

Organic Food Acceptance: an Application of Theory of Planned Behavior

Ajay Chandel, Krishan Gopal

Abstract: *Organic food is the new way of life. At least this is what appears with this ever-growing population of organic food lovers. Current study is an attempt to explore the factors behind this new trend of adopting organic food. The study did not only attempt to understand pertaining factors but also to make it useful focused on finding the factors most predictive of organic food adoption behavior. A sample of 300 respondents having agreed to have pro-organic food behavior were selected from the Punjab region of India. Theory of planned behavior was used as an underlying construct for accomplishing the study. Using three constituents of theory of planned behavior (which were Attitude, Subjective norms and Perceived behavioural control), a questionnaire was prepared taking important inputs from existing literature and then modifying the items as per the study's need. In order to find out the factors most predictive of organic food adoption behaviour, regression model was applied by taking "Attitude, Subjective norms and Perceived behavioural control" as independent variables & "Organic food adoption behaviour" as dependent variable. Attitude was found to be the factor most predictive of organic food adoption behavior followed by subjective norms and perceived behavioural control. This study thus can provide meaningful insights to organic food producers to influence organic food adoption behavior of consumers by devising effecting marketing strategies around the findings of the research.*

Index Terms: *Organic food, Theory of planned behavior, Attitude, Subjective norm, Perceived behavioural control, Intention*

I. INTRODUCTION

The word "organic" has created much discussion within the agriculture and food community[6]. The central idea around which the concept of organic farming is based is to maintain the productivity of land for long. Organic farming emerged because of input intensive farming practices during World War II due to the scarcity of food during the war. This dates back to the time when fertilizers were affordable and machines rapidly substituted labour. Slowly, the extensive use of insecticides and pesticides replaced manures to warrant a higher yield. The scientific research however showed that exposure to such chemicals may increase the risk of neurobehavioral damage [22] Later on, the linkage between organic food and health was pushed in the society by organic food aficionados.

It plays a dual societal role; on one hand, it provides a specific market responding to consumer demand for organic products and on the other hand, it contributes to the protection of the environment, as well as to rural development. Based upon modern and sustainable farming systems, it maintains the long-term fertility of the soil. By creating awareness on environment, naturopathy and green world, marketers are trying to improve the usage of organic food amongst people [1] Since people are more concerned about environment, organic products have gained a huge demand. People who believe in healthy lifestyle by healthy food and protection of environment are the prospective patrons of organic food. For the privilege of buying green and organic, people are ready to pay more as well [15]

This attitudinal shift for organic food adoption was originally seen in Europe, which was then followed in North America and Japan. This was in response to serious problems caused by environmentally degrading and unhealthy farming practices. As evident from its farming practices been fully dependent upon the natural fertilizers (e.g. Cow dung manure) IN India, People in India, were already aware of the benefits of organic food [21]

According to the USDA, the "organic" label only conveys the food being grown using organic farming practices. A study by [25] Stanford Medicine concluded that organic foods do not provide extra nutrients but they are healthier than conventional foods.. The excitement underlying this highly marketable industry lies in the fact that society has moved in a direction of being health-conscious thus the ability to market to a health-conscious consumer is significant. Industry experts also agree that the growing demand of products that are healthy and environmental friendly are the driving forces behind the success of the organics industry [6] In addition, many consumers believe that organic products are not only better, but can serve as preventative medicine against health risks and illnesses [30]

II. REVIEW OF LITERATURE

2.1 Factor affecting organic food consumption

Literature has explored a variety of factors potentially influencing organic food consumption. Rising health concern, environmental friendliness, dangerous residues in conventional food products due to excessive usage of pesticides and better taste and flavour in organic products were few of the factors identified in the review.

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Although environmental apprehension was not a priority issue, but it also seemed to influence the consumption of organic foods. Previous involvement in organic food consumption was found to affect people's attitudes towards organic food positively [9]. Individual factors that were found to affect organic food adoption behaviour varied differing from country to country [2]. Organic food adoption was also seen to be affected by socio-demographic profile of consumers. Gender, age, income and education were some of the demographic factors leading to organic food adoption. ([11,12,15])

Women had an overall positive opinion about organic food and were seemed to be more interested in organic food than men and Wandel and Bugge, was also found to shape consumer's attitude concerning organic food. In a particular, young consumers had affirmative attitude towards organic food (However, this positive attitude did not lead to purchase behavior because young people were less willing to pay higher for organic food. Therefore, older but health conscious people were more inclined to pay higher for organic food [22]. Education was also found to affecting consumer attitudes regarding organic food. Educated customers expressed positive attitude towards organic food. They also made conscious efforts to understand production process [17,18]. They were also found to pay a premium to organic food.

Organic food consumption was found to be positively associated to income (Alvensleben, 1998). Households with high income were more positive towards organic food [11]. However, this positive attitude was not found to indicate higher probability of purchase. Some studies also attributed some lower income segments to be entrenched buyers [9,10,14]. Barriers hindering the diffusion of organic products were studied. Most studies focused on obstructions like higher price, scepticism regarding the higher quality and the poor availability of organic food [21].

2.2 Theory of planned behaviour

The theory of planned behaviour is an extended version of the theory of reasoned action, which assumes that most human social behaviour can be predicted from intentions of the individual. The theory of reasoned action is a theory, which links attitudes, subjective norms, and perceived behavioural control in a stable causative order. Behaviour is a result of behavioural intention, which in turn is assumed to origin out of people's attitude towards an action and their opinions of the social pressure on them to perform that specific behaviour [1]. Since, theory of planned behaviour (TPB) is used as one of the most recognized instruments for gauging the perceptive factors of an individual's intention to engage in certain behaviour, this study uses theory of planned behavior approach to identify factors leading to adoption of organic food. Study will also try to identify factors most predictive of organic food adoption behavior.

As per theory of planned behavior, intentions are held responsible by attitude, subjective norms [3]. In addition to attitudes and subjective norms, concept of perceived behavioural control which is an 'individual's perception of the ease or difficulty of executing a particular behavior [3], is a key contribution of theory of planned behaviour.

A. Attitude

Attitudes stems from amalgamation of people's opinions about behavioural consequences and their assessments of those consequences [31]. Attitude in the direction of a specific behavior refers to the gradation to which an individual has a promising or negative assessment of the behavior. The more promising the attitude with respect to a behavior, the sturdier are the individual's intentions to pursue the behavior [3].

B. Subjective norms

Subjective norms are people's perceptions of what social group important to them think they should or should not pursue a behaviour and their motivation to comply with others' wishes. The path from subjective norms to attitudes towards behavior was significant and was suggested that the link could be explained with social environment's influence on an individual's attitude formation. **Perceived behavioural control**

Perceived behavioral control may cause substantial alteration in intentions and hence actions individual take. Perceived behavioral control further divides into two categories: perceived self-efficacy, which is defined as the ease or difficulty in pursuing a behavior) and perceived controllability.

The relative prominence of attitude, subjective norm, and perceived behavioral control in predicting intent might vary under different behaviors and situations. In complex situations where attitudes are innately strong, or where normative influences are more powerful, perceived behavioral control may be less of a predictor of behavioral intentions [20,22,]

C. Need of study

1. "Organic food" has become a cliché word in marketplace. A number of studies have been commenced on understanding consumer behaviour pertaining to organic food adoption. However, a little has been done towards bringing in a holistic understanding of factors concluding pro-organic consumer behaviour using a structured approach like Theory of planned behavior. Current study tries to investigate these factors.

2. Further, maximum studies as discussed in review of literature focus on just unearthing these factors but little has been done in statistically proving the relative importance of such factors adding towards the organic food adoption behaviour. Through appropriate statistical tools, current study tries to bring in the just quintessential insights towards this cause to help marketers design better marketing campaigns focusing factors that are more important.

3. India is an evolving market with a very diverse set of population. Very few studies using a structured approach to understand the organic food adoption behavior have been conducted in India. Organic food in India is an extremely niche category. Due to increasing number of food adulteration occurrences and consumer activism combined with increasing income, demand for organic food is bound to grow. The Indian organic market is estimated at INR40,000 million and is likely to increase to INR100,000–120,000 million by 2020. Indian organic market has been rolling



increasingly with CAGR of 25% as compared to 16% global growth rates [8]Recognizing the potential of Organic food market in India, current study tries to fill in this gap.

III. OBJECTIVES

Current study tries to accomplish under mentioned objectives:

1. To decipher the factors concluding pro-organic food adoption behaviour
2. To identify the relative importance of identified factors towards organic food adoption behavior

IV. RESEARCH METHODOLOGY

To accomplish the objectives of the study a descriptive study was conducted. The study begun with identification of factors influencing organic food adoption behaviour. This involved the review of pertinent literature. Since the organic food adoption has become a trend, there is plethora of literature available on this domain. However, there is a dearth of pertinent literature that involves a structured approach towards unearthing the factors influencing the organic food adoption behaviour. In the due course, numerous factors influencing the organic food adoption were identified as mentioned in the review of literature. Given the lack of structured approach as discussed before, theory of planned behaviour was deemed appropriate as it doesn't only outlines the planned approach towards the adoption of new behavior but also that it's underlying constructs envelop majority of factors identified in the review of literature.

Using the three concepts of theory of planned behavior, which were Attitude, Subjective norm and Perceived behavioural control, a questionnaire was prepared taking important inputs from existing literature and then modifying the items as per the study's need.

The questionnaire was circulated to 320 respondents (based on review of literature) who agreed to have an inclination towards organic food. The respondents having different age, gender, occupation and educational qualifications were considered for study. A judgemental convenience sampling was used to identify the respondents. A small-unstructured interaction was made to select the respondents asking if they were aware of organic foods and if they consider organic food as a major consumption choice, they might make in near future.

V. DISCUSSION ON RESULTS AND FINDINGS

Objective 1 Exploratory Factor Analysis

In order to achieve the objectives of exploring an investigating the antecedents of brand avoidance, Exploratory Factor Analysis was used which curtailed a large set of items into small set of factors.

The conceptual model showed the presence of five constructs that add up to a consumer's brand avoidance behavior. Before applying EFA on all the items of the questionnaire, each construct was explored using EFA.

Reliability statistics

To identify the internal consistency of the items in the questionnaire reliability statistics were applied. This was performed to know if the items that suggest amounting the same general construct produce similar scores. Reliability Statistics table that provides the actual value for Cronbach's alpha, for each theme as identified in the review and netnographic analysis is shown below:

Cronbach's alpha for each construct was found to be .855 which is above 0.7. This indicates a high level of internal consistency for this scale with this specific sample. Further, The Item-Total Statistics table which presents the "Cronbach's Alpha if Item Deleted" was also analysed to know the value that Cronbach's alpha would have if a particular item was deleted from the scale. None of the item was found to improve the Cronbach's Alpha score considerably, if deleted and hence were all retained for further analysis. EFA was then applied to all retained 33 statements. The KMO determines sample adequacy. Values greater than 0.5 are satisfactory and values above 0.9 are considered excellent. This was well supported by KMO (Kaiser-Meyer-Olkin) value of 0.909, which indicated reducing several variables into fewer factors was appropriate. Further, Bartlett test of Sphericity significance value was 0.000 which concluded that correlations in the data set was appropriate for EFA.

Factor Extraction and Total Variance Explained

SPSS Output as listed in table 4, shows the eigenvalues related to each factor before and after extraction and after rotation. The eigenvalues represent the variance explained by each factor. In this case factor, one explains 64.743% of total variance. All factors with Eigen values greater than 1 revealed six-factor structure. Before rotation, factor 1 accounted for considerably more variance than the remaining four (20.634% compared to 17.824, 16.873, and 9.412), however after extraction it accounts for only 6.648% of variance (compared to 5.988%, 5.671%, and 3.143% respectively).

Statements with high factor loadings on factor one corresponded to attitude based reasons behind organic food acceptance. The factor hence was named as pro-organic attitude. Statements with high factor loadings on factor two corresponded to social or subjective norm based reasons behind organic food acceptance. Factor 2 was therefore named as Subjective Norms. Statements with high factor loadings on factor three corresponded to respondents' belief of having the decision of adopting organic food under their control. The factor therefore was named as perceived behavioural control. Statements with high factor loadings on factor four corresponded to intention towards organic food, which was also analysed with factor analysis, as it was to be taken as dependent variable in multiple regression.

Objective 2: To identify the factors that are better predictor of organic food adoption behavior, multiple regression was applied. The results are mentioned below:

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
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.792 ^a	.627	.619	.1123
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Source: Primary Research

The "R" column of Model summary represents the value of R, which represents the multiple correlation coefficients. R is a measure of the quality of the prediction of the dependent variable (Consumer Perception & Acceptance).

A value of 0.792 indicates a good level of prediction. This is an extent of strength of association. Model summary statistics also showed value of R square (coefficient of determination) as .627 which indicates independent variables are capable of explaining/predicting 62.7% of variance in dependent variable. The adjusted R-squared is an adapted form of R-squared. It is adjusted for the number of predictors in the model (four in this case). Adjusted R square value of .619 (almost same to R Square) again signals towards the

ANOVA TABLE

Sum of Squares	df	Mean Square	F	Sig.
38.175	3	9.544	81.964	.000 ^a
22.705	195	.116		
60.880	199			

predictive power of independent variables.

Anova Table

The F-ratio in the ANOVA table inspects the overall regression model fit for the data. The table shows that the predictor variables statistically significantly predict the dependent variable with $F(3, 195) = .116, p < .0005$, which means that regression model is a good fit of the data. Std. Error of Estimate (SEE; standard deviation of the residual SEE) is .1123. This means on average estimate of consumer perception and acceptance will get wrong by .1123 that is negligible in context of organic food adoption behaviour. As R square is close to 1 it reduces the SEE. Higher R Square indicates better fit that leads to lesser estimation error.

Table 8: Coefficients

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
	B	Std. Error	Beta		Lower Bound	Upper Bound
1 (Constant)	1.204	.323			-3.722	.000 -1.842
Attitude	.494	.044	.301	6.369	.000	.193 .367
Subjective norms	.336	.042	.368	7.966	.000	.253 .419
Perceived behavioural control	.280	.072	.331	6.859	.000	.352 .637

Source: Primary Research

Organic food adoption behaviour = $1.204 + .494 * \text{Attitude} + .336 * \text{Subjective norms} + .280 * \text{Perceived behavioural control}$

In order to find out the factors most predictive of organic food adoption behaviour, regression model was applied by

taking "Attitude, Subjective norms and Perceived behavioural control" as independent variables & "Organic food adoption behaviour" as dependent variable. The regression model produced

R Square= 0.627

F= 81.964

P< .000

VI. CONCLUSION

Current study helps provide important insights into organic food adoption behavior. Multiple regression results showed that a unit increase in attitude leads to .494 units increase in organic food adoption behavior followed by .336 unit increase due to a unit increase in subjective norms and .280 units increase due to perceived behavioural control. Since attitude is a factor most predictive of organic food adoption behavior, marketers must try to design their marketing programs to influence consumer attitude positively. A pro-organic food attitude may lead to a strong organic food adoption behavior. Marketers must also try to focus on subjective norms and enhancing perceived behavioural control to influence organic food adoption behavior.

REFERENCES

1. Aertsens, J., Verbeke, W., Mondelaers, K., & Van Huylenbroeck, G. (2009). Personal determinants of organic food consumption: a review. *British food journal*, 111(10), 1140-1167.
2. Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckman (Eds.), *Action-control: From cognition to behavior* (pp. 11-39). Heidelberg, Germany: Springer.
3. Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50, 179-211.
4. Bezawada, R., & Pauwels, K. (2013). What is special about marketing organic products? How organic assortment, price, and promotions drive retailer performance. *Journal of Marketing*, 77(1), 31-51.
5. Borden, W. T. (2002). Symmetry breaking, diradicals, and Coping with and Coping without Ernest Davidson. *Molecular Physics*, 100(3), 337-347.
6. Dimitri, C., & Greene, C. (2000). Recent growth patterns in the US organic foods market. *Agriculture information bulletin*, 777.
7. Donnenfeld, E. D., Ehrenhaus, M., Solomon, R., Mazurek, J., Rozell, J. C., & Perry, H. D. (2004). Effect of hinge width on corneal sensation and dry eye after laser in situ keratomileusis. *Journal of Cataract & Refractive Surgery*, 30(4), 790-797.
8. EY, 2018, The Indian organic market: A new paradigm in agriculture, Available at url: [https://www.ey.com/Publication/vwLUAssets/ey-the-indian-organic-market-report-online-version-21-march-2018/\\$File/ey-the-indian-organic-market-report-online-version-21-march-2018.pdf](https://www.ey.com/Publication/vwLUAssets/ey-the-indian-organic-market-report-online-version-21-march-2018/$File/ey-the-indian-organic-market-report-online-version-21-march-2018.pdf), Viewed on: 15th of November, 2018
9. Fotopoulos, C., & Krystallis, A. (2002). Organic product avoidance: reasons for rejection and potential buyers' identification in a countrywide survey. *British Food Journal*, 104(3/4/5), 233-260.
10. Fotopoulos, C., & Krystallis, A. (2002). Purchasing motives and profile of the Greek organic consumer: a countrywide survey. *British Food Journal*, 104(9), 730-765.
11. Grunert, S. C., & Kristensen, K. (1991). On some factors influencing consumers' demand for organically grown foods. In *Enhancing Consumer Choice* (pp. 37-48). American Council on Consumer Interests.



12. Honkanen, P., Verplanken, B., & Olsen, S. O. (2006). Ethical values and motives driving organic food choice. *Journal of Consumer Behaviour: An International Research Review*, 5(5), 420-430.
13. Hughner, R. S., McDonagh, P., Prothero, A., Shultz, C. J., & Stanton, J. (2007). Who are organic food consumers? A compilation and review of why people purchase organic food. *Journal of Consumer Behaviour: An International Research Review*, 6(2-3), 94-110.
14. Krystallis, A., & Chrysosoidis, G. (2005). Consumers' willingness to pay for organic food: Factors that affect it and variation per organic product type. *British Food Journal*, 107(5), 320-343.
15. Lockie, S., Lyons, K., Lawrence, G., & Mummary, K. (2002). Eating 'green': motivations behind organic food consumption in Australia. *Sociologia ruralis*, 42(1), 23-40.
32. Yin, S., Wu, L., Du, L., & Chen, M. (2010). Consumers' purchase intention of organic food in China. *Journal of the Science of Food and Agriculture*, 90(8), 1361-1367.
33. Zanolli, R., & Naspetti, S. (2002). Consumer motivations in the purchase of organic food: a means-end approach. *British food journal*, 104(8), 643-653.

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16. Lohr, Luanne. "Factors affecting international demand and trade in organic food products." *Changing structure of global food consumption and trade (2001)*: 67-79.
17. Magnusson, M. K., Arvola, A., Koivisto Hursti, U. K., Åberg, L., & Sjöden, P. O. (2001). Attitudes towards organic foods among Swedish consumers. *British food journal*, 103(3), 209-227.
18. Magnusson, M. K., Arvola, A., Koivisto Hursti, U. K., Åberg, L., & Sjöden, P. O. (2001).
19. Padel, S., & Foster, C. (2005). Exploring the gap between attitudes and behaviour: Understanding why consumers buy or do not buy organic food.
20. Radman, M. (2005). Consumer consumption and perception of organic products in Croatia. *British food journal*, 107(4), 263-273.
21. Ramesh, P., Panwar, N. R., Singh, A. B., Ramana, S., Yadav, S. K., Shrivastava, R., & Rao, A. S. (2010). Status of organic farming in India. *Current Science*, 1190-1194.
22. Schifferstein, H. N., & Ophuis, P. A. O. (1998). Health-related determinants of organic food consumption in the Netherlands. *Food quality and Preference*, 9(3), 119-133.
23. Soler, Francisco, Jose M. Gil, and Mercedes Sanchez. "Consumers' acceptability of organic food in Spain: results from an experimental auction market." *British Food Journal* 104.8 (2002): 670-687
24. Squires, L., Juric, B., & Bettina Cornwell, T. (2001). Level of market development and intensity of organic food consumption: cross-cultural study of Danish and New Zealand consumers. *Journal of Consumer Marketing*, 18(5), 392-409.
25. Stanford Medicine, 2012, Little evidence of health benefits from organic foods, Available at url: <https://med.stanford.edu/news/all-news/2012/09/little-evidence-of-health-benefits-from-organic-foods-study-finds.html>, viewed on: 15th of November, 2018
26. Tarkiainen, A., & Sundqvist, S. (2005). Subjective norms, attitudes and intentions of Finnish consumers in buying organic food. *British food journal*, 107(11), 808-822.
27. Thompson, G. D. (1998). Consumer demand for organic foods: what we know and what we need to know. *American Journal of Agricultural Economics*, 80(5), 1113-1118.
28. Tsakiridou, E., Boutsouki, C., Zotos, Y., & Mattas, K. (2008). Attitudes and behaviour towards organic products: an exploratory study. *International Journal of Retail & Distribution Management*, 36(2), 158-175.
29. Wier, M., & Andersen, L. M. (2003). Consumer demand for organic foods: Attitudes, values and purchasing behaviour. *DARCOFenews*, 2.
30. Worthington, V. (2001). Nutritional quality of organic versus conventional fruits, vegetables, and grains. *The Journal of Alternative & Complementary Medicine*, 7(2), 161-173.
31. 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.