Development and Testing of an Assessment Model of Consumer Satisfaction

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Abstract

The trend toward the indiscriminate use of natural resources and social decay has widened the gap between social classes, leaving the poorest unprotected. This, with the current world-wide financial situation, has led to the creation of social and solidarity organizations by the people in the highest levels of marginalization, through which they may sell products manufactured by themselves to enhance their economy and procure a better quality of life for themselves.

A major supplement for the development and growth of these organizations is the existence of responsible consumers. Thanks to the technological advancements and the mass distribution of information, the world population is beginning to be aware and be concerned by the effects of the hyper-consumption culture currently prevailing.

The existing models of national indices on consumer opinion and satisfaction merely include the characteristics of the products and services offered, but do not include variables that may aid in determining their impact on a social and solidarity enterprise.

The purpose of this article is to share the results of a qualitative and quantitative survey performed during the first half of 2014, where a model of structural equations was developed to test new hypotheses through the inclusion of a variable which has been called “Social Responsibility”.

1 Background

Current situation: poverty, pollution and consumerism

The globalized world we live in at present is a blend of needs and desires that has led humanity to become an insatiable predator that leaves behind him an excessively large footprint, disabling the capacity of the ecosystem to repair it. This human footprint has already affected all of the elements of our planet and not only at physical level, but also at social, cultural and even spiritual levels. Environmental and social decay is palpable in various scenarios, such as climate change, water shortage, social exclusion or inequality of resource availability. Unfortunately, these changes take the weakest of the planet, the poor, as their first victims.
In his Encyclical Letter (2015) on the care of our common home, Pope Francis called this situation a planetary inequality, as most of the poor inhabit places where their means of survival depend on natural resources, such as agriculture and fishing. He further pointed out that humanity has an ecological indebtedness for the disproportionate use of natural resources which frames this inequality, affecting not only individuals, but entire countries as well.

However, these inequality problems and the debt that we have to our common home are closely linked to our culture of consumerism, where most things quickly become trash. The production and consumption cycle of our current culture has been unable to absorb and reuse the residues; i.e., it has been unable to adopt a circular model, such as the one of natural ecosystems, where we may be able to ensure the resources for future generations (H.H. Francis 2015).

In Mexico, the situation is no less alarming than in the rest of the world. The International Competitiveness Index prepared by the Instituto Mexicano para la Competitividad [Mexican Competitiveness Institute] (IMCO, 2013) under the heading of Sustainable Environmental Management, indicates that Mexico has dropped from being No. 24 in 2006 to No. 29 in 2011, holding its worst position (31) in 2009. This drop relates to reductions in forest coverage, reduction in water consumption efficiency and stagnation in developing non-polluting energy sources. However, the country’s strength lies in its eighth position ranking in regards to the least use of non-organic fertilizers in agriculture (IMCO, 2013:164).

Regarding poverty, in Mexico, 45.5% of the population is poor, which means that 53.3 million people have at least one social deprivation – education, health services, social security, housing, basic services or nourishment. However, our country has made advances as regards to reduction, between 2010 and 2012, in the ratio of people who had three or more social deprivations, as it decreased 4 percentage points, going from 28.3 to 23.9 per cent (CONEVAL, 2013:40).

An alternative to poverty reduction and environmental care has been the creation of enterprises or organizations moving within the plane of the social and solidarity economy. According to Giuseppina (2007:21) “solidarity economy is brought forth as an alternate development proposal, eliminating exclusion, marginalization and discrimination and propitiating new actions to attain economic development for the community, as well as an increased social cohesion” and within which there are different aspirations, such as obtaining increased democracy, acknowledging the position of women, having a more equitable society and achieving improved sustainable development (Lévesque, 2004 as quoted in Giuseppina, 2007:14). Therefore, social and solidarity enterprises are defined as those that do not place the market at the core, but rather the welfare of the people participating in them, promote responsible consumption decision-making and include within their organizational principles, ethics, ecology and solidarity (Pérez de Mendiguren et al., 2009:13). In like manner, these enterprises “have an increased capacity to rationalize the use of their scarce resources and use practices that are respectful of the environment” (Giuseppina, 2007:23).

Fortunately, in Mexico it is possible to find social and solidarity enterprises willing to share their experience and information, such as their business models, their values, their organizational structure and productive processes. Such is the case for our enterprise under
study, Capeltic, which is a coffee shop located inside the Universidad Iberoamericana which forms a part of a chain of value called Yomol A’tel. This chain comprises a set of coffee enterprises formed by volunteers and Tzeltal families in the north of Chiapas, where they work together for social justice, lekit kuxlejalil (the good life) and the defense of their territory through organized appropriation of the value added processes of their products (Yomol A’tel, 2015). This welfare and good life are known as the principle of common good which is defined as “the set of social life conditions that enable associations and each one of their members to more fully and easily attain perfection itself (H.H. Francis, 2015).

**Responsible consumers**

The term “socially conscious consumption” may be defined as those persons who, when acquiring certain products and services, take into account some ethical issues, such as human rights, labor conditions, animal abuse and environmental care, among others (Wesley et al., 2012:30). In accordance with the Kotler’s concept of social marketing (1991 quoted in Wesley et al., 2012:31) the behaviors of this type of consumers make it possible to maintain or improve the wellbeing of the consumer, as well as that of society.

Currently, thanks to access by technology and social networks, it is possible for consumers to know more about environmental abuse, as well as the increase of exclusion and inequity. In the words of Pope Francis “a part of society is going into a stage of increased awareness. A growing sensitivity may be observed in connection with the environment and the care of nature, as well as a growing sincere and painful concern for what is happening with our planet” (H.H. Francis, 2015). Based on the foregoing, consumers no longer only expect companies to fulfill their needs, but that they conciliate profitability with corporate social responsibility (Kotler et al., 2011).

A budding change in consumers is also being observed, from being a passive individual, to becoming an active actor of the economic and social dynamics of their surroundings. The Network for Business Sustainability (Trudel, 2011) identified some factors that make it possible for consumers to increase the responsibility of their consumption, such as: the fact of knowing the positive actions by organizations, the belief that their purchase will make a difference, their own perception of acting responsibly and product/brand consistency, among others.

Other research show these changes in consumer decision-making, such as the survey carried out by the Nielsen company in its report, Socially Conscious Consumer (2012), which indicates that two thirds (66%) of consumers around the world prefer acquiring products and services from companies that have implemented a social return program, and 46% mentioned that they preferred paying extra for products and services from those companies. However, an emergent trend in this consumer change is found in the young. A survey performed by Youthsography indicates that close to 90% of young Americans consider Social Responsibility as important in their purchasing decision-making (Kotler et al., 2011:160).

Changes in the manner of consumption may be favorable for social and solidarity enterprises and, therefore, a research issue emerges: how many Mexican consumers, particularly the young, are supporting the development of these enterprises? This implies knowing whether consumption takes place in view of the quality of the products and services offered, because they
support the social projects behind them, or both; this latter reason we call “responsible consumerism.”

**National Satisfaction Indices**

Since in 1989, there has been an international trend of assessing and comparing user satisfaction by means of national indices. This type of indicator is grounded on models that bring forth a series of hypotheses on the causes for quality perception, satisfaction, trust and user loyalty.

In Mexico, in 2005, the Universidad Iberoamericana began developing a methodology for the establishment of the National User Satisfaction Index (IMSU) after winning the call from the President’s Innovation Office, requesting the creation of an index for measuring client satisfaction of the services offered by the Federal Government. For this, the IMSU research team has used the generic variables from the American Customer Satisfaction Index (ACSI) models, both for private enterprises (figure 1), as well as for the government and non-profit organizations (figure 2) and has tested them in twelve case studies for governmental institutions and corporations from the private sector (Lobato et al., 2011, 2012, 2013), where they show that there is no evidence for rejecting the generic hypotheses of said models.

**Figure 1**

![ACSI Model - Private Sector](image1)

*Source: The ACSI Technical Staff (2005)*

**Figure 2**

![ACSI Model - Government and Non-Profit Organizations](image2)
As may be observed, these models maintain a certain standard with respect to the causal variables of satisfaction, which are mainly expectations and perceived quality. Depending on the sector to which the model is aimed, variables are included, such as value or specific activities, where the user participates. However, in regards to Social Responsibility and environmental variables, no national model includes them. Then, if the form of consumption is changing among present society, why have the models measuring the satisfaction of said consumers not changed?

2 Objective

The main objective of this study consisted in testing a satisfaction assessment model of an organization, the mainstay of which would include Social Responsibility and environmental variables, as in the Capeltic case. Because it is felt that said variables may have a bearing on the value perceived by the consumers, i.e., when the consumer knows that the organization from which he is acquiring a good or service is committed to society and environmental preservation, the value perceived by the consumer increases and, thus, has a positive impact on satisfaction.

3 Methodology

The methodology used was developed by the IMSU research team (Lobato et al., 2006a, 2006b, in the process of printing) and in all previously mentioned cases where it was applied, statistically valid and reliable results have been obtained.

Qualitative study

The qualitative study was performed via in-depth interviews using two different groups, the managerial and the client groups. For the first group, discussions were held with Capeltic’s management, so that we might know and understand their manner of operation and the characteristics of their products, in order to align the assessment with the mission and vision of the organization. For the second approach, fifteen randomly selected clients were interviewed, students and professors, and the interview guide was prepared in order to know their general satisfaction and identify the variables impacting Social Responsibility that might be added to the model.

Certain specific Capeltic variables were also identified (submitted below) as possible impacts on Perceived quality, which are: Decide to go and stay, Waiting Time, Kindness and attention, Coffee beverages and Condiment bar.
Submission of hypotheses

Two types of hypotheses were submitted: general and specific. The general hypotheses are those that test the causes and effects of satisfaction, while the specific hypotheses submit particular variables of the organization that impact the quality perceived. Such hypotheses are:

General

H1. Perceived quality is positively associated to User Satisfaction.
H2. Perceived quality is positively associated to Perceived Value.
H3. Expectations are positively associated to Perceived quality when they are less than Perceived quality.
H4. Expectations are positively associated to Satisfaction when they are less than Satisfaction.
H5. Expectations are positively associated to Perceived Value when they are less than Perceived Value.
H6. Perceived Value is positively associated to Satisfaction. The latent variable of Perceived Value includes the comparative between quality and price, natural resources, Mexican production and supports indigenous communities.
H7. Satisfaction is positively associated to Loyalty to the organization.
H8. Satisfaction is negatively associated to Complaints.
H9. Complaints are negatively associated to Loyalty.

Specific

H10. Deciding to go and stay is positively associated to Perceived quality.
H11. Waiting time is positively associated to Perceived quality.
H12. Kindness and attention are positively associated to Perceived quality.
H13. Coffee beverages are positively associated to Perceived quality.
H14. The Condiment bar is positively associated to Perceived quality.

Design of assessment model

The model developed uses the generic variables of the ACSI models. Those models are formed by two types of variables, latent and manifest. Latent variables, such as Perceived quality, Expectations, Satisfaction and Loyalty, are those that cannot be observed in reality in a direct manner and, therefore, require manifest variables or indicators that are measurable and observable.

In figure 1, we can appreciate the generic and specific latent variables that correspond to the hypotheses submitted above. As regards to the impact of Social Responsibility and environmental responsibility, the indicators that were added have the purpose of measuring the degree of influence on the decision to buy, in light of the fact that Capeltic’s coffee respects natural resources, is produced in Mexico and supports indigenous communities.
**Design of measuring instrument**

The purpose of this stage is to design a questionnaire that may validly and reliably assess the model previously designed. The questionnaire has two sections; the first one consists of identifying the eligibility of the person to initiate the survey and know the characteristics of said person (occupation, age, gender). The second section contains all of the questions that put into operation the assessment model.

**Pilot Test**

The pilot test was performed in the month of March 2014, surveying 100 undergraduate students, as they are the strongest market segment for Capeltic. The purpose of this stage was to test the model previously developed. It was found that: i) the variable Deciding to go and Stay did not turn out to be significant for Perceived quality, therefore, this variable was exchanged for Facilities; ii) statistically, the questions about natural resources, Mexican production and supports indigenous communities in the latent variable Value Perceived did not predict the expected result. Therefore, an independent latent variable was created called Social Responsibility and it was submitted as the cause for Satisfaction and Loyalty through new hypotheses; iii) it was necessary to eliminate the Complaints variable since no one had made a formal complaint and, therefore, the hypotheses H8 and H9 were deleted; lastly, iv) some questions in the questionnaire were modified, as they led to confusion. Based on these results, the model was modified and tested during the final assessment.

**Sample Size**

The statistical analysis was made by estimating a Structural Equations Model (SEM) which establishes chains of causal relationships between the latent variables. There are two
methods of estimation of the SEM: variances and co-variances. There are several differences between the methods, but the main characteristic deciding the IMSU’s use of the variances method is to make it possible to operate with small sample sizes (two hundred cases or less); in addition, complex models may be estimated (Lobato et al., in the process of printing). These characteristics allowed a final sample size in this study of 250 persons.

Data Compilation

Data compilation took place in the month of June 2014 inside the Capeltic facilities and surroundings, inside the University. Further, an exploratory analysis was made to compare the adequate capture of the data against the physical questionnaires, and to detect possible atypical answers by the interviewees.

Model Analysis

To estimate the SEM using the variances method, the Partial Least Squares (PLS) technique was used, which is defined by two sets of linear equations or sub-models: i) the measuring model, and ii) the structural model. The measuring or outer model defines the relations between the latent variables and their indicators, while the structural or inner model, specifies the relations between the latent variables (Henseler et al., 2009).

Outer model

The assessment of the measuring model consists in verifying both validity and reliability, as only by accomplishing these characteristics it is possible to go the structural model analysis. For the assessment of reliability, two analyses were undertaken: firstly, individual reliability to verify that the indicators were complying with the function for which they were created, whereby external weight or simple co-relationship between the latent variable and the indicator must be at least 0.707 (Barclay, et al., 1995). Secondly, the internal consistency, which shows the co-relationship between the indicators, to verify that they are measuring something in common, i.e., that they reflect the latent variable. The indicator used for internal consistency is ρ by Dillon–Goldstein or compound reliability. An acceptable level in the first stages of research is 0.70 and values of 0.80 or 0.90 for the most advanced (Henseler et al., 2009 quoted in Lobato et al., in the process of printing).

Verification of model validity takes place through the converging validity and the discriminating validity. Converging validity is determined by the Average Variance Extracted (AVE), where a value of 0.5 indicates that the latent variable may explain half of the variance of its indicators (Fornell & Larcker, 1981 quoted in Lobato et al., in the process of printing). While discriminating validity intends to detect if the latent variable is more co-related to other latent variables than with its own indicators, a value close to 1 indicates that each latent variable has the capacity of discriminating those that do not belong to their assigned characteristic.

The following table shows the values obtained as regards the validity and reliability of the measuring model.

Table 1
<table>
<thead>
<tr>
<th>Latent Variable</th>
<th>Internal Consistency</th>
<th>Convergent Validity</th>
<th>Discriminant Validity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Composite Reliability &gt; 0.7</td>
<td>AVE &gt; 0.5</td>
<td>Correlation</td>
</tr>
<tr>
<td>Facilities</td>
<td>0.7645</td>
<td>0.4596</td>
<td>0.6780</td>
</tr>
<tr>
<td>Waiting Time</td>
<td>0.8875</td>
<td>0.7244</td>
<td>0.8511</td>
</tr>
<tr>
<td>Kindness &amp; Care</td>
<td>0.8627</td>
<td>0.7585</td>
<td>0.8709</td>
</tr>
<tr>
<td>Coffee Beverages</td>
<td>0.8929</td>
<td>0.7355</td>
<td>0.8576</td>
</tr>
<tr>
<td>Condiment Bar</td>
<td>0.7539</td>
<td>0.4465</td>
<td>0.6682</td>
</tr>
<tr>
<td>Perceived Quality</td>
<td>0.8155</td>
<td>0.6012</td>
<td>0.7754</td>
</tr>
<tr>
<td>Expectations</td>
<td>0.8570</td>
<td>0.6669</td>
<td>0.8166</td>
</tr>
<tr>
<td>Perceived Value</td>
<td>0.8717</td>
<td>0.7727</td>
<td>0.8791</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>0.8942</td>
<td>0.7393</td>
<td>0.8598</td>
</tr>
<tr>
<td>Social Responsibility</td>
<td>0.8941</td>
<td>0.7414</td>
<td>0.8610</td>
</tr>
<tr>
<td>Loyalty</td>
<td>0.8352</td>
<td>0.7186</td>
<td>0.8477</td>
</tr>
</tbody>
</table>

4 Results

Inner model

Once the foregoing criteria were satisfied, the second stage of the analysis was undertaken, i.e., validation of the structural model, which consists in verifying the predictive power of the model through the $R^2$ determination coefficient of each latent endogenous variable, i.e., the variables that receive impacts. An $R^2$ value of 0.67 is considered as substantial, one of 0.33 is moderate and 0.19 is poor (Chin, 1998). For the first stages of the research there are generally moderate values; in more advanced stages, substantial values are expected. In figure 2, the final model is presented, where there is a value of $R^2$ of Satisfaction of 0.62. This means that the variables placed as cause of Satisfaction have a prediction power of 62%, a value that is quite good for a first survey.

Another major part of this stage was the verification of the hypotheses by means of a Bootstrap resampling process, which made it possible to verify the coefficient signs of the calculated paths. In the final model (figure 2) a continuing line shows there is no significant evidence to reject the hypotheses proposed, while the dashed lines indicate rejection to 95% accuracy.

For the general hypotheses, only two of them were rejected (H4 and H5). Of the five specific hypotheses submitted (H10 a H14) none was rejected, while for the major hypotheses of this survey as regards the Social Responsibility variable, the only statistical significance obtained was for Loyalty with a coefficient of 0.99, since for Satisfaction it turned out to be a driver, barely ranking with an impact of 0.04.

Finally, the index obtained on Capeltic Client Satisfaction, on a scale of 0 to 100, was of 77.9, a significant value, when compared with the Starbucks index in the U.S. (76) for that same year (The ACSI, 2015).

Figure 4
5 Conclusions

The performance of this survey not only revealed the Capeltic customer satisfaction index, but it was also possible to detect areas of opportunity. The specific latent variable of highest concern turned out to be Waiting Time, as it has one of the highest impacts on Perceived quality (1.5) and the lowest grade (47.7), so that it is important for Capeltic to consider improving its processes so that it can cut down its times regarding ordering and delivery. The Facilities variable turned out to be the second lowest specific variable, with a grade of 77, although its impact on Perceived quality is not very high. Its functional facility Distribution indicator has the lowest score among these variables and it can be said that it is directly associated with Waiting Time.

With respect to the generic variables of the model, it was concluded that: i) the Expectations were lower in comparison with Perceived quality. In other words, the purchasing experience offered by Capeltic exceeds by almost 10% the expectations of the clients before going into the coffee shop; ii) the clients do not disagree on the quality vs the price and vice versa: they feel that it is a fair price and the quality of the coffee beverages is quite good; iii) the final Satisfaction rating is affected by the Comparison with the Ideal indicator, which means that, for the university students, Capeltic is still not its ideal coffee shop.

Finally, as regards the Social Responsibility test variable, certain interesting situations were detected. Internally, the variable obtained a low score of 59.2, as according to the students, the fact that Capeltic sold organic coffee, a Mexican product, which supports indigenous communities, has no great impact on their decision to buy and, thus, had no significant impact on Satisfaction, but it did for Loyalty, with an impact of 0.99. In other words, university students are satisfied with the quality of the coffee and the purchasing experience. However, another
factor of influence for students to decide to queue again, in spite of the long queues and the waiting, is because Capeltic is supporting the solution of a social issue, as 77% of the interviewees know that the coffee is organic, 88% knew it is a Mexican product and 84% are aware of the Capeltic social project with the indigenous communities.

Therefore, this study allowed the corroboration of a part of the various surveys reported by Nielsen (2012) and Kotler (2011) where it is observed that the young, at least within the Universidad Iberoamericana, are becoming increasingly aware as consumers of the social and environmental issues that plague us and that they are willing to queue and pay a fair price for a product that combines quality with a project about social and solidarity economy: this type of consumer is known as a “responsible consumer.”

The result of this survey operates as a point of departure for more research being carried out by the IMSU team, so as to deepen knowledge on the subject and be able to formally establish a model of satisfaction that includes the characteristics of responsible consumers. This will allow comparisons to be made between organizations at regional, national and international levels. Furthermore, this investigation is intended to contribute new information, not only for Capeltic, but also the associated stakeholders, such as society in general, groups of researchers, universities and private and governmental organizations.

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