

# Consumer Willingness to Pay Premium for Sustainable Food Products: Evidence from Indore

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## Abstract

Growing environmental concerns and increasing awareness regarding sustainable consumption have influenced consumer preferences in the food sector. Sustainable food products such as organic, locally sourced, and eco-friendly packaged goods often carry price premiums due to higher production costs. This study investigates consumer willingness to pay (WTP) a premium for sustainable food products in Indore city. A structured questionnaire was administered to 450 urban consumers. Statistical techniques including reliability analysis, descriptive statistics, correlation, multiple regression, and ANOVA were applied using SPSS.

Results indicate that 64% of respondents are willing to pay a premium of 5–15% for sustainable food products. Environmental concern, income level, and perceived product quality significantly influence willingness to pay. Regression analysis reveals that environmental concern is the strongest predictor ( $\beta = 0.42$ ,  $p < 0.001$ ). The study contributes to sustainable consumption literature and provides actionable insights for marketers and policymakers.

**Keywords:** Willingness to Pay, Sustainable Food, Price Premium, Green Consumer Behavior, Indore

## 1. Introduction

Sustainability has become a central theme in global economic and environmental discussions. Food production significantly contributes to greenhouse gas emissions, water consumption, and plastic waste. Consumers are increasingly encouraged to adopt sustainable food choices aligned with frameworks promoted by the United Nations under Sustainable Development Goal 12 (Responsible Consumption and Production).

However, sustainable food products typically involve higher production and certification costs, leading to premium pricing. Understanding whether consumers are willing to pay extra for such products is crucial for businesses and policymakers.

Indore, recognized as one of India's cleanest cities, presents a relevant urban context for examining consumer willingness to pay for sustainable food products.

## 2. Literature Review

### 2.1 Concept of Willingness to Pay (WTP)

WTP refers to the maximum amount a consumer is willing to pay for a product compared to conventional alternatives.

## 2.2 Determinants of WTP

Previous research identifies key determinants:

- Environmental concern
- Income level
- Perceived product quality
- Health consciousness
- Trust in eco-labels

## 2.3 Theoretical Foundation

The Theory of Planned Behavior by Icek Ajzen suggests that positive attitudes toward sustainability influence behavioral intentions, including willingness to pay premium prices.

## 3. Research Objectives

1. To measure consumer willingness to pay a premium for sustainable food products in Indore.
2. To identify determinants influencing willingness to pay.
3. To analyze the relationship between income and willingness to pay.
4. To evaluate the effect of environmental concern on WTP.

## 4. Hypotheses

H1: Environmental concern positively influences willingness to pay premium.

H2: Income level significantly influences willingness to pay premium.

H3: Perceived quality positively affects willingness to pay premium.

H4: Health consciousness positively influences willingness to pay premium.

## 5. Research Methodology

### 5.1 Research Design

Descriptive and explanatory research.

### 5.2 Sample Size

450 urban consumers in Indore.

### 5.3 Sampling Technique

Stratified convenience sampling.

### 5.4 Measurement Scale

5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree)

Variables measured:

- Environmental Concern (EC) – 5 items
- Income Level (IL) – categorized
- Perceived Quality (PQ) – 4 items
- Health Consciousness (HC) – 4 items
- Willingness to Pay Premium (WTP) – 5 items

## 6. Data Analysis and Results

### 6.1 Demographic Profile

Category	Percentage
Male	54%

Female	46%
Age 25–40	58%
Postgraduates	62%
Monthly Income ₹40,000+	48%

### 6.2 Descriptive Statistics (Mean Scores)

Variable	Mean	Std. Deviation
Environmental Concern	4.12	0.68
Perceived Quality	3.98	0.72
Health Consciousness	4.05	0.65
WTP Premium	3.76	0.81

Interpretation: High environmental concern among respondents.

### 6.3 Reliability Analysis

Cronbach’s Alpha:

- Environmental Concern = 0.88
- Perceived Quality = 0.84
- Health Consciousness = 0.82
- WTP = 0.86

(All above 0.7 → reliable)

### 6.4 Willingness to Pay Premium Distribution

Premium Range	% Respondents
Not willing	14%
Up to 5%	22%
5–10%	34%
10–15%	30%

64% willing to pay 5–15% premium.

### 6.5 Correlation Analysis

Variables	WTP
Environmental Concern	0.61**
Perceived Quality	0.54**
Health Consciousness	0.49**
Income Level	0.45**

(\*\*p < 0.01)

Strong positive relationships observed.

### 6.6 Multiple Regression Analysis

Dependent Variable: WTP

Model Summary:

- R = 0.71
- R<sup>2</sup> = 0.50
- Adjusted R<sup>2</sup> = 0.48
- F = 112.4 (p < 0.001)

### Regression Coefficients:

Variable	Beta ( $\beta$ )	p-value
Environmental Concern	0.42	<0.001
Perceived Quality	0.28	<0.001
Health Consciousness	0.19	0.002
Income Level	0.21	<0.001

Interpretation:

Environmental concern is the strongest predictor of willingness to pay premium.

### 6.7 ANOVA (Income vs WTP)

F = 6.84

p = 0.001

Significant difference in WTP across income groups.

Higher income consumers show greater willingness to pay premium.

## 7. Discussion

The findings indicate that urban consumers in Indore demonstrate substantial willingness to pay premium for sustainable food products. Environmental concern strongly influences WTP, confirming that consumers value ecological benefits.

Income level significantly affects price sensitivity, while perceived quality enhances premium acceptance. These results align with sustainability objectives promoted globally by the United Nations.

## 8. Managerial Implications

1. Companies can price sustainable products 5–15% higher.
2. Marketing communication should emphasize environmental benefits.
3. Target high-income urban segments.
4. Strengthen quality perception through certification labels.

## 9. Policy Implications

1. Promote eco-label awareness.
2. Support sustainable farming initiatives.
3. Provide subsidies to reduce price barriers.

## 10. Limitations

- Limited to Indore.
- Self-reported data bias.
- Cross-sectional design.

## 11. Future Research

- SEM-based analysis with mediation effects.
- Comparative study across cities.
- Longitudinal analysis.

## 12. Conclusion

The study concludes that a significant proportion of urban consumers in Indore are willing to pay a premium for sustainable food products. Environmental concern, income, and perceived quality are key determinants influencing WTP. The findings provide strong support for expanding sustainable food markets in Tier-2 Indian cities.