MARKETING MIX INFLUENCING ORGANIC FOODS PURCHASE OF MEXICAN CONSUMERS

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Abstract
The company to sensitize environmentally to its potential market can use price, product, distribution and communication. This study provides market-evidence on how to approach Mexican consumers, regarding marketing mix and its effects on organic foods purchase. The main goal is contribute with an analysis of causes-effects on consumer perceptions based in the structural equations model. In order to contrast the hypothesis, data were obtained using a structured questionnaire based on a five-point Likert scale (n=383). We rejected hypothesis 1, the price has a positive and significant effect on organic foods purchase (-0.23, p<0.002).

Key words: organic food purchase, marketing mix, Mexican consumers, structural equations model
INTRODUCTION

The demand for organic foods, defined as those who do not use synthetic chemicals instead they are natural origin that is readily biodegradable, low-impact or can be recycled (e. g. packaging, packaging and labeling) began to expand dramatically in developed countries in the late eighties. In Mexico, development of organic agriculture started in the '60s, through foreign agents, connecting to different Mexican operators (Schwentesius, Nelson and Gómez-Cruz 2010,1). At present, organic sector has grown dynamically, despite the economic crisis. For example, organic area between 1996 and 2008 reached an annual growth above 3% and employment in the sector increased 26% per year (Gómez Cruz et al. 2009, 12).

Environmental awareness has spread to businesses, institutions and society in general, but although these efforts, the situation of the environment on a global scale can not be said to has improved, consumers have not left their traditional brands and only a segment of people are consistent in their interests on the environment (Salgado-Beltrán, Subirá-Lobera and Beltrán-Morales 2011,4). So, company can sensitize environmentally to its potential market using price, product, distribution and communication strategies. These factors have been investigated as influences of the purchase decision: price strategies (Bhate and Lawler 1997; Mathur and Mathur 2000; Moon et al 2002; Tung et al 2012), product strategies (Martinsons et al 1997; Chen 2001; Handfield et al 2001; Pujari, Wright and Peattie 2003; De Caluwe 2004; Bhaskaran et al 2006; Jansen and Stevels 2006; De Ferran and Grunert 2007), distribution strategies (Handfield et al 1997) and communication strategies (Carlson, Grove and Kangun 1993; Banerjee, Gulas and Iyer 1995; Carlson and Grove 1996; Mohr, Eroglu and Ellen 1998; Wagner and Hansen 2002; Lankard and McLaughlin 2003) but not altogether in cause-effect analysis.

This study provides market-evidence on how to approach Mexican consumers, regarding marketing mix and its effects on organic foods purchase. This paper is organized as follows. In section 2 we briefly revising the elements of the theoretical model. Section 3 presents a design research of the relationship between marketing mix and organic foods purchase. Section 4 presents the investigation results and section 5 summarizes the main conclusions.

LITERATURE REVIEW

In this section, we briefly define some basic concepts to be used throughout the paper and we present theoretical model (figure 1). There have been numerous publications related to organic foods purchase (Montoro-Rios et al. 2006), specifically in the early 90's increases...
their strength (Schahn and Holzer 1990; Stead, Stead and Worrell 1991; Banerjee, Gulas and Iyer 1995; Govindasamy and Italia 1999) to keep growing since then (De Ferran and Grunert 2007; Chen 2007; Bansal 2008; Grundey and Zaharia 2008; Hartmann, Apaolaza-Ibáñez and Forcada-Sainz 2008; Ojala 2008; Gifford and Bernard 2011; Tung et al. 2012).

**Defining price**

Any product or service has a price, conceptually, is defined as the expression of value that is assigned to that product or service in monetary terms. The variable price is one of the most important and elemental in an organic foods purchase (Bhate and Lawler 1997). In Mexico, organic foods price is very varied, between 10 and 200% (economy and premium price strategies) (Salgado-Beltrán, Subirá-Lobera and Beltrán-Morales 2009). Information plays an important role in willing to pay (WTP) (Hawken 1993). Gifford and Bernard (2011) found out that the effects of presenting information prior purchase organic products increased by 50% of participants the WTP. Besides that those who were female, who had higher occupation prestige, who had college education levels, who were aged in their 40s, and who possessed an optimistic opinion toward the necessity of organic farming tend to pay a premium for and buy organic food (Tung et al. 2012, 1003). However, the likelihood of paying a premium for organic produce decreases with the number of individuals living in the household (Govindasamy and Italia 1999).

**Defining product**

The basic rules of International Federation of Organic Agriculture Movements (IFOAM) use the terms ecologic products and organic as equivalent. As we can see an organic product is one that performs the same functions of the equivalent foods, but the damage to the environment is less to-do over its life cycle (Martinsons et al. 1997; Chen 2001; Handfield et al. 2001; Pujari, Wright and Peattie 2003; De Caluwe 2004; Bhaskaran et al. 2006; Jansen and Stevels 2006; De Ferran and Grunert 2007). So the attributes of freshness and nutrition of ecologic product are highlighted by consumers and the greater propensity to buy organic products is between fresh and well-educated young women (Wier and Andersen 2001). The certifications are another attributes; they have emerged as one of the main tools of green marketing. It must be credible process if: 1) it assures consumers that organic food is produced according to rules to protect environment; 2) the producers unscrupulous will not use the term organic; and 3) makes that market more efficient in the marketing channel from producer to consumer (Lohr 1998).
**Defining distribution**

This part would cover the environmental impacts related to packaging, transport and distribution of good to its user (Azqueta 2000). Nowadays the limited awareness and unavailability of organic foods and services inhibit the green consumerism (Martinsons et al. 1997; Handfield et al. 1997). Therefore, the distribution systems should be evaluated and designed according to a global result, not to the comparisons between the isolated parts for ecological benefit. As well as the implications for businesses and consumers that could originate, as they may affect the competitiveness as a whole.

**Defining communication**

It is important to inform consumers about the benefits of organic foods. If credible and verifiable, can help consumers feel they are making a difference to buying the product. The environmental ads can be expressed a relationship between a product or service and the environment, and can promote a green lifestyle (Wagner and Hansen 2002, 20) Further communication and policy modification is needed to reinforce consumers’ confidence in organic agriculture/food (Tung et al. 2012, 997).

**Defining organic foods purchase**

The organic foods purchase is understood to choose products based on their production process, content, packaging, recyclability, type of waste generated and regulations (Calomarde 2000, 15). That is, a purchase based in environmental awareness to reduce sources of waste, promote recycling and taking care about health.
In order to contrast the hypothesis, data were obtained using a structured questionnaire based on a five-point Likert scale. Sampling was performed at sale points of the supermarkets. We used the formula for infinite populations, segmenting the population aged 18 to 65 years obtaining a sample size of 383 valid cases, with a sample error ±5% and confidence level of 95.5%.

The organic food purchase can be observed directly, someone buys the product or not buy it. However, several studies have established marketing constructs on aspects that may explain why we buy a product (Stead, Stead and Worrell 1991; Tung et al. 2012 inter alia). In this case we developed 4 constructs from a business management approach (price, product, communication and distribution) to be relate with the organic food purchase construct.

Data analysis was made by Structural Equation Models SEM that determined in the same analysis as relation between manifest and latent variables, so relationships between latent variables, and allows it to test a set of proposed relations –a theoretical model- against the manifest relations that is to say, the data (Bentler 1995; Schumacker and Lomax 1996; Bazán et al. 2006).
The inner model and the outer model confirm a SEM. First specifies the directional relationship between the latent variables, that is to say, are equations that express relationships between factors, whose representation is:

\[ \eta = B\eta + \Gamma \xi + \zeta \]

Wherein:
- \( \eta \): \( mx \times 1 \) vector of endogenous latent variables
- \( B \): \( mxm \) coefficient matrix of the endogenous variables
- \( \Gamma \): \( mxk \) coefficient matrix of the exogenous variables
- \( \xi \): \( k \times 1 \) vector of exogenous latent variables
- \( \zeta \): \( mx \times 1 \) vector of random disturbance terms.

The second specifies the relationships that keep the factors or latent variables with their respective indicators, as specified relationships between observable and latent variables in a confirmatory factor analysis, that is to say, measurement equations of these factors, whose representation in equation form is:

\[
\begin{align*}
Y &= \Lambda_\gamma \eta + \epsilon \\
X &= \Lambda_\delta \xi + \delta
\end{align*}
\]

Wherein:
- \( \eta \): \( mx \times 1 \) vector of endogenous latent variables
- \( \xi \): \( k \times 1 \) vector of exogenous latent variables
- \( \Lambda_\alpha \): \( q \times k \) coefficient matrix of the exogenous variables
- \( \Lambda_\gamma \): \( p \times m \) coefficient matrix of the endogenous variables
- \( \delta \): \( q \times 1 \) measurement error vector for exogenous indicators
- \( \epsilon \): \( p \times 1 \) measurement error vector for endogenous indicators.

**Hypothesis**
Consumers are willing to pay (WTP) a premium price for organic foods but they are not sufficiently involved with environmental issues (Bhate and Lawler 1997; Moon et al. 2002;
H$_1$ = the price has a positive and significant effect on organic foods purchase.
H$_2$ = the product has a positive and significant effect on organic foods purchase.

To generate an organic foods purchase is necessary to use a tool of persuasion, communication, if companies do not report the environmental costs of production to consumers, is an effect of incomplete information (Hawken 1993). Upon receiving this information completely, the propensity to change in attitude could be higher (Wagner and Hansen 2002, 18).

H$_3$ = the communication has a positive and significant effect on organic foods purchase.
H$_4$ = the distribution has a positive and significant effect on organic foods purchase.

RESULTS
Subsequently, we estimated the structural equation model by maximum likelihood in AMOS version 19.0 software.

Procedure
It evaluates the measurement model through analysis of reliability of the item by an exploratory (EFA) and confirmatory factor analysis (CFA), in the first, it depurate scales and its items preparing CFA (Table 1). For example, for the first indicator PURCHASE1 represents a communality of $\lambda^2 = 0.801$, indicating that 80% of variance of manifest variable is connected with construct Organic Food Purchase.
Table 1: Individual item reliability

<table>
<thead>
<tr>
<th>Items</th>
<th>Communalities</th>
<th>Price strategies</th>
<th>Communalities</th>
<th>Product strategies</th>
<th>Communalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>PURCHASE1</td>
<td>0.801</td>
<td>PRICE1</td>
<td>0.885</td>
<td>PRODUCT1</td>
<td>0.786</td>
</tr>
<tr>
<td>PURCHASE2</td>
<td>0.833</td>
<td>PRICE2</td>
<td>0.605</td>
<td>PRODUCT2</td>
<td>0.889</td>
</tr>
<tr>
<td>PURCHASE3</td>
<td>0.633</td>
<td>PRICE3</td>
<td>0.700</td>
<td>PRODUCT3</td>
<td>0.833</td>
</tr>
<tr>
<td>PURCHASE4</td>
<td>0.714</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

After internal consistency was obtained by Cronbach's alpha, which is greater than 0.7 in all cases, this represents a good internal consistency according to the proposed by Nunnally (1967). As well as the convergent validity by average variance extracted (Table 2).

Table 2: Cronbach's alpha and convergent validity

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Cronbach's alpha α</th>
<th>Average Variance Extracted AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic Food Purchase</td>
<td>0.858</td>
<td>0.756</td>
</tr>
<tr>
<td>Price strategies</td>
<td>0.910</td>
<td>0.560</td>
</tr>
<tr>
<td>Product strategies</td>
<td>0.834</td>
<td>0.704</td>
</tr>
<tr>
<td>Communication strategies</td>
<td>0.883</td>
<td>0.800</td>
</tr>
<tr>
<td>Distribution strategies</td>
<td>0.914</td>
<td>0.689</td>
</tr>
</tbody>
</table>

Discriminatory validity was also confirmed (Table 3). In accordance with Fornell and Larcker (1981) a construct is equipped with discriminant validity if the average variance extracted a construct is greater than the squared correlations between this construct and others that make up the model and indicates that a construct is different from other. Indicators on the diagonal (in bold) represent the results of the square root of the AVE between constructs and measures. The indicators below the diagonal are correlations between constructs (Espejel and Fandos
In this sense, in order to fulfill the discriminant validity, indicators on the diagonal must be greater than the indicators under the same (Sanchez and Roldan 2005).

Table 3: Correlations

<table>
<thead>
<tr>
<th>Construct</th>
<th>Organic Food Purchase</th>
<th>Price strategies</th>
<th>Product strategies</th>
<th>Communication strategies</th>
<th>Distribution strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic Food Purchase</td>
<td>0.813</td>
<td>_ _</td>
<td>_ _</td>
<td>_ _</td>
<td>_ _</td>
</tr>
<tr>
<td>Price strategies</td>
<td>0.647</td>
<td><strong>0.714</strong></td>
<td>_ _</td>
<td>_ _</td>
<td>_ _</td>
</tr>
<tr>
<td>Product strategies</td>
<td>0.521</td>
<td>0.588</td>
<td><strong>0.786</strong></td>
<td>_ _</td>
<td>_ _</td>
</tr>
<tr>
<td>Communication strategies</td>
<td>0.642</td>
<td>0.393</td>
<td>0.629</td>
<td><strong>0.824</strong></td>
<td>_ _</td>
</tr>
<tr>
<td>Distribution strategies</td>
<td>0.655</td>
<td>0.658</td>
<td>0.567</td>
<td>0.734</td>
<td><strong>0.814</strong></td>
</tr>
</tbody>
</table>

As can be seen, it complies with the parameters described above. Finally we present the final model estimated (Figure 2). The goodness of model fit is within the recommended limits ($\chi^2=150.86$ (68gl) with a $p<.002$; NFI=0.90; CFI = 0.85; RMSEA: 0.07). Of the four constructs related to the organic food purchase, two of them have a significant negative effect (price and communication strategies). Therefore, we rejected hypothesis 1 and 3, “the price has a positive and significant effect on organic foods purchase” (-0.23, $p<0.002$); “the communication has a positive and significant effect on organic foods purchase” (-0.10, $p<0.002$).
CONCLUSION

This study provides market-evidence on how to approach Mexican consumers, regarding marketing mix (price, product, and communication and distribution strategies) and its effects on organic food purchase.

Specifically, the results obtained in this study have shown significant positive influence of product and distribution strategies towards organic food purchase. Mainly to evaluate product attributes such as health where 8 of 10 Mexican consumers have purchased organic food by health similar as results the study of Horrigan et al. (2002).

The managerial implication of this study more relevant would focus on the importance for companies in Mexico to recognize that marketing strategies as noted Grundey and Zaharia (2008, 135) are assets which have to invest more effort to accommodate them in the market for increasing organic foods purchase. This requires strengthening the consumer perception in environmental communication, in all formats, be creative to expressing the relationship between a product/service and the environmental, presenting a corporate image of environmental responsibility and promote an ecological lifestyle (Wagner and Hansen 2002, 20).
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