

## Environmental and Quality Demands of Architects: A Cross-Cultural Study of a Customer Group of the Wood Products Industry

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**Description:** We studied architects' wants and needs regarding wood products, considering the influence of substitute products. The research included the US and Chile.

**Methods:** In person interviews, mail survey

**Data Source:** US and Chilean architects, most of them architecture firm owners (30 interviews, 428 mail questionnaire respondents)

**Key Findings:**

1. Environmentally related attributes are important only for US architects. They are not relevant for Chilean architects, or civil engineers of either country.
2. There is a perceived lack of *Uniform quality* in wood products: this is a big concern for US and Chilean architects.
3. Architects are not worried about the flammability of wood. They simply follow the rules specified in the building standards.
4. *Appearance, warmth and tactile sensation* of the material and *Honest material* are crucial attributes in aesthetic applications. Honest material simply means that architects like that the material is what it seems to be: So, no matter how well a plastic material imitates the wood grain, if the material seems to be wood, it must be wood!

During the first half of the 20<sup>th</sup> century companies equated marketing with selling. This selling orientation meant selling anything the factory could produce. Then, in the mid 50's, the marketing concept was formulated and marketing became customer focused, as the scarcity of resources and products during WWII was replaced by an abundance of manufacturers fighting for the patronage of consumers. Almost half a century later, the marketing concept maintains its crucial importance. Companies are continually pursuing 1) to discover wants and needs of their target customers, and 2) to satisfy those needs in a better way than competitors, focusing on profit rather than sales volume.

It is easy to define these two goals, but it is exceedingly difficult for a company to consistently meet these objectives over time. Who are my key customer groups? In that regard, customer groups

relevant for one company may not be relevant for another. Also important, time or money constraints may mean focusing marketing research efforts on only one customer group. We focused this study on architects for three reasons: (1) their key influence in the material specification process for medium- and large-sized construction projects<sup>i</sup>, (2) their characteristic of lead customers regarding environmental design<sup>ii</sup>, and (3) the wood products industry targets architects with environmental advertising<sup>iii</sup>.

Selecting the right customer is not enough for learning the right wants and needs! The current hypercompetition environment further complicates the problem, as a growing number of product alternatives means increasingly dynamic customer behavior<sup>iv</sup>. Nowadays, many previously unrelated industries have become direct competitors. Examples abound in the communications business, where computer-to-computer phone calls are competing directly with normal long distance calls. This problem is not unknown to the wood products industry, as steel, plastics, concrete, and even engineered wood products are gaining market share from traditional wood products<sup>v</sup>. Therefore, the examination of attributes of any product must consider the influence of substitutes, as this analysis may allow maintaining the patronage of increasingly elusive customers.

This research developed the concept of competition factors. These factors introduce the effect of substitute products on the importance of product attributes by altering the raw measure of the importance of the attributes.

A starting point was to create a categorization of wood products. The architect interviews confirmed the adequacy of the classification shown in the table below

Product groups	Product properties that are important for each group	Specific products that fit into the groups
<i>Structural products group</i>	Strength and structural properties	Softwood lumber + softwood plywood + Oriented Strand Board
<i>Appearance products group</i>	Aesthetic properties	Hardwood decorative panels + moldings + finishing materials
<i>Engineered wood products group</i>	Strength and aesthetic properties	GlueLam, I-Beams, etc.

The results reported next provide managerial implications for wood products, construction, and real estate executives, as the outcomes of this study permit a better understanding of an important professional group that has been studied rather seldom: architects<sup>vi</sup>.

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First, Chilean and US architects are rather similar. The most important difference is the irrelevance of environmental issues for Chilean architects as compared to their US peers. Additionally, there are several issues than can be said about marketing tactics targeting architects. Price of the material is not an important feature, as architects are specifiers and not purchasers of materials. Also important, US architects consider environmental issues as part of the quality characteristics of the product, so promotional activities targeting US architects should focus on both technical and environmental quality characteristics of wood products.

Second, architects perceived a lack of *Uniform quality* in wood products. This is a big concern for US and Chilean architects, a message consistent with the findings of other authors<sup>vii</sup> <sup>viii</sup>.

Third, *Fire concern* is much lower than the literature suggests<sup>vi</sup>. In the US, it was also hypothesized that *Fire concern* would have a lower importance in the Northwest, because wood is the traditional material

there. No differences were found among the 4 US regions that we defined<sup>ix</sup>.

Finally, wood products should enjoy inherent advantages over substitute products in exposed applications, given the favorable perception of wood by architects<sup>vi</sup>. In this regard, the table below shows the architect design attributes for appearance products. The importance groups (a: attributes of high importance, b: attributes of medium importance, and c: attributes of small importance) do incorporate the effect of competition factors, i.e., the final importance groups consider the existence of substitute products when weighing the importance of the different attributes. The table also shows an important finding of this study, as Chilean and US architects coincide perfectly in the high importance they assigned to the attributes *Appearance, warmth and tactile sensation* and *Honest material* (the material is what it seems to be) of the appearance product group. This result suggests that it does not matter how well a plastic material imitates wood, architects will still demand that if the material seems to be wood, it must be wood!

**Architects' design attributes for appearance wood products**

US Appearance products	Final groups	Chilean Appearance products	Final Groups
Appearance, warmth, tactile sensation of the material	a	Appearance, warmth, tactile sensation of the material	a
Honest material	a	Honest material	a
Offgassing	b	Durability and maintenance	a
Environmentally sustainable	b	Feasibility of curves	b
Durability	b	Material easy to refurbish	c
Low cost	b	Low cost	b

Please contact the authors for additional information.

<sup>i</sup> As proved by the findings of our interviews with architects and civil engineers.

<sup>ii</sup> Von Hippel, Eric, Lead Users: A Source of Novel Product Concepts, *Management Science* 32 (7), 791-805 (July 1986)

<sup>iii</sup> Wagner, Ernesto R., and Hansen, Eric N., Methodology for Evaluating Green Advertising of Forest Products in the United States: A Content Analysis, *Forest Products Journal* 52 (4), 17-23 (2002)

<sup>iv</sup> Grimm, Curtis M., and Smith, Ken G., *Strategy as Action: Industry Rivalry and Coordination*, Southwestern College Publishing, Cincinnati, Ohio (1997)

<sup>v</sup> Wood Promotion Update, November 6, 2001, <http://www.wpnupdate.com/Nov/>, (accessed October 19 2002)

<sup>vi</sup> Kozak, Robert A., and Cohen, David H., Architects and Structural Engineers: An Examination of Wood Design and Use in Non Residential Construction, *Forest Products Journal* 49 (4), 37 - 46 (April 1999)

<sup>vii</sup> Weinfurter, Stefan, and Hansen, Eric N., Softwood Lumber Quality Requirements: Examining the Supplier/Buyer Perception Gap, *Wood and Fiber Science* 31 (1), 83-94 (1999)

<sup>viii</sup> Hansen, Eric N., and Bush, Robert J., Consumer Perceptions of Softwood Lumber Quality *Forest Products Journal* 46 (10), 29-34 (1996)

<sup>ix</sup> p-value = 0.10 from a One-way ANOVA.