

# A Model of US Consumer Willingness to Pay For Environmentally Certified Products

**AMA 1998 Winter Educators Conference**

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# Presentation Outline

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# Overview

- ◆ Recent polls show that nearly 90% of American consumers are concerned about the environmental impact of what they buy (Cramer 1991).
- ◆ Product-purchasing decisions are often based on their environmental attitudes (Irland 1993, Schwepker and Cornwell 1991)
- ◆ The more involved consumers are with the environment, the more likely they are to purchase green products (Schuhwerk, and Lefkock-Hagius 1995).

# Overview

- ◆ The growth of industrialization in the world and the dwindling natural resources of the world have become elements for product differentiation in marketing.
- ◆ Environmental certification programs, including wood products certification, are increasingly being recognized as a significant market-based tool.
- ◆ Green marketing of wood products is a relatively new phenomenon.
- ◆ With consumers increased concern with environmental issues in general, the wood products industry will feel increase pressure to offer environmentally sound products.

# Research Questions

- ◆ This research examines the relationships between intrinsic environmental motivations and the willingness to pay a premium for environmentally certified products.
- ◆ “Are consumers willing to pay a premium for environmentally certified products?”
- ◆ What are the drivers that influence “Willingness to Pay”?
- ◆ Is there a consumer segment that has a propensity to pay for environmentally certified wood products?

## Setting & Data Collection

Residential consumers (homeowners) over 18 years old with incomes over \$30,000 were selected. In addition, equal number of males and female were selected for the sample population.

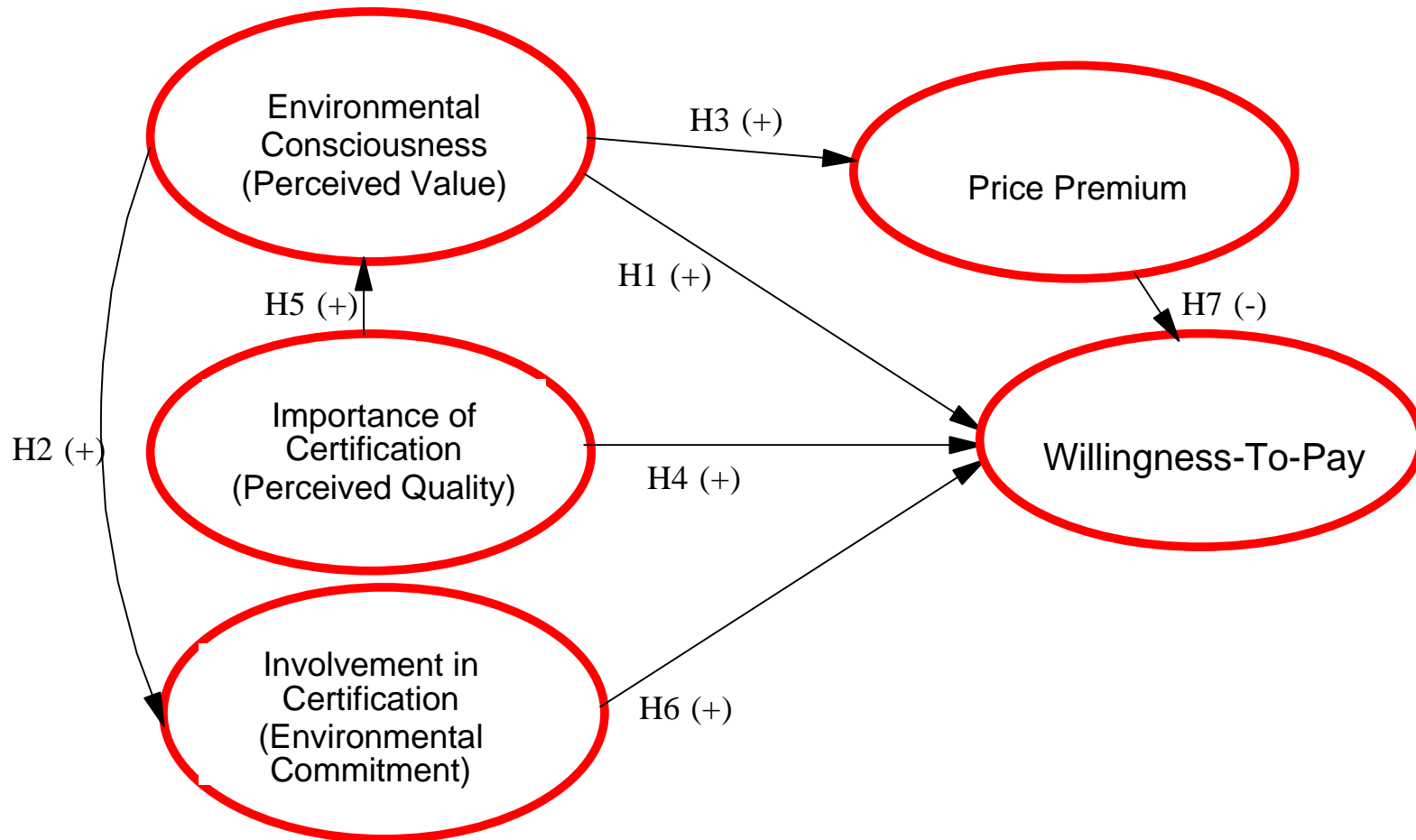
2,500 homeowner names and addresses on a random, nth name basis with every, single-family, owner-occupied U.S. household having an equal and known chance of being selected.

803 were included in the analysis with an adjusted response rate of 33 percent.

# Results

- ◆ The authors attempted to test the hypothesized relationships by building a structural equation model using LISREL VIII.
- ◆ Due to the nature of the data, some being categorical, the authors were limited in their ability to test the model using this method.
- ◆ In addition to cluster analysis, correlations were used to test hypotheses.

# Conceptual Model of Perceived Value, Perceived Quality and Environmental Commitment to Certification on Willingness to Pay





## Cluster Segments Compared on Willingness to Pay for Certified Wood Products

	Cluster 1 n=116 Mean	Cluster 2 n=319 Mean	Cluster 3 n=120 Mean	Cluster 4 n=167 Mean	Cluster 5 n=79 Mean
<i>Willingness to Pay for a:</i>					
2" x 4" x 8' stud	1.57	2.85	1.74	2.42	1.90
Ready-to-assemble chair	1.45	2.37	1.53	2.22	1.73
Dining Room Set	1.45	2.44	1.47	2.13	1.61
Kitchen Remodeling Job	1.48	2.18	1.29	1.91	1.52
New Home	1.63	2.97	1.72	2.58	2.01

## Final Cluster Centers for Certification Questions

	Cluster 1 n=116 Mean	Cluster 2 n=319 Mean	Cluster 3 n=120 Mean	Cluster 4 n=167 Mean	Cluster 5 n=79 Mean
I believe there is a need for env. cert. of the harvesting of US temp. forests.	1.38	4.66	3.74	4.14	2.59
I believe there is a need for env. cert. of the harvesting of tropical forests.	1.81	4.88	4.46	4.63	2.73
I believe env. cert. can reduce tropical deforestation.	1.67	4.63	3.88	3.67	2.89
I believe env. cert. can help sustain the health of US forests.	1.56	4.70	3.71	4.00	3.11

	Cluster 1 n=116 Mean	Cluster 2 n=319 Mean	Cluster 3 n=120 Mean	Cluster 4 n=167 Mean	Cluster 5 n=79 Mean
If available, I would seek out env. certified wood products.	1.44	4.39	2.86	3.66	3.08
I would pay a premium for certified wood products.	1.21	4.02	2.33	3.53	2.71
I believe consumers will pay a premium for env. cert. wood products.	1.94	3.64	2.29	3.29	2.58
I understand the concept of environmental certification.	2.96	4.38	4.08	2.83	3.16
I have purchased env. cert. wood products in the past year.	1.83	3.37	2.26	2.54	2.97

## Profile of Consumers Willing to Pay the Greatest Premium for Certified Wood Products

- Cluster 2, (40% of sample respondents) view certification as important and are the most likely to seek out and buy these products at a price premium.
- Thus, Cluster 2 would be the most likely target market for environmentally certified wood products.
- Cluster 2 respondents, can be described as most likely a member of the Democratic party, an environmental organization member, most likely a woman, and politically liberal.

# Results

## Model Constructs

(From Factor Analysis)

Environmental Consciousness - (CONINDEX)      Alpha=0.81

Importance of Certification - (IMPINDEX)      Alpha=0.90

Involvement in Certification – (INVINDEX)      Alpha=0.62

Price Premium – (PREMINDEX)      Alpha=0.87

Willingness to Pay – (WILLINDEX)      Alpha=0.72

# Hypotheses Tested

H<sub>3</sub>: There is a **positive relationship** between consumer perception of **value (environmental consciousness)** and the **price premium** for environmentally certified products. ( $R^2=0.12$ ;  $P=0.000$ )

H<sub>4</sub>: There is a **positive relationship** between consumer perception of **quality (environmental importance)** and their **willingness to pay a premium** for environmentally certified products. ( $R^2=0.58$ ;  $P=0.000$ )

# Hypotheses Tested

H<sub>1</sub>: There is a **positive relationship** between consumer perception of **value (environmental consciousness)** and their **willingness to pay** a premium for environmentally certified products. (R<sup>2</sup>=0.50; P=0.000)

H<sub>2</sub>: There is a **positive relationship** between consumer perception of **value (environmental consciousness)** and their **commitment (environmental involvement) to purchasing** environmentally certified products. (R<sup>2</sup>=0.59; P=0.000)

## Hypotheses Tested

H<sub>5</sub>: There is a positive relationship between consumer perception of **quality (environmental importance)** and **value (environmental consciousness)**. ( $R^2=0.53$ ;  $P=0.000$ )

H<sub>6</sub>: There is a **positive relationship** between environmental **commitment (consumer involvement)** in certification and **willingness to pay a premium** for environmentally certified products. ( $R^2=0.64$ ;  $P=0.000$ )

H<sub>7</sub>: There is a **negative relationship** between **price premium** and **consumer willingness to pay** for environmentally certified products. ( $R^2=0.51$ ;  $P=0.000$ ) *Not Directionally as Hypothesized.*



# Key Findings & Managerial Implications

The data suggests that there are positive correlations between the willingness to pay and independent variables.

This economic manifestation of behavior (willingness to pay) has a statistically lower mean agreement score than environmental consciousness, certification involvement and perceived importance of certification.

# Key Findings & Managerial Implications

- ◆ Consumer awareness and beliefs about the environment and wood products environmental certification may also influence purchasing patterns.
- ◆ Identification of a unique segment of US consumers that has a high propensity to pay for environmentally certified wood products.
- ◆ This consumer profile may be beneficial for market segmentation and product positioning decisions.

## Limitations & Future Direction

- ◆ This study was conducted within *one industry*.
- ◆ *Replication* of this study in other countries.
- ◆ Further certification research focussing on consumer extrinsic behavior vs. intrinsic beliefs.



**Questions?**