

Using theory of planned behavior (TPB) examining consumer intention and behavior towards organic food consumption in Uttarakhand, India

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Abstract

This article use the TPM model to examine consumer intentions and behaviors related to the consumption of organic food in Uttarakhand, India. The study aimed to ascertain the primary determinants that is influencing consumer inclinations to purchase and consume organic food items and examine how these determinants may be leveraged to encourage consumption in the area. The study employed a questionnaire in a Likert Scale to gather quantitative data from 212 genuine respondents in the Gharwal district of Uttarakhand. The data underwent analysis using the use of Structural Equation Modelling (SEM) and AMOS-22. This analysis aimed to evaluate the influence of consumer attitudes, subjective norms, perceived behavioral control, and intention on organic food intake. The study revealed that customers' attitude, social norms, and perceived behavioral control had a statistically significant positive influence on purchase intention ($\beta=0.57$, $P=0.000$), ($\beta=0.47$, $P=0.000$), ($\beta=0.36$, $P=0.000$), hence confirming hypotheses H1, H2, and H3. In addition, the study revealed that purchasing intention positively influences actual purchase behavior. The findings offer useful information for marketers to formulate policies and strategies to encourage the adoption of organic food in Uttarakhand.

Subject Classification: 03B38.

Keywords: Organic food, Social norms, Theory of planned behavior, Consumer intention.

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1. Introduction

The organic food in India have garnered considerable attention in recent years, mostly due to growing concerns about health and the environment. India is in the top 10 nations in the world for organic food production, as reported by the Agricultural and Processed Food Products Export Development Authority (APEDA). In 2020, India had a total organic farming area of 3.56 million hectares. Uttarakhand, located in the northern part of India, has emerged as a significant hub for organic farming due to favourable climatic conditions and the state government's initiatives to promote organic farming. According to the Uttarakhand Organic Commodity Board, the state has 45,410 hectares of certified organic land and 9,879 farmers engaged in organic farming as of 2021. The organic food products demand too is rising with a market size of INR 50 billion (approx. USD 675 million) in 2019 and an expected growth rate of 20-25% in the coming years (Nirula, 2019). These statistics highlight the growing significance of organic food production and consumption in India, particularly in Uttarakhand.

Organic agriculture is in demand in developing nations, like India, as it promotes sustainable practices and enhances farmers' lives.

Uttarakhand, a mountainous state in northern India, has led the way in encouraging organic agriculture by offering incentives and assistance to farmers. However, organic food usage remains low, particularly among urban buyers, despite efforts.

Limited research exists on customer attitudes and behavior towards organic food consumption in India. Niranjana and Kandasamy (2018) found that environmental concern, health awareness, and perceived quality drive consumers' food purchases. A further study by Singh and Palaian (2011) evaluated how income, education, and awareness affect purchasers' willingness to pay for organic food goods.

Therefore, the present study uses the TPB paradigm to analyse Uttarakhand consumers' organic food consumption intentions and behaviors. The study will examine how attitudes about organic food, subjective norms, and perceived behavioral control affect customers' intentions to purchase organic food. Food consumption behavior in India has been studied, but Uttarakhand has not. Thus, this study seeks to address the gap in the literature by examining Uttarakhand's organic food consumption characteristics.

2. Literature Review

The Theory of Planned Behavior (TPB) is a well-established paradigm that has been used for our research in comprehending consumer behavior. The TPB framework, developed by Ajzen (1991), helps explain the numerous factors that drive organic food consumption.

2.1 *Attitude*

Attitude of the consumer is influenced by a variety of factors like, health consciousness, environmental concern, perceived quality, and taste preferences. Health consciousness has been found to be key driver (Bilgic et al., 2018). Consumers who are health-conscious tend to perceive organic food as healthier than conventionally produced food. This perception is supported by scientific evidence that shows that organic food is higher in certain nutrients, such as antioxidants and vitamins (Dangour et al., 2009). Environmental concerns also affect organic food consumption (De Magistris & Gracia, 2008). Environmentally concerned consumers regard organic food production as more sustainable and less destructive than conventional food production.

The quality of organic food also affects people's attitudes on consuming it. Torjusen et al. (2001) found that consumers see organic food products as higher-quality than conventional ones. Finally, personal preferences impact attitudes towards organic food. Flavor-conscious consumers perceive organic food as more tasty than conventionally cultivated food (Lombardi et al., 2013). Traditional practices like crop rotation and heritage cultivars may contribute to the idea that organic food is more flavorful. Research indicates that criteria like price, accessibility, and availability, rather than attitude, significantly influence customers' purchasing intentions (Kristensen & Thøgersen, 2006). Research indicates that good sentiments towards organic products do not necessarily result in purchase behavior (Janssen & Hamm, 2012). However, according to Lobb et al. (2007), customers' perceptions about organic food items greatly impact their propensity to buy and actual consumption of such products. Positive attitudes towards organic products may lead to a willingness to pay more for them, as well as increased loyalty and retention (Dagevos & Voordouw, 2007). Hence the following Hypothesis:

H1: Attitude affect consumer purchase intentions towards organic products.

2.2 *Subjective Norms*

The term “subjective norms” describes the amount of peer pressure that people feel to act in a certain way. In the context of organic food consumption, subjective norms can include social influence from family, friends, and other individuals in one’s social network. Research has shown that social influence can significantly impact organic food consumption behavior (Magnusson et al., 2001). Cultural factors also play a role in subjective norms and can vary across different regions and communities. For example, in some cultures, organic food may be seen as a luxury item or a status symbol (Hughner et al., 2007). Conversely, in other cultures, traditional and organic foods may be more closely linked, leading to a higher prevalence of organic consumption (Hughner et al., 2007).

Marketing can affect subjective organic food standards. According to Asioli et al. (2017), organic food marketing that emphasizes health and the environment influences customer attitudes and drives demand for organic products. Word-of-mouth marketing significantly impacts organic food consumption and subjective criteria (Hughner et al., 2007).

Researchers have discovered mixed results on how cultural standards impact customers’ organic product purchases. Research (Thøgersen, 2009; Li et al., 2016) suggests that cultural norms may impact consumers’ organic product purchases. In contrast, Aertsens and Buyse (2009) and Gracia and Magistris (2013) found that social norms do not affect customer behavior. However, organic product customer behavior needs more research. A hypothesis is being proposed to examine how social norms impact customers’ intentions and behaviors while buying organic products.

H2: Social Norms affect consumer purchase intentions towards organic products.

2.3 *Perceived Behavioral Control*

An individual’s perception of a behavior’s ease or difficulty is termed perceived behavioral control. Perceived behavioral control affects consumer behavior towards organic food. Available products, price, convenience, and organic food knowledge and awareness impact perceived behavioral control (Magnusson et al., 2001; Asioli, 2017). Consumers will buy organic food if it’s cheap, accessible, and widely available. Understanding organic food benefits can increase customer behavior towards purchasing organic food. Asioli et al. (2017) found that buyers would pay more for whole-grain products they considered healthier.

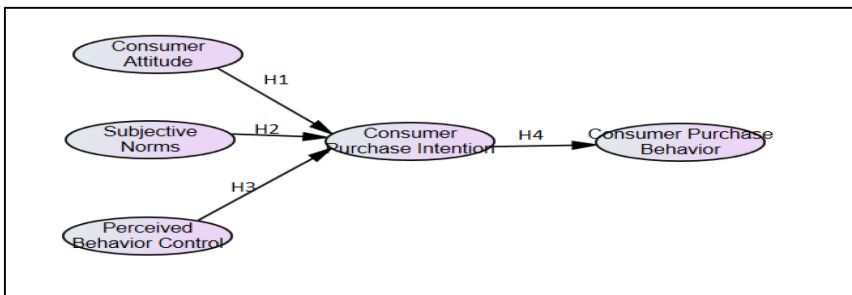
Singh et al. (2018) found that health and trust influenced Indian organic food consumption. Mishra and Bisht (2018) found that Indian consumers chose organic food for environmental, health, and food safety reasons. Research indicates that people are prepared to pay more for organic food if they believe it is of higher quality.

There has been contradictory data about the impact of perceived behavioral control (PBC) on customers' intentions to purchase organic products. According to Schifferstein and Ophuis (1998), health-related qualities were shown to be more important in predicting organic food consumption than PBC (perceived behavioral control). On the other hand, Aertsens et al. (2009) found that subjective and objective knowledge were stronger predictors of organic food consumption than PBC. However, evidence suggests PBC affects organic goods purchases. PBC improved Chinese organic food product purchases, according to Li et al. (2016). De Magistris and Gracia (2008) found that PBC strongly predicted organic food purchases among Spanish urban consumers. These findings suggest that cultural and environmental factors may influence PBC's effect on organic product purchases. Given this, we hypothesize that PBC may impact customers' organic product purchases.

H3: Perceived Behavioral Control affect consumer purchase intentions towards organic products.

2.4 *Consumer Purchase Intention (CPI)*

CPI is the probability, a consumer acquire product or service at a later point in time. Within the realm of organic products, the desire to purchase is affected by a range of elements including personal values, attitudes, beliefs, and cultural influences. Studies indicate that the desire to purchase is a strong indicator of the actual buying behavior of organic items. Chen and Chang (2013) found a positive association between customers' desire to buy organic food and their actual purchase behavior. The relationship between intention and actual purchase may not always be apparent. Research suggests a limited or negative influence of purchase intention on behavior, emphasizing the need of understanding cultural and environmental factors. According to Gao et al. (2021), Chinese consumers have a great desire for organic food products, but their actual purchase behavior is low. In Denmark, Thøgersen and Olander (2006) found that purchase intention had a minimal influence on actual organic product purchases. To promote sustainable consumption, it is important to analyze the complex factors that influence both the desire to buy and the actual purchasing behavior.



Source: Authors conceptual Framework from Ajzen (1991)

Figure 1

Conceptual Framework based on Theory of Planned Behavior

H4: Purchase intentions affect purchase behavior towards organic products.

Despite its importance as an organic producing hub, Uttarakhand, India, lacks organic food consumption studies. To bridge gap, this study used (TPB) paradigm to analyse Uttarakhand consumers' organic food consumption habits. This study aims to assess consumers' awareness and understanding of organic food items in Uttarakhand.

- Examine customer behavior and intentions towards organic food in Uttarakhand.
- Identify factors affecting consumer behavior towards organic food in Uttarakhand.

Conceptual Framework based on TPB

This study used the Theory of Planned Behavior (TPB) to investigate the impact of attitudes, subjective norms, and perceived behavioral control on the behavior and intention of Uttarakhand consumers about organic food intake. The study posits in Figure 1 that these indicators will significantly forecast the intention and behavior of consuming organic food.

3. Research Methodology

Research Design. The objective of the study is to gather data from customers living in Uttarakhand to comprehend their thoughts and actions about organic food goods. The study design being cross-sectional

included the utilization of a meticulously organized questionnaire, which was employed for the purpose of gathering data from the participants.

Sampling Technique: The study is non-probability convenience sampling. This was chosen due to its ease of implementation and the availability of respondents. A grand total of 260 questionnaires were disseminated among the residents of Garhwal-Region in Uttarakhand, and a noteworthy 212 responders provided legitimate data.

Data Collection: Questions concerning consumers' perspectives and actions toward organic food items were part of a standardized questionnaire that was used to gather data. The TPB served as the theoretical foundation around which the questionnaire was built. The survey probed respondents' opinions on organic food, their subjective standards, their sense of behavioral agency, their plans to consume organic food, and their actual consumption habits.

Data Analysis: Descriptive statistics, including means and standard deviations, were used to analyze the obtained data and define the sample's characteristics. To evaluate the study hypotheses and investigate the correlations between the variables, inferential statistics were utilized, such as SEM regression analysis. We utilized structural equation modeling (SEM) to look at how each variable affected people's attitudes and actions towards organic food.

Ethical Consideration : Data collection required informed consent from all participants. Study participants will get an explanation of study aims and assurance that their replies will remain confidential. Data will be used for research.

Limitations: The study's limitations, including non-probability convenience sampling, prevent generalization of results to a larger population. Social desirability bias may affect study data from participants' accounts. The poll was limited to users in Uttarakhand, thus its results may not apply elsewhere.

Data Analysis:

3.1 Demographic Profile, awareness, knowledge and purchase of Organic Food Products

The sample demographics revealed 46.24 percent of participants were under 35 years old. About a third of the sample was aged 35-45, and a quarter was 45+. The survey was completed by 73% males and 27% women. A large number of participants had graduate or doctoral degrees and were knowledgeable about organic food items. The survey found that

67% of respondents worked in the commercial sector, while 33% worked in the public sector. Most participants have purchased organic food products and understood their benefits.

3.2 Reliability

Table 1
Reliability Check

S.N	Construct	Attributes	C-Alpha	Int.
1	Perceived Behavior Control	4	0.957	Excellent
2	Subjective Norms	4	0.933	Excellent
3	Attitude	4	0.941	Excellent
4	Consumer Purchase intention	4	0.855	Good
5	Consumer Purchase Behavior	4	0.871	Good

Source: Author's own compilation

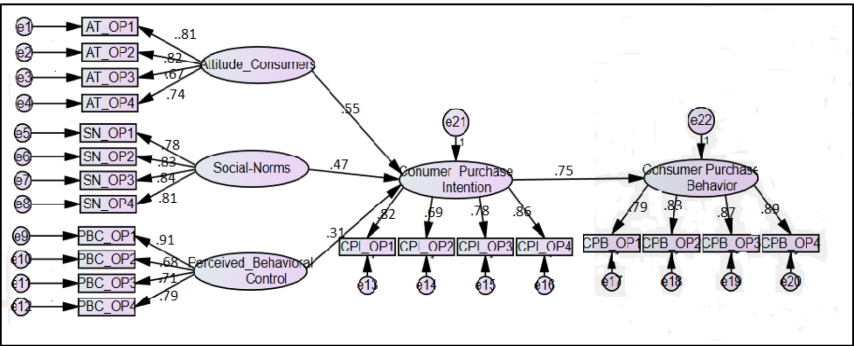
Results from Table 1 showed that the variables under research had good internal consistency, with values ranging from 0.855 to 0.957. On the other hand, because items were chosen from different authors, certain variables showed internal contradictions. Three components, Attitude (27%), Subjective Norms (23.28%), and Perceived Behavioral Control (21%), were identified by an exploratory factor analysis on 12 questions using SPSS 25. These variables accounted for 71.28% of the variation. According to Nunnally, a good factor analysis is defined as having factor loadings over 0.5, which all twelve components met. These results point to the importance of the factors in explaining why people choose to buy organic items.

3.3 Descriptive analysis

Table 2
Output of Descriptive analysis

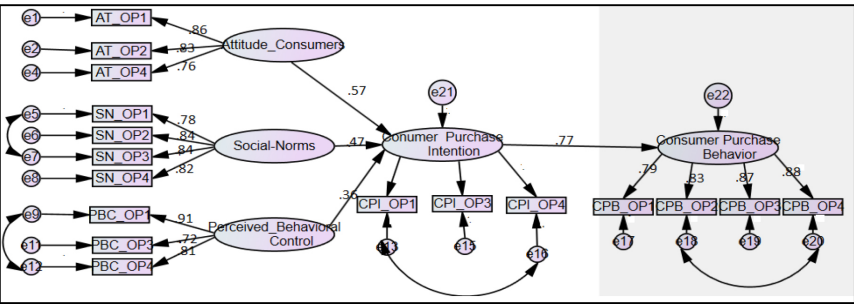
S. No	Study Variables	N	Min	Max	Mean	Std-Dev
1	Perceived Behavior Control	212	1	5	3.15	1.23
2	Subjective Norms	-do-	-do-	-do-	3.28	1.05
3	Attitude	-do-	-do-	-do-	3.47	0.99
4	Consumer Purchase intention	-do-	-do-	-do-	3.76	0.83
5	Consumer Purchase Behavior	-do-	-do-	-do-	3.25	1.24

Source: Author's own compilation



Source: Authors

Figure 2
Original Version



Source: Authors

Figure 3
Revised Version

All variables examined in the Table 2 exhibited strong internal consistency, with values above Nunnally's recommended threshold of 0.7 (Nunnally, 1978). The values ranged from 0.957 to 0.855, with all variables having values greater than 0.855, indicating high internal consistency.

3.4 Analysis of Hypothesized framework-

Examining the proposed framework allowed us to test the study hypothesis. Evaluation of goodness-of-fit indices (GFI) revealed that neither the GFI nor the Average Goodness of Fit (AGFI) reached the 0.9 criterion proposed by Hu and Bentler (1999) in Figure 2. As shown in Figure 3, three items were deleted from the original form using modification

indices (MI) and factor loadings to analyze the inconsistency of the variables.

Table 3
Revised model

Model	Items	GFI	AGFI	RMSEA	CFI	CMIN/DF	TLI
Old-Ver	20	0.877	0.872	0.066	0.911	3.224	0.933
New-Ver	17	0.918	0.913	0.056	0.931	2.991	0.944

Source: Author's compilation

Table 3 displays the results of the evaluation of the updated model using different goodness of fit indices. Compared to the previous value of 0.875, the GFI is now 0.908 (>0.9), while the RMSEA is down from 0.065 to 0.058 (standard value = 0.05 to follow Kock's 2011 recommendation). While Cmin/df went down from 3.224 to 2.991, CFI went up from 0.911 to 0.931. The TLI number also went up, going from 0.933 to 0.944. According to the usual recommendation (Vandenberg & Scarpello, 1994), none of these values were beyond the range.

These findings provide credence to the study hypothesis, since the updated model outperformed the previous one in terms of data fit. Thus, the suggested framework accurately measures the beliefs and actions of Uttarakhand consumers with regard to their intake of organic food.

4.5 Effect of Construct

Table 4
Effect of Construct below effect of construct

Hypo	Exog-Construct	Endo- Construct	D-Eff	CR	P-Val	Hys
H1	Attitude	Consumer Purchase Intentions	0.57	5.71	***	Accepted
H2	Social Norms	Consumer Purchase Intentions	0.47	5.49	***	Accepted
H3	Perceived Behavioral Control	Consumer Purchase Intentions	0.36	4.41	***	Accepted
H4	Consumer Purchase Intentions	Consumer Purchase Intentions	0.77	13.23	***	Accepted

Source: Authors Compilation

Hypothesis 1 from Table 4 indicated that Attitude have a direct positive effect on Consumer Purchase Intentions, was supported with a direct effect coefficient of 0.57, critical ratio of 5.71, and a statistically significant p-value ($p < 0.001$).

Hypothesis 2, indicated that Social Norms have a direct positive effect on Consumer Purchase Intentions, was also supported with a direct effect coefficient of 0.47, critical ratio of 5.49, and a statistically significant p-value ($p < 0.001$).

Hypothesis 3, which states that PBC have a direct positive effect on Consumer Purchase Intentions, was also supported with a direct effect coefficient of 0.36, critical ratio of 4.41, and a statistically significant p-value ($p < 0.001$).

Finally, Hypothesis 4, which posits that Consumer Purchase Intentions have a direct positive effect on themselves, was supported with a direct effect coefficient of 0.77, critical ratio of 13.23, and a statistically significant p-value ($p < 0.001$).

All things considered, the data show that consumers' attitudes, social norms, and perceived behavioral control play a big role in shaping their purchase intentions, and that consumers' intentions to buy also significantly impact one another.

4. Conclusion

The study found that consumers' attitudes, social norms, and PBC play a bigger role in determining whether or not the consumers intend to buy organic items. On top of that, consumer purchasing intentions have a positive influence on themselves, thus having a good intention to buy organic items might make you buy more of them. It appears that there is a rising interest in and understanding of the benefits of consuming organic goods in Uttarakhand, since all respondents were aware of and had knowledge about them.

Our research leads us to believe that organic product marketers would do well to stress the many ways in which their wares improve people's lives, the planet, and corporate accountability. Producers can also aim their marketing campaigns towards customers' beliefs, societal standards, and sense of agency when it comes to purchasing organic goods. Lastly, we urge lawmakers in Uttarakhand to make it a top priority to craft and enact policies that will help the organic agriculture sector thrive. This includes programs that will subsidise organic farmers, raise awareness about the importance of organic farming, and make it easier for

people to buy food. In conclusion, the study lays the groundwork for future research and development in this field and offers important insights into the aspects impacting consumer behavior towards organic products.

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