



## Organic Food Purchase Intentions: The Applied Model of Planned Behavior Theory and Outcomes

Uzma Karamat Baig<sup>1</sup>, Dr. Ammar Hussain<sup>2</sup>, Razia Bano<sup>3</sup> & Dr. Asif Sanaullah<sup>4</sup>

<sup>1</sup>PhD Scholar at Dr. Hassan Murad School of Management, UMT Lahore, Pakistan

<sup>2</sup>HoD / Assistant Professor, Department of Management Sciences Karakoram International University Gilgit, 15100, Pakistan

<sup>3</sup>Lecturer, Department of Management Sciences, Karakoram International University, Gilgit, 15100, Pakistan

<sup>4</sup>Assistant Professor, Department of Management Sciences Karakoram International University Gilgit, 15100, Pakistan

### ARTICLE INFO

#### Article History:

Received: February 08, 2025  
Revised: March 10, 2025  
Accepted: March 13, 2025  
Available Online: March 15, 2025

#### Keywords:

Natural and biotic, sustenance; Attitude; End-User Behavior; Individual Norms; Perceived Behavioral Control; Purchase Intentions.

#### Corresponding Author:

Uzma Karamat Baig

#### Email:

[ukaramatbaig@gmail.com](mailto:ukaramatbaig@gmail.com)

### ABSTRACT

The gist of this research project focuses to utilize the planned behavior theory in order to understand the end-user consumers and buyers of Pakistan natural and biotic sustenance purchase reasoning, by calculating the direct effect of individual patterns on attitude towards natural and biotic sustenance. Questionnaires were distributed randomly among the pupils of two different universities located in Lahore. The technique used to test the propounded model of study was Structural equation modeling. The results and outcomes of the study were surprised to know that individual patterns remarkably effect preference towards purchasing patterns and preferences, which in turn enhances the overall anticipating capability of TPB model purchasing patterns and preferences, mentioned capability is also increased between perceived behavior control. The pragmatic implications of this research project provide valuable perceptions for the academicians and producers. Researchers can additionally probe significance of individual patterns so that fruitful results can be obtained regarding comprehension of their consequences on TPB components. Subsequently, producers can pick out thoughts of assemblage and company to enhance the requirement of natural and biotic sustenance. Many of the previous researches overlook the significance of individual patterns in determining the purchasing patterns and preferences with respect to natural and biotic sustenance. The amazing aspect of this study is a detailed emphasis on exploring the direct and indirect effect of subjective norms on the elements of TPB. Moreover, to the best of authors' knowledge, this one of the rare studies which completely inspects the connection of components of TPB with natural and biotic sustenance purchase intention in the context of Pakistan.



## **Introduction**

Recently, interest towards natural and organic food production and the purchase conduct has increased both among end-user consumers and buyers and among academicians. The organic sector is considerably emerging all across the world. Since 1998, the global biotic farming sector has expanded from two percent to ten percent in the year 2005 and thirty percent in the year 2010 (Lampkin, 1999). Also, end-user consumers and buyers have become more concerned about buying organic sustenance, recently (Alvensleben, 1998), which made it an important area of research, gaining attention of many academic researchers (e.g., Gracia Royo et al., 2007; Makaton, 2002; Hempel et al., 2016; Arvola et al., 2008). Environmental and social issues have become an important part of consumer decision taking when it comes to purchasing environmentally sustainable goods such as biotic sustenance. This trend has been demonstrated in recent times in the substantial increase in purchases of biotic products (Hsu et al., 2016)

Generally speaking, the end-user consumers and buyers tend to have constructive conduct towards natural and biotic sustenance (Magnusson et al., 2001; Massey et al.; 2018, Nguyen et al.; 2019). The end-user consumers and buyers who purchase natural and biotic sustenance consistently is depicted to be little (Yazdanpanah & Forouzani, 2015) demonstrating that to have constructive conduct towards natural and biotic sustenance does not essentially lead to the purchasing of these products. Generally, two explanations are provided to understand less buying rate of natural and biotic sustenance: the high price of natural and biotic sustenance; and limited accessibility of these products (Canova et al., 2020). Past study has also shown country-specific divergence both in advertising of natural and biotic sustenance and purchase recurrence of natural and biotic sustenance. As an instance, the importance of various marketing channels of natural and biotic sustenance varies among different countries. In countries like Italy, Netherlands, Belgium, Germany, Greece and Spain the natural and biotic substances are essentially get traded by either peddling or peddling via specialized outlets, whereas in Sweden, Denmark, Finland, the united kingdom and Austria the sales of naturally obtained sustenance are determined in markets and other non-specialized cash and carry (Cavite et al., 2021)

The United States Department of Agriculture depicted that natural and biotic sustenance accounted for about 3.5 per cent of overall sustenance sales in 2012. Although many Asian countries produce and export natural and biotic products, they do not have a high internal consumption relative to the current global trend (Mangafić et al., 2017). Several studies indicate that in Asia the total level of natural and biotic sustenance consumption will be around 1 percent or less. In contrast, the developed world is showing greater rise in internal requirement of same things (Rahman et al., 2016).

In addition to this, bundle of academicians have analyzed the difference in prices of natural and biotic sustenance across different countries and its impact on the purchase of organic sustenance. The proportion of end-user consumers and buyers who purchase natural and biotic sustenance regularly varies across countries: for instance, (Grunert et al.;1995, Asif et al.; 2018, Akbar et al.; 2019) it is depicted that only 3 percent of Danish end-user consumers and buyers are regular buyers of the organic meat, while 23 percent were regular buyers of organic vegetables.(Caliskan et al., 2020)

**Table1: Natural and biotic vs. Unnatural and abiotic Food**

	Organic Food		Inorganic Food	
	Pros	Cons	Pros	Cons
<b>1</b>	Organic Food is beneficial for the environment	Expensive in Cost	Rapid production in short term	Not good for the environment in the long run
<b>2</b>	Organic products are chemical free	Unavailability	Easily available	Negatively influence on economic growth
<b>3</b>	Natural and biotic Food is good in taste and quality	Lack of awareness or lack of knowledge and interest	Easily purchasable	Causes illness and health problems
<b>4</b>	Natural and biotic products have constructively influence on economic growth	Lack of time and insufficient variety	You can easily preserve it	Excessive chemicals and preservatives in it

Pakistan is likely to be an emerging natural and biotic market (Rong-Da Liang, 2014), however most of the research on Pakistani end-user consumers and buyers is limited only to general consumption studies and their only contribution to natural and biotic sustenance consumption research is that buyers have constructive conduct and remarks regarding natural and biotic products (Laaksonen et al., 1998, Lampikoski, 2000, Asif et al., 2018)

This research paper finds out end user consumers of Pakistan natural and biotic sustenance purchase (behavioral) intentions while using the planned behavior theory (TPB) and explains components of it are relevant to explain end-user consumers and buyers of Pakistani natural and biotic sustenance purchase intention. To achieve this task, it also extends the theory planned conduct.(Li & Cui, 2021)

The TPB is an addition of the reasoned action theory (TRA) that was requisite to overcome the constraints and limitation of the TRA in addressing conducts upon basis of which individuals have insufficient volitional command (Su et al., 2022). This planned behavior theory (TPB) (Ajzen, 1991; Ajzen et al., 1986) was developed as a reliable and commonly used theoretical model for predicting and showing people’s conducts (Nardi et al., 2019). Theory of planned conduct provides a strong psychological structure that has been able to discover rather the core reasons behind sustenance decisions in relation to sustainable consumption (Peattie, 2010; Scalco et al., 2017).

The significant and primary utilization of the planned behavior theory (TPB) is to explain behavioral intention to perform a given conduct. The TPB links intentions with preference, individual patterns and perceived behavioral control. In the past, researchers used the theory of planned conduct to explain different kinds of conducts (Csepregi et al., 2020). In addition, both the under discussion theories have been put in to the context of natural and biotic sustenance purchase conduct (Sparks et al., 1992), and to study the intentions to buy environmental friendly products (Dangi et al., 2020).

In past studies, the significance of individual patterns (which implies to the received community sentiment to perform or to not execute the conduct) in explaining attitudinal intention is not well understood (Ajzen, 1991, Ashraf et al, 2019). As an instance, Magnusson et al. (2001) did not include them into their model at all. Sparks et al (1992) included individual patterns in their study,

but individual patterns' explanatory power was very relatively weak. Thus, several authors have propounded that there is a necessity to extend TPB by switching from measuring individual patterns impact on attitudinal intention to measuring its impact on attitude. Chang (1998), Shepherd et al (1984), have all established confirmation that there is a big relaxed way which extends from individual patterns to attitudes ignored in the previous studies. A minimal of instances, where individual patterns and conducts were associated with one another, found constructive relationship between individual patterns and attitude (Arvola et al., 2008). However, it is noted that if this relationship remains, the outcome of the many others on attitude development cannot be disregarded. Chang (1998) has inspected the association linking individual patterns and preference regarding conduct in a thorough manner and tested the causal link from norms to inclination. In Chang (1998) study the trail of link from individual patterns to tilt towards conduct was important (Tarkiainen & Sundqvist, 2005).

In addition to this, the propounded model of this study is likely to uplift the general anticipating capability of the TPB within the context of natural and biotic sustenance purchase intention through introducing another causal path from individual patterns to attitude, in addition to the existing path directed from individual patterns to behavioral intention (James et al., 2019).

Despite the huge amount of research using the substructure of the hypothesis of planned conduct, the significance of individual patterns in forming intention has often been overlooked, specifically in the context of natural and biotic sustenance purchase conduct (Bosnjak et al., 2020). Therefore, through considering the influence of individual patterns on attitude in the context of Pakistani society and culture, this study attempts to add value to the existing literature.

### **Statement of the Problem**

At the start of 21<sup>st</sup> century the importance of organic food production remained the most pressing issue discussed at different global platforms. As a result, the organic farming expanded from 2% to 30% since last two decades and the consumers are more concerned these days on buying organic food products (Hempel et al., 2016; Arvola et al., 2008). The environmental and health concerns have diverted the public opinion and decision making in the favor of purchasing organically produced food items (Hsu et al., 2016). In comparison of hybrid food market, the organic food products' share is very little because of high prices and less production of organic food products (Massey et al.; 2018, Nguyen et al.; 2019). Pakistan in this context is a newly emerging organic food market with only few customers of organic food products because people lack in understanding the health benefits of organic food (Asif et al., 2018). Research in this regard is missing overall in the world and specifically in Pakistan. So, assessing the existing gap in the literature the researcher intends to study the organic food purchase intentions of people with applying the theory of Planned Behavior in Pakistan food market.

### **Literature Review**

The Planned behavior theory (TPB) was propounded by Ajzen in 1985 (Ajzen, 1985), it links one's beliefs and conduct. This theory suggests that attitudinal intentions are shaped by attitude, individual patterns, and perceived attitudinal control of a human being (Bosnjak et al., 2020). The TPB consists of attitude that in many psychological experiments has been a significant construct. Specifically, despite the increased importance applied to natural and biotic sustenance products as part of sustainable development and the anticipating capacity of the theory of Ajzen, the amount of research aimed at comprehension the prioritization of end-user consumers and buyers by applying TPB has risen steadily over the past some years. Many of these works have recently argued that the fundamental tenets of TPB are canonically understood, As well as the strength of the

associations among its key factors (see, Al-Swidi et al., 2016; Scalco et al., 2017). The notion of planned conduct is an up-gradation of the reasoned action theory. It supported several attitude theories (Loera et al., 2022).

The ideology of Planned Conduct was propounded by Ajzen to enhance the anticipating capability of the ideology of reasoned action by including perceived attitudinal control. It is directly associated with attitudinal intentions and also the actual conduct. PBC may be a combination of;

- (i) Self-efficiency (The difficulty or hindrance of performing an action).
- (ii) Controllability (The belief that one has control over the conduct).

As a result of the improved anticipating capability, contrary to the ideology of reasoned action, the ideology of planned conduct has been applied in various fields of study like advertising, PR, advertising campaigns, healthcare, sport management and sustainability. Considering attitude, individual patterns and perceived attitudinal control, TPB can give more comprehensive account of driving reasons of the attitudinal intention. Keeping seeable the great nature of TPB, the researcher considers TPB to review natural and biotic purchase conduct. Many studies, within the past some years, have considered TPB to review natural and biotic purchase conduct; Following is that the summary and demanding review of relevant literature. Real question lies how the attitude is determined. The answer to question that a man decides how to act according to his set of values, beliefs and principles. This is how it haired from person to person and from culture to culture (Chen, 2007, 2011). The form is multifaceted. Cognitive, effective, and attitudinal elements, which reflect the individual's thoughts, feelings, and desires about a conduct, are interfering with their measurement (Nardi et al., 2019)

The subjective standard reflects the individual's moral values, that is, the social obligation they have to impose or avoid those conducts (Al-Swidi et al., 2014). (Nardi et al., 2019)

From the viewpoint of sustenance choice, the TPB was used to demonstrate how motivational reasons are determinant in selecting one's sustenance over another. For instance, perceived attitudinal control (PBC) is a type of attitudinal control of risk / uncertainty (Nardi et al., 2019). The ideology holds that a man with a more favorable disposition, a higher subjective attitudinal norm and a higher perceived attitudinal control are more likely to show a stronger intention to conduct the conduct (Ajzen, 1991). (Shin et al., 2018)

### **Applying the Ideology of Behavior which is organized/planned to the background of Organic Food**

The TPB proposes that attitudinal intention is determined by three main components tilt, individual patterns and perceived attitudinal control. The framework of the ideology of planned conduct has been used by many scholars who used it to predict natural and biotic sustenance buying conduct (Sparks et al., 1992; Gracia Royo et al., 2007; Makatouni, 2002; Hempel et al., 2016; Arvola et al., 2008).

Generally, the significance of individual patterns has frequently overlooked – sometimes they are not incorporated in the models or their descriptive power is not at all strong. A few studies that have attempted to explain the significance of individual patterns have extended the TPB in various ways to achieve the best. For instance, Tarkiainen et al., (2005) probe the reasons that influence Finnish end-user consumers and buyers' intention to shop natural and biotic sustenance (Mohammed, 2020). While doing so, this study extended the idea of planned conduct (TPB) within the natural and biotic sustenance buying context. Structural equation modeling was applied to draw link between individual patterns, attitude, perceived attitudinal control and intention to shop for

natural and biotic sustenance. The propounded and modified TPB model shaped the data better than the indigenous model, suggesting that the significance of individual patterns differs from the original planned conduct ideology in the context of natural and biotic sustenance-buying. In buying natural and biotic sustenance, individual patterns indirectly effected purchasing patterns and preferences by enhancing the anticipating capability of attitude. We got to know that updated TPB version suggests stronger intention to purchase natural and biotic sustenance than the original model. Results and outcomes shown that end-user consumers and buyer's intentions to buy natural and biotic sustenance can be predicted with their conducts, which individual patterns can further predict, and that attitudinal intentions reliably predict self- depicted conduct. Thus, whatever has been shown by the people in results and outcomes of experiment, individual patterns have important part to play in that (Ham et al., 2018).

As per a different study conducted by Al-Swidi et al. (2014), the planned conduct ideology (TPB) was used to explain the intention to buy natural and biotic sustenance. The model propounded (Walsh, 2008). In this study emphasizes the measurement of the quickest consequences of individual patterns on behavior, received attitudinal control and objective to buy in the background of purchasing natural and biotic sustenance items. The research project gives the lecturers and the producer's useful insights. The position of individual patterns can be further probed by academicians in order to have a much better comprehension of the influence of individual patterns on other TPB elements. Considering that, producers can pick up the thoughts of assemblage and company to extend requirement of natural and biotic sustenance items, especially within the context of Pakistan (Loera et al., 2022).

In this research paper, in addition to considering the three independent determinants (attitude, individual patterns and perceived control) of attitudinal intention, the significance of individual patterns in explaining attitude is also considered. The variance explained by individual patterns in attitude may in turn increase the overall anticipating capability of the TPB (Bosnjak et al., 2020).

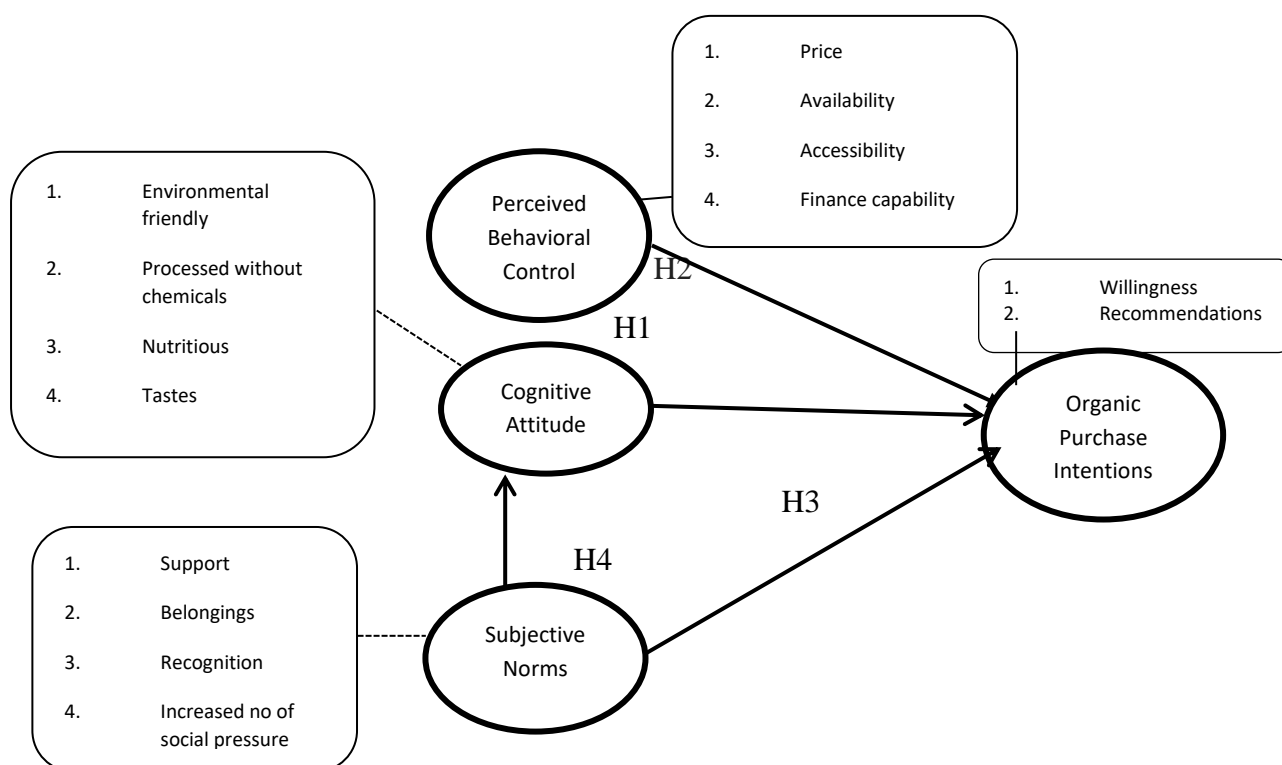
### **Propounded Model of this study**

Keeping in view the Tarkiainen et. al. (2005) the indirect significance of individual patterns on attitudinal intention has been considered. Considering the effect of individual patterns on attitude increases the anticipating capability of attitude, which in turn enhances the general anticipating capability of the ideology of planned conduct (Bosnjak et al., 2020)

The following model has been propounded in this study.

The model shown in figure 1 is anticipated to the predicting power of the TPB within the context of natural and biotic sustenance items purchase intention. The attitude can be a intellectual establishment (Jung, 1971), which is formed by notion, spirits and sentiments towards a specific object (shown that "belief" regarding the results and outcomes (better taste, healthier, environmentally friendly) is influential in prominent end-user purchaser and buyers on the road to natural and biotic sustenance items use (Csepregi et al., 2020) other emphasize that well-being awareness element is such a factor which can never be ignored and was one amongst the most driving forces in choosing natural and biotic sustenance items purchase intention in Pakistan (Rong-Da Liang, 2014). Other than this, set up understanding task in obtain effects, domain good nature was measured as an important thing in choosing natural and biotic sustenance items purchase intention in Lahore (Honkanen et al., 2006).

**H1:** Attitude encompasses a significantly constructive effect on attitudinal intention.



**Figure 1:** Extension and contextualization of the TPB to study biotic sustenance items

McClelland's (1987) need ideology proposed that independent have a tendency to reveal attitude that their instance of class like, as they pursue connection and Class Corporation form clear constructive results and outcomes when applied to natural and biotic sustenance items consumption. To establish another hypothesis we can say that:

**H2:** Personalized behavior has a remarkably constructive effect on attitudinal intent.

The recognized detectable command cover with original own belief regarding their ability to interact in a very specific conduct (Mangafić et al., 2017). It implies to the insight of the people concerning accessible materials like buying power as natural and biotic sustenance items purchase intention is relatively expensive than non-natural and biotic sustenance items; and other important factor is that people also tend to go preferably for the method which saves their time since biotic and organic products are so easily available comparative to known organic products so it is also one of the top reasons that this method is less adopted till now. This instance is very pragmatic in area like Italy, Germany, Spain, European nation(Li & Cui, 2021)

Significant obstacles to natural and biotic sustenance item consumption are perceived barriers such as price and availability (When it comes to grasped skill, many of the previous researches have shown employment or fiscal supplies as primary deciding factors of the inclination to buy natural and biotic sustenance item attitudinal purchases ( Based upon above findings, following is another established hypothesis:

**H3:** Perceived attitudinal control encompasses a remarkably constructive effect on attitudinal intention.

The subjective attitudes correlate to the grasped community sentiment to involve or to not like a provided conduct (Caliskan et al., 2020) Individual patterns disclosed reliance of people about in

what way they would be viewed and given response by their community and assembly if they execute a definite conduct. Previous work has shown that behavior to individual patterns is remarkably correlated. In their studies, determined that an important causal path exists among individual patterns and attitudinal attitude (intention to buy). The effect of the surroundings and neighborhood on individuals' framing preference should be examined in detail. Tarkiainen et al (2005) took note of the comment Chang had made. Thus a significant path was found from the individual patterns to the attitude towards buying natural and biotic sustenance item in their study in Pakistan (Arvola et al., 2008).

Another hypothesis was like:

**H4:** Subjective norms mediate the link between attitude and attitudinal intention.

## **Methods**

### **Research Design**

The research type will be quantitative research in this specific study. The nature of this study would be descriptive and exploratory. Quantitative research will be beneficial to survey large no of people and that will be representative sample of your target market. Convenience sampling has been used in this current research. PLS Software has been used for this study. SEM statistical tool is used in this article to interpreted the data.

### **Respondents**

A cross sectional study took place among pupils of two universities in Lahore, Pakistan.

Two hundred and fifty (250) questionnaires were distributed among pupils of two Universities, out of which 220 valid responses are received. Respondents included male (39.3%), female (59.2%) and other (1%) pupils, having age between 18 to over 30 years. Further, out of the respondents, 40.8% were Married, 51.8% were Single, 5.2% were Divorced and 2.1% were Separated.

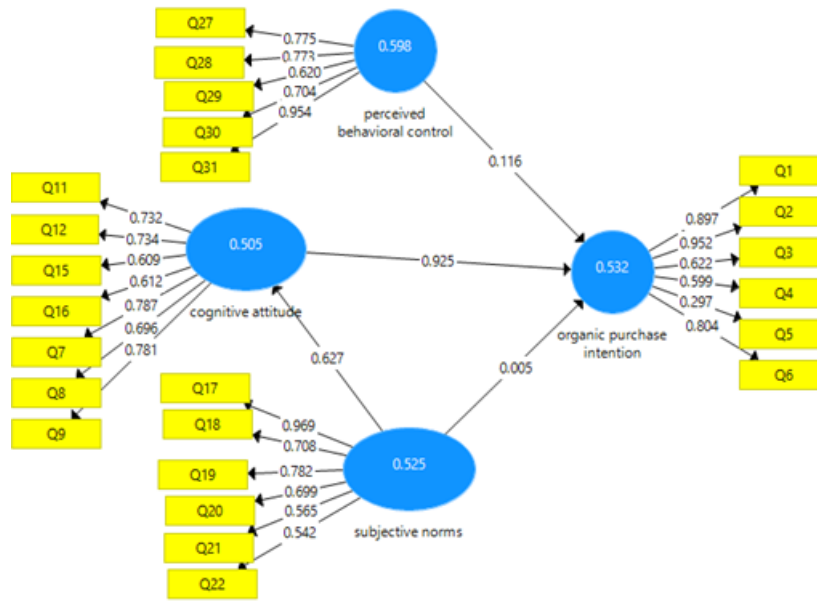
## **Outcomes and Findings**

### **Measurement of Outer Model**

The findings and data is interpreted using partial least structural equation modeling (PLS-SEM). Referring to the PLS-SEM all the initial tests are done through SPSS version 20. Results and outcomes are as per expectations. Within the next stage, the data is transformed to the PLS-SEM software Smart PLS 3.2 where composite reliabilities (CR) and average variance extracted (AVE) and Cronbach's Alpha values were arranged to verify reliability. In the ending level, analyze structural relationships direct and indirect relationships is made.(Bosnjak et al., 2020)

Table 1 represents outer loadings of the study model AVE and CR values. All the things loading values are starting from .29 to .96, AVE values are starting from .50 to .59 and every one the CR values are starting from .86 to .87 that fulfilling the brink level suggested.





**Table 1: Variables, Loadings, AVE, and CR (N= 220)**

Variables	Loadings	AVE	CR
PBC	.62 , .954	0.598	0.879
cognitive attitude	.609, .787	0.505	0.876
SN	.542, .969	0.525	0.865
INT	.297, .952	0.532	0.861

Additionally, the discriminant reliability and validity is numerated using the criteria suggested.

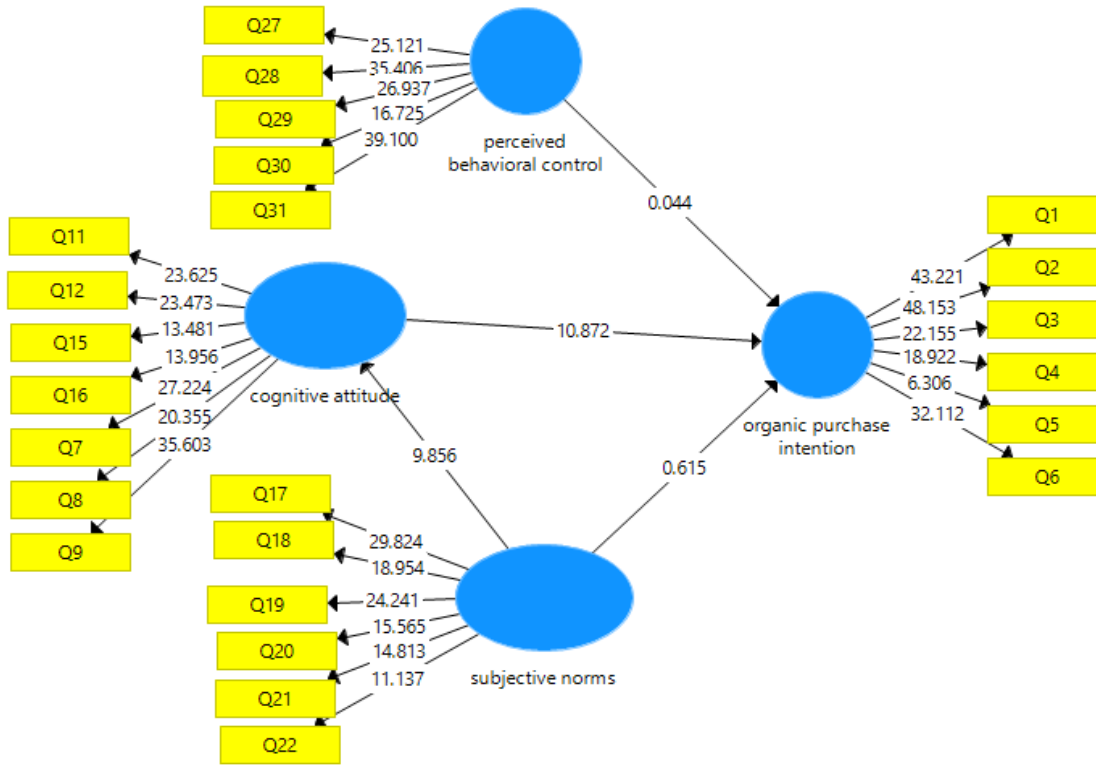
**Table 2: Discriminant Reliability and Validity (N=220)**

	cognitive attitude	organic purchase intention	perceived attitudinal control	Subjective Norms
cognitive attitude	0.711			
organic purchase intention	0.838	0.729		
perceived attitudinal control	0.716	0.543	0.773	
subjective norms	0.627	0.5	0.645	0.725

**Structural Measurement Model**

The cognitive attitude remarkable effect on natural and biotic purchase intention (beta = 0.722, t= 10.230) and perceived attitudinal control (beta=0.004, t= 0.041). Same as, subjective norm remarkable effects on cognitive attitude with values (beta= 0.556, t= 9.518) and (Rong-Da Liang,

2014) also subjective norm remarkable influence natural and biotic purchase intention with values (beta= 0.047, t= 0.596). All the values confirmed propounded hypothesis of the study.



**Table 3: Path Analysis (N=220)**

<b>Paths</b>	<b>Beta value</b>	<b>Standard Deviation (STDEV)</b>	<b>T Statistics ( O/STDEV )</b>	<b>P Values</b>	<b>Hypotheses Testing</b>
cognitive attitude -> organic purchase intention	0.722	0.071	10.230	0.000	Supported
perceived attitudinal control -> organic purchase intention	0.004	0.085	0.041	0.967	Not Supported
subjective norms -> cognitive attitude	0.556	0.058	9.518	0.000	Supported
subjective norms -> organic purchase intention	0.047	0.079	0.596	0.551	Not Supported

## **Discussion**

The relationship between subjective standards and preference towards the purchase of natural and biotic sustenance item was significant, so the preference towards the purchase of natural and biotic sustenance item and subjective standards are also dependent upon each other. It has been found that individual patterns influence preference which differ from the first hypothesis of logical steps and arrange conduct (Mohammed, 2020). The outlook and personal impacts can be smitten by one another. Chang (1998) in past studies, the effect on preference of individual patterns has been found primarily in conducts involving some quite ethical decisions, and the purchase of natural and biotic sustenance items is also often seen as an ethical decision that reflects environmental concerns. Some, who think constructively about buying natural and biotic sustenance item, effect there preference (Rong-Da Liang, 2014). The current learning supports earlier discovery because the connection in the middle of the preference on the road of pick up natural alone also biotic sustenance item and the intention to shop for natural and biotic sustenance item has been constructive and substantial natural and biotic bread and meal has been examined. It would seem that perceived attitudinal influence (i.e., price importance) and perceived quality of natural and biotic sustenance item have no impact on the purchasing of natural and biotic sustenance item intentions(Canova et al., 2020).

End-user consumers and buyers did not recognize that cost of results effected their aims to shop for natural and biotic sustenance item, it'd exist that the discernment of cost of sustenance item outcome effects on to outlook to secure live, rather than accidental result past plan the perceived availability of natural and biotic diet and grate didn't own reaction on purchasing patterns and preferences and hence provision does not turn up as a problem when a sale is made. The path from buying preferences of natural and biotic sustenance item to purchasing conduct of natural and biotic sustenance item was quite important and constructive(Mangafić et al., 2017). This result is in line with findings which have been deduced in the past, as an instance Choo et al. (2004) also confirmed that intent to shop for current sustenance item stuff could be a determinant of actual purchase conduct among creative Pakistani end-user buyers(Caliskan et al., 2020). Individual patterns have an immediate significant impact on purchasing patterns and preferences. It is almost same with the results of work which has been done in the past (see Chen, 2007; Voon et al., 2011). Additionally, individual patterns influence preference toward purchasing patterns and preferences.

This discovery is in line to know that preference and received attitudinal control are better determinants of intents when a conduct (eating healthy sustenance item) is more conducive and supportive to the social environment. The results showed that no important connection was found among conduct control and intentions to buy natural and biotic sustenance item. This finding does not stand with previous studies that intents attitudinal control remarkably influences the willingness to buy natural and biotic sustenance item (Ajzen, 2006; Gracia et al., 2007; Riefer et al.). As debated earlier, the average value relating to perceived attitudinal control is less in comparison with other elements. However, Pakistani end-user consumers and buyers, per Hofstede's (1991) concept of collectivism as part of a collectivist society, are largely compliant rather than deviant about their reference classes (Bosnjak et al., 2020). It provides an explanation for the negligible direct effect of perceived influence of actions on buying intentions towards natural and biotic sustenance item that is still an idea which is under evolution in Pakistan(Walsh, 2008)..

One of the indicators of constructive attitude towards morality. Accordingly, research on the meaning of different attitudinal preference, individual patterns and attitudinal beliefs in the moral obligation found it to be closely related to mood, and individual patterns and attitudinal beliefs

related to different conducts (Conner & Armitage, 1998) including the purchasing of natural and biotic sustenance items (Thøgersen et al., 2006). Moral interventions have sometimes been found in previous studies to uplift prediction of intent (Schwartz et al., 1972; Sparks et al., 2002) and sometimes attitude prediction (Su et al., 2022).

### **Implications and Limitations**

There are multiple impediments and limitations. Firstly, this research related merely natural and biotic goods, and so findings and outcomes cannot be anticipated to clarify user conduct for all naturally grown products. The study includes minimal constraints and limitations because it was arranged in southern area of Punjab, Pakistan (Walsh, 2008). End-user shoppers and buyers who belong to the other areas of the country may differ in their preference to the purchasing of natural and biotic sustenance item supported their preference, individual patterns and perceived attitudinal control. Likewise, the sample responder illustrated the perspective of well qualified people toward purchasing natural and biotic sustenance item (Tarkiainen & Sundqvist, 2005). It is very much possible that individuals having low level of information and training grasp natural and biotic sustenance item usage in a very different way. Supported the results of research project, it is suggested that educationists have to be enforced to give more consciousness to the consequences of individual patterns on purchasing patterns and preferences toward natural and biotic sustenance item. This study also has implications for producers of natural and biotic sustenance item products (Bosnjak et al., 2020).

The significance of individual patterns is important in driving end-user consumers and buyers toward organic sustenance item purchasing, the producers have to be enforced to kill the belief head who can total constructive term of jaws regarding natural and biotic sustenance item use. As a result, the amount of heed and trust to use of natural and biotic sustenance item bid get up amid possible buyer. Acquiring of natural and biotic sustenance item can obey countless fitness linked good to the public of Pakistan. Where human beings often come across numerous important illness thanks to consume harmful sustenance item as full issuance and better cost are observe as likely hurdle (Stream Organic, 2013), hence, so as to push the employment of natural and biotic sustenance item, It is key to form it at hand hard and at cheap costs. It is predict that in depth issue and discount costs may goad the requirement of natural and biotic sustenance item because the study demonstrates constructive intentions of the respondents toward natural and biotic sustenance item purchase. (Walsh, 2008) So as to extend the supply, the quantity of natural and biotic farmers must increase. Increase in number of natural and biotic farmers supported by appropriate marketing strategies is of great economic and commercial importance; Future researchers can further investigate the significance of individual patterns in other countries to validate the findings of this research project (Al-Swidi et al., 2014). Additionally, longitudinal studies is conducted to urge an in depth know-how about the difference between purchasing patterns and preferences and actual purchase of natural and biotic sustenance item over an extended period. Furthermore, a full case study is conducted to own a deep insight about underlying potential motivators and barriers of natural and biotic sustenance item purchase. This could help the producers to formulate the strategies to push the requirement and increase the sales of natural and biotic sustenance item in an exceedingly successful manner (Hsu et al., 2016).

### **Conclusions**

The present research paper has attempted to utilize the modification of TPB into natural and biotic sustenance item buying context, where is the individual patterns effected the attitudinal intentions indirectly via attitude formation (Rong-Da Liang, 2014). The results and outcomes of this study

showed that this modification is often accustomed predict natural and biotic sustenance products purchasing patterns and preferences and self- depicted buying conduct. Perhaps the foremost important finding of this study is that it is possible to predict end-user consumers and buyers' buying conduct of natural and biotic sustenance products with intentions to shop for natural and biotic sustenance products, which may further be predicted with preference, and individual patterns, which individual patterns effect purchasing patterns and preferences of natural and biotic sustenance products through preference. This finding determined that preference and perceived control of conduct are better predictors of intentions when the social environment is more conducive and supportive to perform a conduct (eating healthy sustenance products) (Arvola et al., 2008). This study found no significant relationship between perceived attitudinal control and natural and biotic sustenance products purchasing patterns and preferences. This finding contradicts and contrasts with past studies which stated that perceived attitudinal control remarkably influences willingness to get natural and biotic sustenance products (Ajzen, 2006; Gracia et al., 2007; Riefer et al., 2008; Voon et al., 2011). Moreover, Pakistani end-user consumers and buyers, being an area of a collectivist society as per definition of collectivism by Hofstede (1991), are majorly complaints instead of deviants with relevancy their reference groups It provides an evidence for insignificant direct effect of perceived attitudinal control on purchasing patterns and preferences toward natural and biotic sustenance products which remains an emerging concept in Pakistan but in some cases also in predicting intentions to shop for natural and biotic sustenance products(Walsh, 2008). However, its effects are still partially mediated by other variables, like attitude and subjective norm.

## References

1. Ajzen, I., & Fishbein, M. (1969). The prediction of behavioral intentions in a choice situation. *Journal of Experimental Social Psychology*, 5, 400-416.
2. Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In *Action control* (pp. 11-39). Springer, Berlin, Heidelberg.
3. Ajzen, I., & Fishbein, M. (1970). The prediction of behavior from attitudinal and
4. Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin*, 84, 888-918.
5. Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice Hall.
6. Akbar, A.; Ali, S.; Ahmad, M.A.; Akbar, M.; Danish, M. Understanding the Antecedents of Organic Food Consumption in Pakistan: Moderating Significance of Food Neophobia. *Int. J. Environ. Res. Public Health* 2019, 16, 4043.
7. Al-Swidi, A., Mohammed Rafiul Huque, S., Haroon Hafeez, M., & Noor Mohd Shariff, M. (2014). The significance of subjective norms in theory of planned behavior in the context of organic food consumption. *British Food Journal*, 116(10), 1561-1580.
8. Al-Swidi, A., Mohammed Rafiul Huque, S., Haroon Hafeez, M., & Noor Mohd Shariff, M. (2014). The role of subjective norms in theory of planned behavior in the context of organic food consumption. *British Food Journal*, 116(10), 1561-1580. <https://doi.org/10.1108/BFJ-05-2013-0105>
9. Alvensleben, R. (1998), "Ecological aspects of food demand: the case of organic food in Germany", AIR-CAT 4th Plenary Meeting: Health, Ecological and Safety Aspects in Food Choice, Vol. 4 No. 1, pp. 68-79.
10. Anssi Tarkiainen, Sanna Sundqvist, (2005), "Subjective norms, attitudes and intentions of Finnish consumers in buying organic food", *British Food Journal*, Vol. 107 Iss: 11 pp. 808 – 822.

11. Arvola, A., Vassallo, M., Dean, M., Lampila, P., Saba, A., Lähteenmäki, L., & Shepherd, R. (2008). Predicting intentions to purchase organic food: The significance of effective and moral attitudes in the Theory of Planned Behaviour. *Appetite*, 50(2-3), 443-454.
12. Arvola, A., Vassallo, M., Dean, M., Lampila, P., Saba, A., Lähteenmäki, L., & Shepherd, R. (2008). Predicting intentions to purchase organic food: The significance of effective and moral attitudes in the Theory of Planned Behaviour. *Appetite*, 50(2-3), 443-454.
13. Arvola, A., Vassallo, M., Dean, M., Lampila, P., Saba, A., Lähteenmäki, L., & Shepherd, R. (2008). Predicting intentions to purchase organic food: The role of affective and moral attitudes in the Theory of Planned Behaviour. *Appetite*, 50(2), 443-454. <https://doi.org/10.1016/j.appet.2007.09.010>
14. Ashraf, M.A., Joarder, M.H.R. and Ratan, S.R.A. (2019), "Consumers' anti-consumption conduct toward organic food purchase: an analysis using SEM", *British Food Journal*, Vol. 121 No. 1, pp. 104-122.
15. Asif, M., Xuhui, W., Nasiri, A., & Ayyub, S. (2018). Determinant factors influencing organic food purchase intention and the moderating significance of awareness: A comparative analysis. *Food Quality and Preference*, 63, 144-150.
16. Bai, L.; Wang, M.; Gong, S. Understanding the Antecedents of Organic Food Purchases: The Important Significances of Beliefs, Individual patterns, and Identity Expressiveness. *Sustainability* 2019, 11, 3045.
17. Bosnjak, M., Ajzen, I., & Schmidt, P. (2020). The Theory of Planned Behavior: Selected Recent Advances and Applications. *Europe's Journal of Psychology*, 16(3), 352-356. <https://doi.org/10.5964/ejop.v16i3.3107>
18. Caliskan, A., Celebi, D., & Pirnar, I. (2020). Determinants of organic wine consumption behavior from the perspective of the theory of planned behavior. *International Journal of Wine Business Research*, 33(3), 360-376. <https://doi.org/10.1108/IJWBR-05-2020-0017>
19. Canova, L., Bobbio, A., & Manganelli, A. M. (2020). Buying Organic Food Products: The Role of Trust in the Theory of Planned Behavior. *Frontiers in Psychology*, 11, 575820. <https://doi.org/10.3389/fpsyg.2020.575820>
20. Cavite, H. J., Mankeb, P., & Suwanmaneepong, S. (2021). Community enterprise consumers' intention to purchase organic rice in Thailand: The moderating role of product traceability knowledge. *British Food Journal*, 124(4), 1124-1148. <https://doi.org/10.1108/BFJ-02-2021-0148>
21. Chang, E. C. (1998). Dispositional optimism and primary and secondary appraisal of a stressor: Controlling for confounding influences and relations to coping and psychological and physical adjustment. *Journal of Personality and Social Psychology*, 74(4), 1109.
22. Csepregi, L., Ehling, R. A., Wagner, B., & Reddy, S. T. (2020). Immune Literacy: Reading, Writing, and Editing Adaptive Immunity. *IScience*, 23(9), 101519. <https://doi.org/10.1016/j.isci.2020.101519>
23. Dangi, N., Narula, S. A., & Gupta, S. K. (2020). Influences on purchase intentions of organic food consumers in an emerging economy. *Journal of Asia Business Studies*, 14(5), 599-620. <https://doi.org/10.1108/JABS-12-2019-0364>
24. EU (2003), "Organic farming in the EU: facts and figures", available at: <http://europa.eu.int/comm/agriculture/>
25. Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison - Wesley
26. Fishbein, M., & Ajzen, I. (1980). Predicting and understanding consumer behavior: Attitude-behavior correspondence. *Understanding attitudes and predicting social behavior*, 148-172.

27. Fotopoulos, C. and Krystallis, A. (2002), "Organic product avoidance: reasons for rejection and potential buyers' identification in a countrywide survey", *British Food Journal*, Vol. 104 Nos 3/5, pp. 233-60.
28. Gracia Royo, A., & de-Magistris, T. (2007). Organic food product purchase behaviour: a pilot study for urban consumers in the South of Italy.
29. Grunert, S.C. and Kristensen, K. (1995), "Den Danske Forbruger og Okologiske Fodevarer", working research projects in marketing no. 1, Department of Marketing, Odense University, Odense
30. Ham, M., Pap, A., & Stanic, M. (2018). What drives organic food purchasing? – Evidence from Croatia. *British Food Journal*, 120(4), 734–748. <https://doi.org/10.1108/BFJ-02-2017-0090>
31. Hempel, C., & Hamm, U. (2016). How important is local food to organic-minded consumers?. *Appetite*, 96, 309-318.
32. Hsu, S.-Y., Chang, C.-C., & Lin, T. T. (2016). An analysis of purchase intentions toward organic food on health consciousness and food safety with/under structural equation modeling. *British Food Journal*, 118(1), 200–216. <https://doi.org/10.1108/BFJ-11-2014-0376>
33. Islam MA, NA Khan and R Bashar, 2019. A comparative study on the costs and returns of organic vs. inorganic farming practices at selected areas near Dhaka, Bangladesh. *Res. Agric. Livest. Fish.* 6 (2): 289-299.
34. James, M. X., Hu, Z., & Leonce, T. E. (2019). Predictors of organic tea purchase intentions by Chinese consumers: Attitudes, subjective norms and demographic factors. *Journal of Agribusiness in Developing and Emerging Economies*, 9(3), 202–219. <https://doi.org/10.1108/JADEE-03-2018-0038>
35. Kalafatis, S., Pollard, M., East, R. and Tsogas, M.H. (1999), "Green marketing and Ajzen's theory of planned behaviour: a cross-market examination", *Journal of Consumer Marketing*, Vol. 16 No. 5, pp. 441-60.
36. Lampikoski, K. and Lampikoski, T. (2000), *Consumer Visions – Sights into the Future of Consumer Behaviour*, WSOY, Porvoo (in Finnish).
37. Lampkin, N. (1999), *Organic Farming*, Farming Press, Ipswich.
38. Li, M., & Cui, H.-J. (2021). Face consciousness and purchase intention of organic food: The moderating effect of purchase situation and advertising appeal. *British Food Journal*, 123(9), 3133–3153. <https://doi.org/10.1108/BFJ-03-2021-0298>
39. Loera, B., Murphy, B., Fedi, A., Martini, M., Tecco, N., & Dean, M. (2022). Understanding the purchase intentions for organic vegetables across EU: A proposal to extend the TPB model. *British Food Journal*, ahead-of-print(ahead-of-print). <https://doi.org/10.1108/BFJ-08-2021-0875>
40. Magnusson, M.K., Arvola, A., Koivisto Hursti, U-K., A° berg, L. and Sjo`de`n, P-O. (2001), "Attitudes towards organic foods among Swedish consumers", *British Food Journal*, Vol. 103 No. 3, pp. 209-26.
41. Makatouni, A. (2002). What motivates consumers to buy organic food in the UK?. *British Food Journal*.
42. Mangafić, J., Pilav-Velić, A., Martinović, D., & Činjarević, M. (2017). Consumer Innovativeness and Organic Food Purchase Intentions. In S. Renko & A. Pestek (Eds.), *Green Economy in the Western Balkans* (pp. 285–319). Emerald Publishing Limited. <https://doi.org/10.1108/978-1-78714-499-620171010>
43. Massey, M., O'Cass, A., & Otahal, P. (2018). A meta-analytic study of the factors driving the purchase of organic food. *Appetite*, 125, 418–427.

44. McReynolds, K., Gillan, W., & Naquin, M. (2017). An Examination of College Students' Knowledge, Perceptions, and Behaviors Regarding Organic Foods. *American Journal of Health Education*, 49(1), 48–55.
45. Mohammed, A. A. (2020). What motivates consumers to purchase organic food in an emerging market? An empirical study from Saudi Arabia. *British Food Journal*, 123(5), 1758–1775. <https://doi.org/10.1108/BFJ-07-2020-0599>
46. Nardi, V.A.M., Jardim, W.C., Ladeira, W. and Santini, F. (2019), "Predicting food choice: a meta-analysis based on the notion of planned conduct", *British Food Journal*, Vol. 121 No. 10, pp. 2250-2264.
47. Nguyen, H.V.; Nguyen, N.; Nguyen, B.K.; Lobo, A.; Vu, P.A. Organic Food Purchases in an Emerging Market: The Influence of End-user consumers and buyers' Personal Factors and Green Marketing Practices of Food Stores. *Int. J. Environ. Res. Public Health* 2019, 16, 1037. normative variables. *Journal of Experimental Social Psychology*, 6, 466-487.
48. Padel, S., Seymour, C. and Foster, C. (2003), "SWP 5.1: report of all three rounds of the Delphi inquiry on the European market for organic food", Organic Marketing Initiatives and Rural Development (OMIARD), QLK5-2000-01124, available at: [www.irs.aber.ac.uk/omiard/](http://www.irs.aber.ac.uk/omiard/)
49. Pereira, M.W.G, D.D.O.L. Filho, W.R.E. Maciel and D.M.De. Oliveira, (2015). *Determinants of organic products consumption. REMark*, 14:122-137.
50. Rahman, M.K. and Noor, M.A.N., (2016), "Exploring Organic Food Purchase Intention in Bangladesh: An Evaluation by Using the Theory of Planned Behavior", *Journal Of International Business Management*, Vol.10 No.18, pp.4292-4300.
51. Roddy, G., Cowan, C.A. and Hutchinson, G. (1996), "Consumer attitudes and behaviour to organic foods in Ireland", *Journal of International Consumer Marketing*, Vol. 9 No. 2, pp. 41-63.
52. Rong-Da Liang, A. (2014). Enthusiastically consuming organic food: An analysis of the online organic food purchasing behaviors of consumers with different food-related lifestyles. *Internet Research*, 24(5), 587–607. <https://doi.org/10.1108/IntR-03-2013-0050>
53. Scalco, A., Noventa, S., Sartori, R., & Ceschi, A. (2017). *Predicting organic food consumption: A meta-analytic structural equation model based on the theory of planned behavior. Appetite*, 112, 235–248.
54. Shepherd, G.J. and O'Keefe, D.J. (1984), "Separability of attitudinal and normative influences on behavioral intentions in the Fishbein-Ajzen model", *The Journal of Social Psychology*, Vol. 122, pp. 287-8.
55. Shimp, T.A. and Kavas, A. (1984), "The theory of reasoned action applied to coupon usage", *Journal of Consumer Research*, Vol. 11 No. 3, pp. 795-9.
56. Shin, Y. H., Im, J., Jung, S. E., & Severt, K. (2018). *The theory of planned behavior and the norm activation model approach to consumer behavior regarding organic menus. International Journal of Hospitality Management*, 69, 21–29.
57. Smith, S., & Paladino, A. (2010). Eating clean and green? Investigating consumer motivations towards the purchase of organic food. *Australasian Marketing Journal (AMJ)*, 18(2), 93- 104.
58. Sparks, P. and Shepherd, R. (1992), "Self-identity and the theory of planned behavior: assessing the significance of identification with 'green consumerism'", *Social Psychology Quarterly*, Vol. 55 No. 4, pp. 388-99.
59. Su, Y., Khaskheli, A., Raza, S. A., & Yousufi, S. Q. (2022). How health consciousness and social consciousness affect young consumers purchase intention towards organic foods.



- Management of Environmental Quality: An International Journal*, 33(5), 1249–1270. <https://doi.org/10.1108/MEQ-12-2021-0279>
60. Tarkiainen, A., & Sundqvist, S. (2005). Subjective norms, attitudes and intentions of Finnish consumers in buying organic food. *British Food Journal*, 107(11), 808–822. <https://doi.org/10.1108/00070700510629760>
61. Tarkiainen, A., & Sundqvist, S. (2005). Subjective norms, attitudes and intentions of Finnish consumers in buying organic food. *British Food Journal*, 107(11), 808–822. <https://doi.org/10.1108/00070700510629760>
62. Tregear, A., Dent, J.B. and McGregor, M.J. (1994), “The demand for organically grown produce”, *British Food Journal*, Vol. 96 No. 4, pp. 21-5.
63. Walsh, Anne & Edwards, Helen & Fraser, Jennifer. (2008). Attitudes and subjective norms: Determinants of parents' intentions to reduce childhood fever with medications. *Health Education Research*. 24. 10.1093/her/cyn055.
64. Wandel, M. and Bugge, A. (1997), “Environmental concern in consumer evaluation of food quality”, *Food Quality and Preference*, Vol. 8 No. 1, pp. 19-26
65. Yazdanpanah, M., & Forouzani, M. (2015). Application of the Theory of Planned Behaviour to predict Iranian students' intention to purchase organic food. *Journal of Cleaner Production*, 107, 342–352. <https://doi.org/10.1016/j.jclepro.2015.02.071>