

## **Using Cultural Knowledge to Develop Niche Markets**

Ernesto Wagner, PhD

Commercial Manager, Weyerhaeuser Uruguay, Sourcing Manager, South  
America

Eric Hansen, PhD

Professor, Department of Wood Science and Engineering, Oregon State  
University

### **Abstract**

Modern marketing emphasizes maintaining a close connection to customers. Market orientation is said to be a cultural component of firms with one specific attribute of market oriented firms being a focus on customers. Many companies have invested in customer relationship management systems designed to help maintain close customer relationships. These efforts are all based on the belief that a strong customer focus can lead to competitive advantage. For example, new products developed with insight gained from customer interaction can result in sole source arrangements and accompanying competitive advantage. In global trade, understanding customers includes issues of differing cultures. Understanding the way different cultures conduct business, how individuals tend to interact with members of their own culture and how they tend to interact with members of other cultures can have a significant impact on one's ability to succeed in global business. For example, countries like Chile or Brazil have had forests for millennia, so forestry is not seen as a foreign activity. On the other hand, forestry is a completely new discipline in Uruguay, a country where cattle raising and interminable grasslands are the norm. This presentation will explore the importance of cultural knowledge when approaching new foreign markets.

**Key Words:** Architects, Conjoint and Cluster Analysis, Culture, Environmentally Sustainable

## **Introduction**

It is important to differentiate between customer-led and market-oriented companies (Slater and Narver 1998, 1999). The first are mainly focused on short-term issues by satisfying customers' expressed needs. On the other hand, the second intend to understand customer expressed and latent needs and develop innovative solutions for delivering superior customer value (Slater and Narver 1999). A weakness of customer-led companies is the "tyranny of the served market," as those firms see the world only through the eyes of their current customers (Slater and Narver 1998). Von Hippel (1986) contends that the insights of current customers into new product needs are restricted by their experience and, therefore, are unlikely to generate untapped product concepts. Conversely, market-oriented companies employ novel techniques in order to discover latent needs of their customers. One of those techniques is to survey lead users (Slater and Narver 1998). Lead users are customers whose present needs will later become those of mainstream consumers (Ungson and Trudel, 2001, Von Hippel 1986). Lead customers can identify latent needs because they are familiar with conditions that lie in the future for most other customers (Von Hippel 1986). Lead users are early adopters that are watched and emulated later by the majority (Rogers 1995).

Targeting lead users is a good start, but the question is whether the marketing tactics used for targeting lead users in one region or country can be applied to another region or country. One important issue when looking at a new market is its distinctive culture. Gupta (2003) comments that firms that can assess the differing cultures of markets can gain substantial competitive advantage over their rivals. We like Gupta's (page 69) definition of culture as "a way of life, cultivated beliefs, learned behaviors, shared mental programmes, compelling ideologies, and interrelated symbols whose meanings provide a set of orientations for members of a society and are transmitted by them".

This paper builds on previous work reported in Wagner and Hansen (2004a, 2004b), which involved the study of a lead customer group of the construction industry: architects. That 2001 study was performed in the USA and Chile and found compelling differences between architects of those two countries, attributable to differing cultures. Those methods and results provided interesting historical data for a replication of a similar architect study done in Chile in 2008, designed to provide an understanding of whether architects in Chile have changed in the last seven years. The results reported in this paper, in addition to those of an ongoing project, target the development of a niche market for temperate hardwoods in Chile.

## **Methods**

Consumers are typically unable to precisely determine the relative importance that they assign to product attributes. A typical problem with Likert-type scales is that customers assess all attributes as "very important". Practitioners end up analyzing very large samples in order to try to ascertain differences among attributes, where many of them are assessed as "important". To add complexity to the problem, attributes considered in isolation can be perceived differently than when they are combined in a product. Even the

order in which the attributes are presented to respondents can render different results, as reported by Dillman (2000) and Wagner and Hansen (2004a).

The survey respondent would have an easier task if he/she is presented with a combination of attributes that correspond to different product offerings. Conjoint analysis can help in this regard, as it allows a subset of all possible combinations of product attributes to be used to determine the relative importance of each feature in the purchasing decision of customers (QuickMBA 2008). In a conjoint analysis, the respondent can be asked to order a list of cards, each portraying a combination of product attributes, in decreasing order of preference. Another interesting tool that can be used together with conjoint is cluster analysis, a statistical technique used to group respondents according to how similar they were in assessing the product attributes. Finally, by using variables not used by the clustering algorithm, typically demographic features, the researcher may determine that, for example, young people assess a product differently than older people.

In 2001 we were interested in learning about the construction material preferences of two professional groups: civil engineers and architects. As already mentioned, the study was cross-cultural, so 20 professionals from Chile and the USA were faced with the same conjoint analysis design, basically a set of cards depicting 4 different materials (wood, steel, concrete, and masonry) with different attributes (environmental sustainability, cost, availability and familiarity of the workforce with the material), in order to assess cultural and professional differences.

In the current study, we are interested in only one professional group, architects, and their assessment of different types of appearance lumber when designing a construction project. In particular, 42 respondents (architects) were individually asked to rank a set of 9 cards. Each card included the description of a product with different levels for 4 attributes. The respondent needed to assume that the set of attributes that describe the product of each card is possible and rank according to his/her personal preferences (where 1 is the most desired material and 9 the least desired). The appearance products considered were (1) radiata pine (2) tropical lumber (3) a branded plantation eucalyptus. Each of these products had a set of levels for 4 attributes: (a) Environmentally sustainable (b) Material cost (c) Familiarity of the work force with the material and (d) Availability of the material in the market.

## **Historical and Current Results**

### **Historical Data of 2001 Study: The Importance of the Environmental Appeal!**

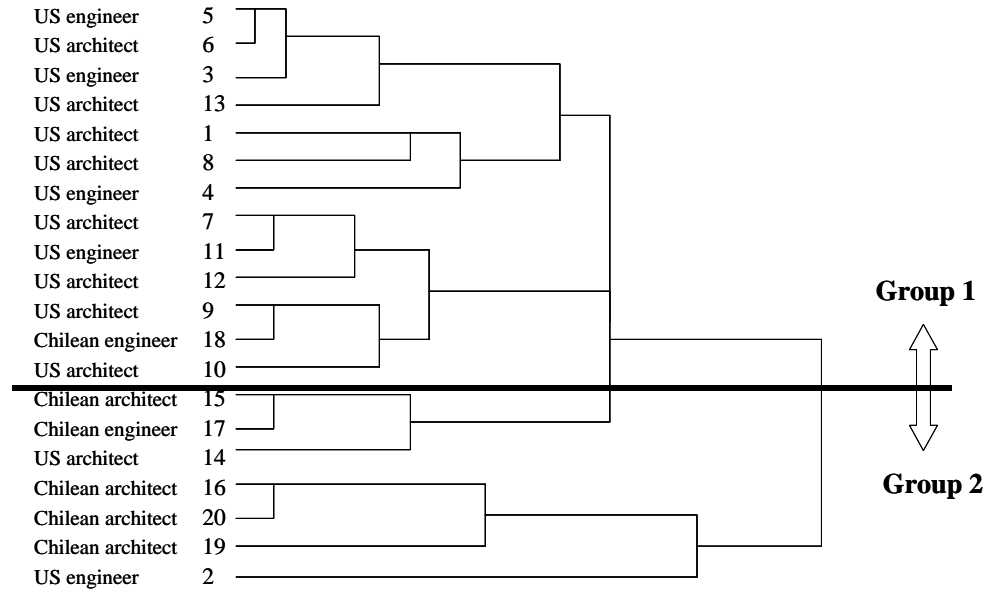
In our 2001 study, the use of conjoint analysis showed a difference between the sampled Chilean and U.S. architects (and engineers) regarding environmental issues, confirming cultural differences. U.S. architects were very aware of environmentally certified (green) wood products. Neither Chilean architects nor engineers considered environmental issues as an attribute when selecting a material. Table 1 shows the utilities (regression coefficients with reversed signs, as conjoint analysis is basically a multiple regression) of

the attribute “environmentally sustainable” for the 20 respondents of the 2001 study. It is remarkable how well this attribute separates professionals from the two countries. Respondents could not fabricate these utilities, because they were implicit in their answers regarding material preferences.

US engineer	2.00	Chilean engineer	0.75
US engineer	2.00	Chilean architect	0.50
US architect	2.00	US engineer	0.25
US architect	2.00	US engineer	0
US architect	1.50	US architect	0
US architect	1.50	US architect	0
US architect	1.50	Chilean engineer	0
US architect	1.25	Chilean architect	-0.25
US architect	0.75	Chilean architect	-0.50
US engineer	0.75	Chilean architect	-0.50

**Table 1** *Conjoint analysis utilities (in decreasing order) of the attribute “Environmental sustainability” for US and Chilean architects and engineers: 2001 Study*

Cluster analysis groups individuals according to demographic information as well as the likeness of their preferences. The most interesting clustering resulted when using all variables and when labeling by profession and country (dendrogram in Figure 1). The more to the right the vertical link between two respondents, the more dissimilar they are. The sampled U.S. professionals tended to fit in one cluster (Group 1 in Fig. 1) while Chilean professionals tended to fit in another cluster (Group 2 in Fig. 1), suggesting that cultural differences make the product (material) preferences of professionals in the two countries radically different.



**Figure 1** *Dendrogram of architects and engineers, using average linkage (Between Groups) - 2001 study - all variables used: cost, environmental sustainability, availability and familiarity of the workforce with the material*

It is important to note that the difference between the two countries persisted, even when “environmentally sustainable” was not considered as a clustering variable – so cultural differences go beyond the environmental appeal of a material. Finally, clusters tended to have both architects and engineers of a certain country (either the United States or Chile). In other words, the data suggests that those two professional groups are quite similar when considering all the attributes, which is consistent with the findings of Kozak and Cohen (1999), who found almost no significant differences between architects and engineers regarding construction material preferences.

We want to caution that even though the environmental features of a material were more important for US architects than for their Chilean counterparts, a posterior US mail questionnaire showed that this attribute had only a secondary importance when compared with cost and technical attributes (availability, uniform quality, dimensional stability, durability, fire concern). Still, during personal interviews, US architects stated that they strongly push the use of environmentally friendly products. This example shows that quantitative results may actually differ from interviewer perceptions acquired during the qualitative part of a study (Winer 1999).

There are widely held beliefs regarding cultural differences inside the USA. In this regard, it is thought that the West Coast tends to be “greener” than the other regions. Therefore, we analyzed the importance of the attribute environmentally sustainable in four regions of the United States. There is suggestive evidence of a statistically significant difference (one-way ANOVA: p-value of .065) with the West coast (Hawaii, Washington, Oregon, and California) being greener than the other regions. If the West is

taken out of the analysis, the other three regions were not significantly different from one another (one-way ANOVA: p-value of .25).

Finally, we also hypothesized that younger architects would be "greener" than older ones (in other words, we hypothesized that the attribute Environmentally sustainable would be rated higher among younger architects). The difference between people older and younger than 46 years old is not statistically significant (two-sided p-value of 0.23) (Wagner and Hansen 2004a).

### **Conducting Market Research in the US and Chile: Cross-cultural Differences Surfaced in the 2001 Study**

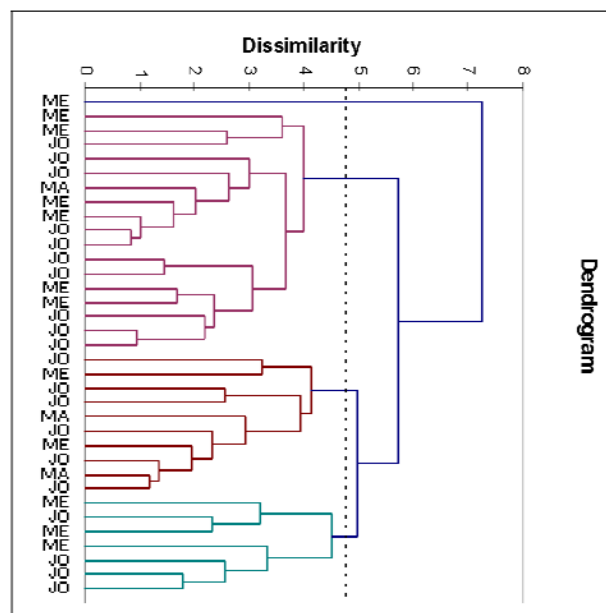
Besides conjoint and cluster analyses, the 2001 study involved a mail questionnaire that was sent to 1200 architect offices in the United States - we pursued a nationally representative sample of owners or chief architects of architect offices. By following an adaptation of the Tailored Design Method (Dillman 2000), we received 375 valid responses, a 34% response rate taking into account non-deliverables. In other words, it is possible to obtain a good response in the US with mail questionnaires. A completely different situation is the one faced in Chile. Cultural reasons prevent good response rates - many mail questionnaires end up in the trash! In this regard, we followed a different approach. We selected a convenience sample of 85 architect offices, where we sent a mail questionnaire and then we followed up by phone. On average, each architect office had to be called 15 times! - to obtain 53 answers for a 62% response rate.

### **Results of 2008 Study**

We had several hypotheses for this 2008 study. We assumed that somehow Chilean architects would follow the steps of the US ones and get "greener". Following the same train of thoughts, we expected younger architects to perceive attributes differently from older ones. Finally, as our study looks for developing a niche for temperate hardwoods, we also wanted to understand the appeal of tropical lumber - typically of an inconsistent supply and quality, with doubtful environmental credentials.

Even though anecdotic evidence suggests that there is a lot of environmental concern among Chilean architects, the conjoint analysis even shows an average negative utility for environmental sustainability of - 0.9, which means that in ranking the cards the environmental sustainability did not help the material to improve its appeal, but the opposite.

When comparing young (JO: up to 35 years), medium (ME: 35 to 50 years) and older architects (MA: more than 50 years), a dendrogram with all variables shows no differences between the age segments (See Figure 2).



**Figure 2** *Dendrogram of young (JO), medium-age (ME) and older (MA) architects, using average linkage - 2008 study - variables used: cost, environmental sustainability, availability and familiarity of the workforce with the material*

When looking now at the same age groups and assessing for differences specifically regarding environmental sustainability, there is no difference among the age groups (p-value: 0.35 when using a Kruskal – Wallis test). Also, if using t-tests of all possible pairs (Ho: JO = ME, Ho: JO = MA and Ho: ME = MA), the null hypothesis Ho is always true with p-values 0.2 or higher.

Still, we did find suggestive evidence that tropical lumber raises an issue among architects, even if he/she is told that the product has good environmental credentials, good availability and the workforce is familiar with it. Indeed, a One-Way ANOVA F-test renders a p-value of 0.099 – again suggesting that architects would prefer radiata pine or a temperate hardwood.

Finally, there is strong evidence that female architects are “greener” than men: with one-sided p-value = 0.047 from a t-test on the regression coefficients of both genders.

### **Conclusions and Managerial Implications**

- During the US interviews in 2001, architects argued very strongly in favor of environmentally certified wood products. However, when measuring the importance of environmental friendliness of a material together with cost and quality related attributes, we found its importance is not paramount. The situation in Chile is similar. Market studies that elicit conclusions exclusively from interviews should carefully consider that quantitative results may differ from

- interviewer perceptions acquired during the qualitative part of a study (Winer 1999).
- The US wood products industry has been targeting architects with environmental advertising since the early 90's (Wagner and Hansen 2002). As reported by Wagner and Hansen (2004a), architects do appreciate these kinds of efforts. In other words, this is an effective message when communicating with this market segment. This conclusion is in sharp contrast to the opinion of authors like Ottman (1998, p. 138) who claims, "...the American public believes just about any societal group- not-for profits, the EPA, local government officials, even the press - before business large or small".
  - Importantly, the most effective results would be obtained if the same advertising stresses both quality and environmental attributes of the product. Wagner and Hansen (2004a) discovered that the importance of an environmental claim improves if the architect considers other more technical attributes at the same time.
  - Regarding Chile:
    - We found suggestive evidence that tropical lumber is not preferred by architects, even if the product has good environmental credentials, good availability and the workforce is familiar with it. Advertising of temperate hardwoods should stress its non-tropical nature.
    - There is strong evidence that female architects are greener than male architects.

The 2001 study pointed very clearly at a cultural trait by Chilean architects: they like an "honest material" – honest materials are what they seem to be – in other words, architects do not quite like imitations. In this regard, the introduction of a temperate hardwood needs to invoke this honest material appeal, this "gusto" for a true wood grain that provides warmth and difference to an environment.

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