

Factors affecting consumer preferences and the effect of awareness initiatives on organic products in the district of Nagpur- A Difference-in-Difference Approach- Framework Development.

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Abstract

This study looks into how consumers in the Nagpur region purchase organic goods, with an emphasis on the variables that affect choices and the results of awareness programs. Employing a mixed-methods approach comprising surveys and interviews, the research investigates regional trends, inclinations, and obstacles concerning organic foods. The study suggests launching an educational campaign to increase public knowledge of the advantages of organic products. After a campaign, **Difference-in-Difference analysis** evaluates how consumer behaviour has changed, focusing on natural trends in spending, shopping choices, and frequency of purchases. Environmental, socioeconomic, and demographic aspects are also taken into account. Early results show that Nagpur residents are becoming more interested in organic products, and awareness initiatives are essential in fostering this enthusiasm. The study aims to help the creation of focused initiatives encouraging organic consumption by providing insights for farmers, retailers, and policymakers to navigate the changing organic consumer landscape. It's a Pilot study aimed at developing a Framework by taking awareness campaign as a sole variable to have impacts on buying behaviour with observations likes Treatment group and Control group.

Keywords: Organic food, buying behaviour, Campaign awareness, Difference-in -Difference

Introduction

Recent years have seen a noticeable shift in consumer preferences towards healthier and more sustainable options, and one area where this shift is particularly evident is in the consumption of organic products. The growing interest in organic food is not only a global phenomenon but also resonates with local contexts, for example in Nagpur district. This study investigated consumer purchasing behaviour towards organic products in Nagpur district, with a special focus on understanding the impact of educational campaigns on organic awareness. Nagpur district, located in the heart of India, offers a unique socio-cultural and economic landscape. As urbanization increases and health and environmental concerns increase, consumers in the region are increasingly faced with choices about which foods to consume. The study builds on findings that while organic products are growing in popularity, the factors influencing consumer choices and the effectiveness of interventions such as educational campaigns are still the focus of the study is a targeted awareness campaign aimed at increasing consumer

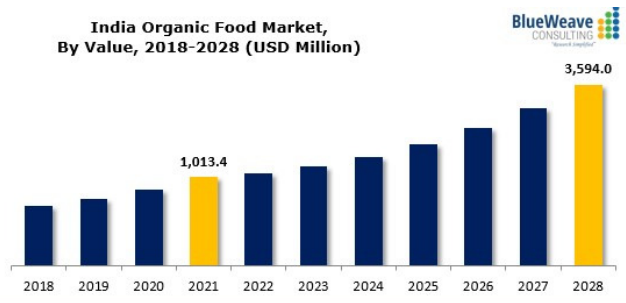
awareness in Nagpur district about the benefits of organic products. This campaign launched during a specific period serves as the treatment variable in our study. We use an exact difference-in-differences (DiD) methodology to isolate the causal impact of the campaign on consumer purchasing behavior and determine whether the observed changes are due to the campaign. Understanding the dynamics of consumer behavior towards organic products is not only important for local consumers, but also for policy makers, retailers and producers who want to adapt their strategies. This study aims to promote sustainable and health-conscious consumer behavior in Nagpur district and beyond by exploring the complex interactions between awareness campaigns, consumer decision-making, and purchasing behavior. The aim is to provide valuable insights that can serve as the basis for a customized strategy. Our ultimate goal in undertaking this research is to uncover the pathways through which information and awareness shape organic landscapes, and to develop a more nuanced understanding of the factors that shape consumer choices in the influence of this vibrant and dynamic region.

Literature Review

In recent years, the demand for organic food has been increasing significantly around the world, and a similar trend can be seen in Turkey. In addition to concerns about conventional foods, consumers' health and environmental sensitivities, increased social knowledge, awareness, and education levels, and rising income levels of consumers, etc., effectively contribute to the increase in organic food consumption. I've been doing it. (Chen et al., 2014; Shashi et al., 2015; Tsai et al., 2015; Agovino et al., 2017; Savita & Verma, 2017; Chekima et al., 2017; Lian, 2017; Rana & Paul, 2017; Oroian et al., 2017; Asif et al., 2018; Apaolaza et al., 2018; Hansen et al., 2018; Gomiero, 2018). Additionally, consumers perceive organic foods to be more nutritious and tastier than conventional products. Several studies have found that other factors also motivate consumers to consume organic foods. (Dagistan et al., 2009; Smith & Paladino, 2010; Shafie & Rennie, 2012; Kapuge, 2016; Teng & Lu, 2016; Boizot-Szantai et al., 2017; Du et al., 2017; Joshi & Rahman, 2017; Singh and Verma, 2017). There are also factors that prevent you from consuming organic foods. These include, inter alia, high prices, lack of consumer awareness and promotion, low availability (irregularity, restrictions, or lack of variety) and the resulting decline in consumption. Will appear. (Chakrabarti, 2010; Xie et al., 2015; Bryła, 2016; Liobikienė et al., 2016; Du et al., 2017; Savita & Verma, 2017). Previous literature generally assumes

that consumers prefer organic foods when feeding themselves and their families because they are safer, healthier, and sensory superior to traditional alternatives. . However, due to the above-mentioned consumption barriers, situations often arise where even though awareness and awareness are high, actual purchases are not happens. The conceptual framework for organic food consumption is based on the theory of planned behaviour (TPB). TPB presents the most common theoretical framework to explain the determinants and enablers of consumer purchasing behavior and intentions. Therefore, TPB also provides a sound theoretical structure for assessing consumer perceptions towards organic food, as it is a theory that attempts to explain the underlying reasons for an individual's behavior. The expanded model includes consumer knowledge about organic foods. The theory of planned behavior has been widely applied to estimate various human behaviors and has been used in many empirical studies on organic food consumption (**Hoppe et al., 2013; Kuran & Mihić, 2014; Seo et al., 2014; Ajzen, 2015; Tsai et al., 2015; Liobikienė et al., 2016; Paul et al., 2016; Kumar et al., 2017; Maichum et al., 2017; Shin et al. , 2018**). A study conducted in Turkey, Iran, and Pakistan found that attitudes and health awareness more accurately predicted purchase intentions for organic food, and that increased consumer awareness of organic products had a positive impact on purchase intentions. (**Asif et al., 2018**). The TPB proposes three determinants to explain a person's behavioral intentions: attitude, subjective norms, and perceived behavioral control (Ajzen, 1991). Attitude is the degree to which a person evaluates behavior positively or negatively. Subjective norms represent social influences on theory and are defined as "the performance of an action, or the perceived social pressure to perform an action." In other words, "a person's belief those others should behave in a certain way." Perceived behavioral control is "the ease or difficulty of performing a behavior" and reflects previous experience and possible obstacles (**Ajzen, 1991**). According to this theory, consumer behavior is a function of the intention to achieve that behavior, while intention is based on attitudes, subjective norms, and perceived behavioural control of the behavior, and these factors influence behavior, Determined by norms, and beliefs of control. Each. This theory also allows us to infer intentions and behaviors when choosing among different brands and products (**Ajzen, 2015**). Many studies only account for intentions, generally assuming that intentions are good predictors of behavior and fully influence the influence of attitudes and subjective behavioral norms (**Gracia & Magistris, 2013; Wu & Chen, 2014**). Furthermore, **Han & Kim (2010)** reported that intention is still considered to be the best predictor of behavior.

Although the organic food market and the demand for organic food are increasing in Turkey, the literature on organic food consumption is not very rich (Yilmaz & Ilter, 2017). This study shows the influence of consumer group knowledge level regarding organic food in Turkey on consumer attitudes, subjective norms, perceived behavioural control, intentions, and behaviors.



Source: BlueWeave Consulting

The Indian organic food market was valued at USD 1,013.4 million in 2021 and is expected to reach USD 3,594 million by 2028, registering a CAGR of 19.90% during the forecast period. The market is growing rapidly as consumers increasingly focus on healthy and nutritious foods free of chemicals and organic foods become more popular. Additionally, government regulations regarding organic food safety and quality standards are expected to further impact the growth of the Indian organic food market during the forecast period.

Material and Method

(H0): There is no significant difference in consumer preferences for organic products in the district of Nagpur before and after the implementation of awareness initiatives.

(H1): There is a significant difference in consumer preferences for organic products in the district of Nagpur before and after the implementation of awareness initiatives.

This hypothesis is based on the Difference-in-Difference (DiD) approach, which is a statistical method often used in observational studies to estimate the causal effect of a treatment, intervention, or policy. In this context, the "treatment" is the implementation of awareness initiatives regarding organic products.

The key assumptions underlying the hypothesis are:

Parallel Trends Assumption: The trends in consumer preferences for organic products in Nagpur would have followed a similar pattern in the absence of awareness initiatives.

Common Shock Assumption: There are no other external factors or shocks that could have influenced consumer preferences during the study period, other than the awareness initiatives.

Endogeneity Assumption: Factors affecting consumer preferences are exogenous and not influenced by the awareness initiatives.

Treatment Variable:

Campaign Exposure ($\text{CampaignExposure}_i$):-This binary variable indicates whether individual i was exposed to the educational campaign on organic products. It takes the value of 1 for consumers in Nagpur District who participated in or was exposed to the campaign and 0 for those who were not exposed. This variable captures the treatment effect.

Outcome Variable:

Buying Behavior ($\text{BuyingBehavior}_{it}$):- This variable represents the outcome of interest, measuring consumers' buying behaviours towards organic products. It could be operationalized in various ways, such as:

Frequency of Organic Purchases: The number of times a consumer purchases organic products over a specific period.

Expenditure on Organic Products: The amount of money a consumer spends on organic products during a given timeframe.

Shift in Shopping Preferences: A categorical variable indicating whether there is a noticeable shift towards purchasing more organic products relative to non-organic products.

Attitudes and Perceptions: Survey-based measures capturing changes in consumers' attitudes and perceptions towards organic products.

$$\begin{aligned}
 \text{BuyingBehavior}_{it} = & \beta_0 + \beta_1 \cdot \text{CampaignExposure}_i + \beta_2 \\
 & \cdot \text{PostCampaign}_t + \beta_3 \cdot (\text{CampaignExposure}_i \times \text{PostCampaign}_t) + \epsilon_{it}
 \end{aligned}$$

Here, $\text{BuyingBehavior}_{it}$ is the dependent variable representing consumers' buying behaviours, $\text{CampaignExposure}_i$ the treatment variable indicating exposure to the campaign, PostCampaign_t is the post-campaign period indicator, and ϵ_{it} is the error term.

The model estimates the average treatment effect (β_1), average time effect (β_2), and the interaction term (β_3), which captures the differential change in buying behavior for consumers exposed to the campaign during the post-campaign period compared to those not exposed.

Conclusion

The study is basically aimed at developing a Framework regarding the impact of awareness programme at local level initiated and its subsequent impacts on buying behaviours of consumers pertaining to organic food in Nagpur district. The paper aimed at filling the gap in the existing literature available at public domain. The Difference-in-Difference model being developed based on literature available and hypothesis assumed for this study. To implement a proposed model, researcher need a full-fledged data containing observation for control and treatment group that may or may not have a direct impact on buying behaviour for organic food. The statistical software like R or STATA will be used to study the model and estimates the coefficients.

Future Scope

The framework will provide a detailed summary of the research findings and its future implications. It will be useful in future research as Buying behaviour is general confined to Demographic variables, so in a way it's a unique way to relate buying behaviours with other

defined variables. By having a rigorous data analysis this paper aim to provide a valuables insights for future study.

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