moderating role of price elasticity further strengthens the positive relationship between attitude, perceived behavioral controls and subjective norms. So, H5a (β=0.183, p<0.001), H5b (β=0.175, p<0.001), H5c (β=0.169, p<0.001) and H5d (β=0.192, p<0.001) are supported. The path coefficient results are given in table 3.

Table 3. The path coefficient results.

<table>
<thead>
<tr>
<th>Hyp.</th>
<th>Estimate</th>
<th>Significance</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1a</td>
<td>0.211</td>
<td>0.001</td>
<td>Supported</td>
</tr>
<tr>
<td>H1b</td>
<td>0.198</td>
<td>0.001</td>
<td>Supported</td>
</tr>
<tr>
<td>H1c</td>
<td>0.178</td>
<td>0.001</td>
<td>Supported</td>
</tr>
<tr>
<td>H2</td>
<td>0.220</td>
<td>0.001</td>
<td>Supported</td>
</tr>
<tr>
<td>H3a</td>
<td>0.201</td>
<td>0.001</td>
<td>Supported</td>
</tr>
</tbody>
</table>
Discussion
The current study finds that organic consumer with health literacy are keen observers and reader of the information revealed by the producer and retailer. Health literate consumer pay special consideration to information labeled regarding the product manufacturing and processing stages (Gracia & de Magistris, 2008). The organic products feature few credence attributes that differentiate them from conventional products and revealed information help consumer to discriminate. These results support the find that credence features might make positive effect to consumer intentions in case buyer is good at health literacy. These findings are consistent to the previous finding of (Lee & Yun, 2015) which found that credence attributes might positively influence the consumer intention when they have adequate knowledge of the products health benefits.

The exponential market growth of organic products led to wider distribution of organic products (Furneaux & Wade, 2011). But yet they are available at limited retail outlets or specified markets only (Bryła, 2016). Organic consumption requires extra effort to find and select desired organic products. Further, the consistent and choice availability concerns the consumer. The current results show that health literate consumer is more willing to put-in to gain access to the organic products considering allied health benefits. The Guntzviller et al., (2017), found that health literacy help consumer to overcome the differences like price and availability. Higher the literacy higher the potential to travel and search for organic products (Soones et al., 2017). Marketing literature widely recognizes the effective role of social circle in framing consumer intentions to purchase a certain product (Hu et al., 2016). Health literate social circles will positively reinforce consumer intentions to make organic purchase (McCormack et al., 2017).

The organic purchase is gaining the social presence and society asserts the due share of pressure on the buyers to make the organic buying instead of the ordinary food items and the subjective norm is having highest value in context of this study. The organic food buyers exhibit the better decision making and behavior control is having positive relationship with the organic purchase. The adequate reason for such behavior can be nucleated family structure that provides more autonomy to the individuals in decision making. This relation is further strengthened by the available disposal income. In context of Pakistan, family system and lesser disposal income hinders the individual’s decisional choices. These findings were quite different and also contradictory to prior literature (McCormack et al., 2017). The results further illustrate that the credence attributes were the significant predictors of consumer intentions than availability.

The interaction term of “price elasticity” make important contribution in enhancing and decreasing the consumer purchase intentions. In case of under developed and transitional states price elasticity performs differently compared to the developed nation. In Pakistani context, prevailing family system, that have centralized control in hands of family head and other members depend on the consumption choices of head (Asif et al., 2017). Price and willingness to pay is important consideration to make organic purchase for Pakistani consumers.

Implications and Recommendations
Health literacy can allow consumer to create intangible food value and positive feeling toward organic (Fenger et al., 2015). As the study focus on relationship between organic food and food consumption pattern, it provides both theoretical and managerial contribution. The current contributes theoretically by establishing the health literacy as important predictors of Attitude, subjective norms and PBC and moderating role of price elasticity. The past research work studies the casual relation of TPB and consumer...
intentions more or less ignoring the health literacy as predictor of TPB. Further, this study conducts a comparison of characteristics enhancing the motivation for organic consumption intention. Moreover, the managerial contribution guides the managers to design and implement the marketing strategy to develop the consumer knowledge about the organic food consumption, highlighting the potential benefits.

Additionally, the study act as path leader for the legislators to develop the organic cultivation, that will eventually benefit the health of ordinary consumer along with the environmental stability.

Moreover, organic cultivation and export lucrative business due to enhanced intention of paying more for organic stuff. Improved production and supply will help to meet the raising consumer demand. This for sure will lead to cut on premium prices of organic food that will bring in more consumers from middle class and under developed nations which can further improve the organic market share. Further on, this study clarifies the role of health literacy and related information revealed to consumer. The manufacturer and service providers can enhance the sales by making more and simplified disclosure of health-related information of organic food.

This study utilized limited research variables like the health literacy and related consumer intention variables, further studies can include organic literacy and other personality-based factors to improve the understanding of consumer intention. In last Pakistan was chosen for this investigation, future studies can make choices based on developmental and economical standing of other countries that have relatively rapid development of organic production and markets. However, further studies may perform such examination to other regions. Further, this study has collected the data at single time, future researchers can consider the longitudinal data collection techniques to enhance the validity of results.

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