



# Analyze The importance of The Theory of Planned Behavior in shaping The Purchase of Green Food Products

Widya Prananta<sup>1</sup>, Angga Pandu Wijaya<sup>2</sup>, Bogy Febriatmoko<sup>3</sup>

<sup>1,2,3</sup> Management, Universitas Negeri Semarang, Semarang, Indonesia

\*E-mail: [widyaprananta@mail.unnes.ac.id](mailto:widyaprananta@mail.unnes.ac.id)

**Abstract.** Awareness of the processes occurring in the global economy changes market entities' perceptions of production, consumption, products and marketing. Consumers' switch to environmentally friendly products can help minimize adverse environmental impacts and health benefits. Consumers buy organic food because they think it is safer than conventional food. This research aims to explore the influence of social norms on the intention to purchase environmentally friendly food products which is mediated by trust in environmentally friendly food products. The Theory of Planned Behavior (TBP) establishes a theoretical framework for predicting and understanding consumer behavior. This theory implies that consumer behavior is a clear expression of their intentions. Quantitative research methods were used to collect data from samples selected in a representative manner from the population of the city of Semarang. The sample for this research is consumers who use environmentally friendly food products in the Semarang city, obtained through screening questions. A total of 100 respondents were involved in this research. The data obtained will be tested using PLS SEM. The research results are useful for how important Social Norms are in forming beliefs and intentions to purchase environmentally friendly food products.

**Keywords:** Green Marketing, Social Norms, Intentions to Purchase Green Food Products, Trust for Green Food Products

## 1 Introduction

Nowadays, environmental considerations must also be taken into account when creating products that meet consumer needs and desires. Many environmental issues were discussed because the task of protecting the environment is a shared task. The development of modern business is currently increasing. Its characteristic is to create a large number of different products. Products must not only meet demand, but also fulfill consumer desires. In recent years, sustainable development has become an important topic discussed globally by both practitioners and scientists. Awareness of the processes occurring in the global economy changes market entities' perceptions of production, consumption, products and marketing. Consumers' switch to environmentally friendly

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products can help minimize adverse environmental impacts and health benefits. Consumers buy organic food because they consider it safer than conventional food (1). Currently, many environmentally friendly products are known to the public, the results of the Katadata Insight Center (KIC) survey "Katadata Consumer Survey on Sustainability" show that food is the most frequently purchased environmentally friendly item. As many as 56.7% of respondents admitted to purchasing food as environmentally friendly products in the past year. Other environmentally friendly goods that are widely purchased include, 47.8% household products, 37.4% clothing, and 30.6% health and cosmetics. Then 19.2% of electronic products and 8.3% of vehicles. Most respondents are aware of the importance of environmental sustainability by using environmentally friendly products. As many as 62.9% had purchased sustainable or environmentally friendly products in the past year. Meanwhile, only 37.1% of respondents admitted to never buying environmentally friendly goods. The highest reason why respondents choose environmentally friendly products is because they want to preserve the earth (60.5%) and are satisfied using environmentally friendly products (51.1%).

A very suitable concept for this is the application of green marketing as an environmentally conscious marketing concept. Green marketing is carried out in various marketing activities including product modifications, process changes, packaging changes, and even promotional changes. Companies carry out green marketing to meet consumers' needs and desires for environmentally friendly products and several forms of corporate environmental responsibility. Several companies in Indonesia are also trying to invite consumers to actively participate in various activities to save the earth. The concrete actions taken are reducing the use of plastic bags, using cloth bags, returning packaging for recycling, saving electricity, and not testing on animals. Environmentally friendly products refer to products made from materials that do not pollute the environment. The packaging is easily decomposed and will not become waste. Apart from that, it is in accordance with the principles of business ethics that must be followed by all levels society, the production process will not produce too much waste. The green concept not only includes the development of environmentally friendly products, but also the development of products that can be recycled, consideration of the use of raw materials, and the production process up to the final stage of the product. Social Norms have an impact on intentions to consume or buy environmentally friendly products (2,3). Subjective Norms relate to beliefs in the influence of other people or social groups, which shows that the stronger the subjective norm towards purchasing environmentally friendly packaged food products, the stronger the intention to purchase food products. Society is deeply influenced by traditional and cultural trends of individuals, groups, mass media, and commerce. Social influence refers to individuals changing their attitudes to meet the demands of product consumption behavioral intentions (3). Attitude is an individual's positive or negative evaluation of certain objects, people, institutions, events, behavior or intentions. However, some researchers show inconsistencies regarding environmentally friendly purchasing intentions (4–7).

This research uses the Theory of Planned Behavior as a reference developed by Ajzen, 1991. On the other hand, this research is interesting and important to carry out because discussion of sustainable consumer behavior towards purchasing food prod-

ucts. The development of environmentally friendly packaging has not yet been implemented and can be used as a strategic reference in reducing the problem of plastic waste and motivating consumers buy environmentally friendly packaged food. The Theory of Planned Behavior (TPB) establishes a theoretical framework for predicting and understanding consumer behavior (9). This theory implies that consumer behavior is a clear expression of their intentions. Many studies rely on the TPB to predict consumption intentions for environmentally friendly products and environmentally friendly purchases with proven usefulness and health (10,11). The usefulness of the Theory of Planned Behavior in food markets is examined through research (12). Behavioral intention is a basic variable in the TPB, which is an important predictor of actual behavior. Intention is a stated readiness to behave in a certain way, which is associated with the effort that the consumer is willing to make with the intention of achieving it to make a purchase. Intention indicates the extent to which consumers will strive to purchase green food products. Many studies show that intention plays an important role in mediating the transition between attitudes towards purchasing environmentally friendly products and their purchase (13,14).

## **2 Hypothesis Development**

### **2.1 Social Norm**

The intention to purchase a green product is linked to the attitude towards that purchase, which is rooted in a consumer's conviction about the expected consequences of the purchase. An attitude towards green food results from a consumer's behavioural convictions and an assessment of the purchase, leading to a conviction about the possible implications of such purchasing behaviour. An attitude towards green food product purchases stems from a consumer's conviction about the benefits and consequences of the purchase and from the values attributed to them. A consumer will choose green food that has the greatest subjective usefulness. The higher the subjective value of the expected outcome of a purchase, the more positive the social norm that purchase and, consequently, the stronger the intention observed. Many studies have confirmed the positive effect of social norm on intentions to purchase a green product (2,3) .

H1: Social Norm Influence Intentions to purchase green food products

H2: Social Norm Influence Trust for green food products

### **2.2 Trust For Green Food Products**

Trust is a relevant factor behind consumers' purchase decisions. It is related to convictions and expectations about the eco-friendly properties of products, their accurate marking, their reliable warranty, and the manufacturer's green declarations. Trust serves as a measure of customers' convictions about the environmental and health effects of green food purchases. A purchaser is not able to predict or assess all of the consequences arising from a purchase. Many studies, e.g., Wang et al. (2019) have

shown that trust has an effect on the intentions to purchase green products. Nuttavuthisit & Thøgersen, (2017) referred to a lack of trust, which decreases the consumer's perception of the benefits of purchasing green food and makes them less willing to pay more and buy green food. Thus, the following hypothesis is proposed: trust in green food products (TGFP) has a positive effect on the intentions to purchase green food products (IGFP)

H3: Trust for green food products Influence Intentions to purchase green food products

H 4 : Social Norm Influence Intentions to purchase green food products, which Trust for green food products.

### 3 Method

#### 3.1 Conceptual Framework

The Theory of Planned Behavior (TPB) is a development of the Theory of Reasoned Action (TRA) (8). The Theory of Planned Behavior is described as a construct that complements TRA. The form of the Theory of planned behavior (TPB) model is shown in the following image.



**Figure 1.** Conceptual Framework  
Source: Adapted from (11,16–19)

#### 3.2 Sample and Data Collection

In the context of research, a population can be defined as a group that has certain characteristics or traits that are the focus of research. The population that will be studied in this research is the people of Semarang city. The sampling technique used in this research is purposive sampling technique. This purposive sampling technique is a sample selection technique chosen based on certain considerations.

The sample for this research is consumers who use environmentally friendly food products in the city of Semarang who were obtained through screening questions. The sample determination was based on what Hair et al., 2010 suggested, namely, 5-10

times the number of research indicators. In this study there were 9 indicators multiplied by 10, so in this study the sample used was 100 people. After the data is collected, it is processed using the Smart Pls Application 3. Partial Least Squares Structural Equation Modeling (PLS-SEM) is a multivariate statistical method used to analyze the relationship between variables in a conceptual model. This method is very useful when the data is multivariate, complex, and does not meet the assumption of normality of distribution. The data obtained will be tested using PLS SEM.

### 3.3 Research Variables

Below is a table regarding variable measurement scales adopted from various similar research sources.

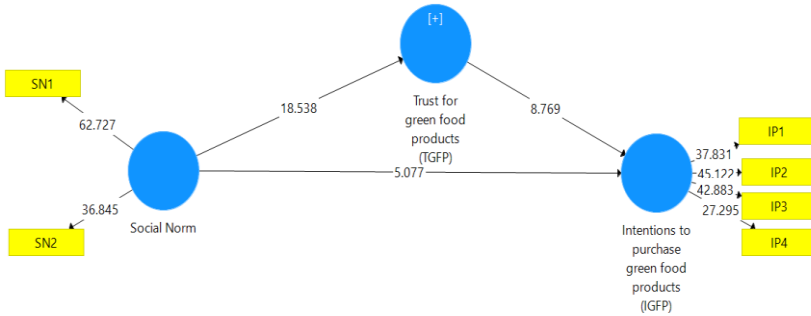
**Table 1.** Measurement Scales

<b>Construct</b>	<b>Reference</b>	<b>Measurement Scales</b>
Intentions to purchase green food products (IGFP)	(11)(17)	<ul style="list-style-type: none"> <li>• I plan to buy environmentally friendly food products in the next 3 months.</li> <li>• I am confident that in my next purchase, I will buy an environmentally friendly food product, even if the product has a higher price</li> <li>• I am willing to pay a higher price for food that implements an environmentally friendly concept</li> <li>• I am willing to switch to an environmentally friendly version of a product, but if the price and quality are the same</li> </ul>
Social norms (SN)	(18)(19)	<ul style="list-style-type: none"> <li>• My family members buy environmentally friendly food products</li> <li>• My friends think I should choose environmentally friendly food products</li> </ul>
Trust for green food products (TGFP)	(16)	<ul style="list-style-type: none"> <li>• I trust manufacturers to ensure high quality in environmentally friendly foods.</li> <li>• I believe manufacturers selling environmentally friendly food products protect health and the environment.</li> <li>• I believe in using environmentally friendly methods in producing environmentally friendly food.</li> </ul>

## 4 Result and Analysis

### 4.1 Analysis Full Model

Based on testing the Full model using structural equation modeling using the application. The following shows the results of the analysis testing model using the Smart PLS Version 3.3.2 application.



**Figure 1.** Analysis Full Model  
 Source: Own Study from PLS Output, 2024

**4.2 Validity and Reliability Test**

Following the collection of questionnaires from respondents, a new validity test was run using the data gathered. Validity demonstrates how well and accurately a measuring tool performs its intended measurement task. Examining the relationship between the results of each questionnaire item and the final score you wish to record allows you to conduct a validity test. Based on Table 2, you can see the value for each indicator or outer loading has a value of > 0.5, so that all indicators can be said to be valid because they meet the validity requirements converge and can be carried out further analysis.

**Table 2.** Validity Test

Code	Intentions to purchase green food products (IGFP)	Social Norm	Trust for green product	Noted
IP1	0,916			Valid
IP2	0,915			Valid
IP3	0,904			Valid
IP4	0,875			Valid
SN1		0,933		Valid
SN2		0,922		Valid
TP1			0,817	Valid
TP2			0,827	Valid
TP3			0,809	Valid

Source: Own Study from PLS Output, 2024

The reliability test is used in the meantime to evaluate the consistency of the measurement tool and if it can be trusted for future use. The independent variables and dependent variables are all genuine, as the Table 3 demonstrates that all statement items have a value > 0.700. It is also possible to conclude that the questionnaire employed in this study is reliable because all of the items used to measure the variables are reliable.

**Table 3.** Reliability Test

Variable	Cronbach's Alpha	Composite Reliability	Noted
Intentions to purchase green food products (IGFP)	0.924	0.946	Reliable
Social Norm	0.837	0.840	Reliable
Trust for green product	0.951	0.957	Reliable

Source: Own Study from PLS Output, 2024

### 4.3 Coefficient Determination

The multiple correlation coefficient (R) is used to describe the magnitude of the degree of closeness of the link between variables, and the coefficient of determination (R<sup>2</sup>) is used to indicate the magnitude of the variation of Y that can be explained by X according to the equation obtained. The coefficient of determination findings are shown in the table below. It can be shown that the independent variable (Y) can be interpreted by the independent variable (X) because it was possible to obtain an estimate of the dependent Intentions to purchase green food products variable of 0,766 or 76,6%. This indicates that the elements that influence or contribute to the Intentions to purchase green food products of 76,6% are Social norms, Trust for green food products.

**Table 4.** Coefficient Determination

	R Square	R Square Adjusted
Intentions to purchase green food products (IGFP)	0,766	0,764
Trust for green product	0,722	0,720

Source: Own Study from PLS Output, 2024

### 4.4 Hypothesis test

Hypothesis testing conducted in this study aims to see how the independent variables of the dependent variable influence the independent variables. Hypothesis test results can be seen in the following table.

**Table 5.** Hypothesis Test (direct effect)

Variable	Origin Sample	T Statistics	P-Value	Noted
SN → IP	0,332	5,077	0,000	Accepted
SN → TP	0,850	18,538	0,000	Accepted

TP → IP	0,575	8,769	0,000	Accepted
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**Table 6** Hypothesis Test (indirect effect)

Variable	Origin Sample	T Statistics	P-Value	Noted
SN → TP → IP	0,489	7,234	0,000	Accepted

Note: SN: Social Norm; IP: Intentions to purchase green food products; TP: Trust for green food products

Source: Own Study from Amos Output, 2024

The hypothesis testing in this study shown in the Table 4 the calculated statistical T value for the Social Norm variable to Intentions to purchase green food products is  $5,077 > 1.96$ , and the p-value is  $0.000 < 0.05$ , so hypothesis one (H1), which states that Social Norm influence Intentions to purchase green food products, is accepted. Based on the results of the Hypothesis test, it can be obtained that the statistical T value for calculating Social Norm to Trust for green food products is  $18.538 > 1.96$  and the p value is  $0,000 < 0.05$ , so hypothesis two (H2) which states that Social Norm influence Trust for green food products is accepted. Based on the direct test results, it can be obtained that the T statistical value for calculating Trust for green food products to Intentions to purchase green food products is  $8,769 > 1.96$  and the p value is  $0.000 < 0.05$ , so hypothesis three (H3) which states that Trust for green food products directly influences Intentions to purchase green food products is accepted. Indirect testing shows that the Fourth hypothesis (H4) which states that Trust for green food products mediates the influence of Social Norm on Intentions to purchase green food products is proven to be accepted. The mediating role of this research is proven to partially mediate where the direct influence of Social Norm on Intentions to purchase green food products is proven to be supported.

### 4.5 Discussion

The hypothesis testing in this study shown in the Table 4 the calculated statistical T value for the Social Norm variable to Intentions to purchase green food products is  $5,077 > 1.96$ , and the p-value is  $0.000 < 0.05$ , so hypothesis one (H1), which states that Social Norm influence Intentions to purchase green food products. In other words, there is a directional relationship between subjective norms and intention to buy green products. These results indicate that Environmental awareness positively influences subjective norms and can increase intentions to buy. This is in line with previous research (2,3). The Hypothesis test can be obtained that the statistical T value for calculating Social Norm to Trust for green food products is  $18.538 > 1.96$  and the p value is  $0,000 < 0.05$ , so hypothesis two (H2) which states that Social Norm influence Trust for green food products. In other words, there is a directional relationship between subjective norms and Trust for green food products. This is in line with previous research (18)(19). The Hypothesis test can be obtained that the T statistical value for calculating Trust for



green food products to Intentions to purchase green food products is  $8,769 > 1.96$  and the p value is  $0.000 < 0.05$ , so hypothesis three (H3) which states that Trust for green food products directly influences Intentions to purchase green food products. In other words, a directional relationship exists between Trust for green food products and intention to buy green products. This is in line with previous research (15,16). Indirect testing shows that the Fourth hypothesis (H4) which states that Trust for green food products mediates the influence of Social Norm on Intentions to purchase green food products is proven to be accepted. The mediating role of this research is proven to partially mediate the direct influence of social norms on intentions to purchase green food products. This is in line with previous research (21).

## 5 Conclusion

Based on the remaining R Square value of 23.4%, this provides an opportunity for other variables to be used as material for future research, namely researching other predictor variables that contribute to improving intentions to purchase green food products. On the other hand, testing variables outside this model further strengthens the role of the concept of Intentions to purchase green food products which can be generalized.

The food industry has a powerful effect on the natural environment. In recent years, companies have been mounting a continuing effort to mitigate adverse impacts on the environment. A re-examination of these issues is necessary to determine the factors explaining consumers' purchase intentions in the context of narrowing the gap between positive attitudes towards green food and its purchases. The study provided theoretical and managerial contributions. It verifies the possibility of using constructs other than the TPB, such as past behavior, knowledge, and trust in developing countries. As demonstrated by this study, incorporating additional variables into the model provides a sounder basis for explaining green food purchase intentions. It can be utilised to explain purchase intentions relating to green food and other green products. The findings on past behavior that are presented in this study contribute to a better understanding of the attitude-behaviour gap.

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