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Article

Product innovation effect on consumer's perceptions

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Product innovation effect on consumer's perceptions

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Abstract

Romanian market, as a developing marketplace is plundered with products created by latest scientific discoveries or innovative technologies of the moment. The purpose of this article is to explore the perception of Romanian consumers among innovative technologies products. The novelty characteristics of new product innovations may stimulate users to accommodate the product to other uses, derived from the original ones or not. Different studies about new products acceptance on the market are carried out by specialists from various fields of activity but the focus of this paper is to clarify how are perceived those products by consumers from the marketing point of view. Marketing science can inhibit or accelerate the rhythm of innovations that are being introduced on the market, by preparing absorption of new products in more or fewer stages. After reviewing the literature, it is presented an exploratory type research, based on a survey data collecting information. The findings of the study indicate that Romanian consumers has little concern about latest innovations, but they wants, in the same time, to solve day-to-day life problems that they face, in previously unattempt fashions. The study is among the first in this field and is still in the preliminary phase for the consolidation of new theories that are to be validated by building a scientific economical-statistical-mathematical model to anticipate customer response to a product that utilizes an absolutely different technology.

Keywords: innovation, marketing, consumers' perception, innovative technologies products, Romania.

1. Introduction

In this paper it is presented an explorative marketing research, which tries to highlight unique features of the Romanian's market, in connection to customers' perception of characteristics of the products which are created using creative innovations, natural food or handmade manufactured goods, and brand new consumer goods in the not so distant past discharged on the market. An element revealed by the commenced research, disclose the feeble development of the Romanian society in the recognition of brand new advanced technologies products. Political changes in the last 23 years have been made the national system of inventions and innovations to suffer (Allard, Martinez, & Williams, 2012) which has led to an absented consumer interest about the very new discoveries of the moment.

Absence of qualified data and no concerns to be up to date with the advancement of today knowledge, makes subjects subjected to this investigation to limit themselves only to appearances. They are not ready to comprehend the really important core elements make known to the market by the unique new technologies progresses advancement. To clarify the understanding of the previous statements, we will give a concrete illustration. As different authors have pointed out in their researches, our respondents have positioned also, at the top of the list with products that incorporate lots of innovative components, telephones or more precisely smart phones. They are doing so just on account of the particular attributes of the portable gadgets (photo and video camera, touchscreen, mobile internet access, various software, and so on.). They are not so much fascinated regarding their special proficiencies, such as the integration of mobile networks with worldwide satellite positioning frameworks and real-time transmission of information gathered concerning the movement and speed of the movement of the individual mobile terminals to uphold frameworks and automated road guides for compiling uncongested auto routes transmitted to persons that are heading through a certain area currently congested (Tobey, 2010).

The new findings were and are being explored and classified by many researchers. A particular issue is the revolutionary innovative technologies that have been classified by certain authors into two categories, on the one hand are those revolutionary, discontinuous, breakthrough, radical, emergent or step-function technologies, and on the other hand are those evolutionary, continuous, incremental or 'nuts and bolts' technologies (Yu & Hang, 2010).

Some authors consider that the customer always has to be put in the middle of innovation (Anthony, 2008), due to their ability to initiate and generate innovation (Brohmann, Heinzle, Rennings, Schleich, & Wüstenhagen, 2009; van den Bergh, 2008) and others consider that innovation should be regarded as everything the client perceive as an innovation (Uzkurt & Orsoy, 2008; Rungtai & Chia-Ling, 2004). Marketing science can / has an obligation to act between the innovation and customer, and may increase or decrease the speed of development of innovation chain by educating and informing the customer or by planning for business ingestion of new discoveries in fewer or more additional stages (Dewald & Truffer, 2011).

One issue talked over by more and more specialists is to set the connection between marketing and engineering by providing optimal items to a wide range of customers with minor interventions in the production lines, especially when it is launched a product or a service based upon an innovation or improvement (Michalek, Ebbes, Adigüzel, Feinberg, & Papalambros, 2011; Liberali, 2011; Hauser, 2011).

This is predominantly as a result of the seeing that it was perceived that customers' interaction with products may impact their reaction to the combination of characteristics that a product can incorporate it (Tsafarakis, Marinakis, & Matsatsinis, 2011). Consumers' inclination for specific features have evolved along with the accelerating speed of market introduction of new scientific knowledge, encapsulated in a multitude number of items that can meet the same needs (Roberts, 2011). And according to the same author, Roberts (2011), marketing by understanding customer needs, is starting from the physical attributes of the product and makes purchasers to comprehend the benefits that in fact, the new features bring into their lives.

For companies that introduce or develop new products or services, marketing efforts should be directed toward all potentially consumers in a homogeneousness manner, on account of no past records observing the profitability of some customers or others. And even if there were a history of previous records, current promoting marketing activities may only determine future earnings, current or previous benefits are insignificant (Rust, Kumar, & Venkatesan, 2011).

In the movies industry, simply categorizing / cataloging a film based on the age of those to whom it is addressed, leads to a significant change in the audience who would watch the video (Leenders & Eliashberg, 2011). In countries with a culture that imposes certain restrictions, such systems of films labeling led in certain cases to a reduced audiences rates to films considered disrespectful or inappropriate, in this way decreasing income receipts, while in other cases led to greater consumer audience in response to limitations imposed in this way, which recorded also high levels of revenue from broadcasting these films. Those situations making exposed consumers to react accordingly to the tainted fruit effect or on the contrary, to the forbidden fruit effect (Leenders & Eliashberg, 2011). In the same way, marketing techniques utilized for new technologies or products and services that utilize new innovations undoubtedly will determine effortless or difficult acceptance, and even a denial of certain products by a large mass of consumers.

Moreover in the field of marketing research conducted to estimate consumer perceptions, and yet the investigated competition or strategic collaboration between companies that are attempting to launch on the market technological innovations embodied in diverse products features include the study of Wu (2012). Findings of the study (Wu, 2012) shows that the positive aspects of innovative technological collaboration between firms acting on same market, under the conditions of introducing and launching innovations, decreases with the expanding level of rivalry between companies, and the negative impacts of innovative technological collaboration might be kept at a moderate level only by firms that operate in sectors that uses cutting-edge technology. Marketing activities associated to the innovative technological collaborations decrease access times of the end users to the brand new discoveries. A great illustration in this respect was the entire process of design, attracting partner companies and the launch on the market of the portable media player iPod from Apple. Apple has utilized innovative technological collaboration with top groups of companies (Foxconn, Toshiba, Samsung, Broadcom, Asustek and Inventec Appliances) from which took over the latest constituents that are composing the final product, but in the same time has maintained fully marketing activities, product design and software programming (Islam & Ozcan, 2012).

In the last 40 years have been created, proposed and tested a considerable statistical-mathematical and scientific models to anticipate the situations that may occur in the process of diffusion of innovations in the market. A conclusion that could be effortlessly seen from the studies undertaken is that the greater the distance in time between the initial introduction of a product feature innovation and the appearances of the first product competitor on the market, the greater the pioneering brand advantage, and the gap would not be able to be diminished by the challenging brand whatever will do on the market the challenging company (Guseo & Mortarino, 2012). This applies regardless of the fact that the expense of improvements replication by competitors are much lower than the expenses of enhancement innovation used to bring to the market a new scientific discovery (Chari, Golosov, & Tsyvinski, 2012).

Managers from various industries are influenced by the concept "What is meaningful to marketers may be meaningless to science and vice versa" (Applbaum, 2009). A good example of a situation like this is the pharmaceutical industry. Provided that the medicinal science is ready to clarify the phenomenon on which one can act to reduce suffering, in the marketing world things could be viewed from a different point of view. Marketing science develops the ability to create differentiation from competing products and give the customer a product to satisfy his needs at a higher level of utility, which will create additional benefits for entrepreneurs (Applbaum, 2009). The same thing happens in different businesses. For example, in the food industry, the potential for innovation is also much limited because of the preformatted mentality of the people. The consumers associate the idea of innovation for the most part to the new technologies that are able to do genetic modification and not to the ones that encourages the return to conventional, ancient methods. Even if new technologies innovations included in agriculture promote routines to not plowing the soil and instead to utilize insects that are useful against the bugs that are harmful to the crops. At the final, products in shop windows, acquired utilizing the aforementioned techniques, do not provide any specification of being a product obtained using a latest innovative engineering technology (Siebert, 2011), on the contrary, it is categorized as being a return to an ancient agricultural procedure.

Actually, some Eco-Innovations often are the consequence of different creations, innovations and improvements in diverse fields, the quality of being environmentally friendly is a by-product of conjecture (Horbach, Rammer, & Rennings, 2012), and marketing actions have augmented importance from this from this point of view, contrasted with marketing activities for specifically innovations.

2. METHODOLOGY

The information investigated was gathered by students from the Faculty of Marketing at the Bucharest University of Economic Studies. Respondents have filled a survey which includes several different areas of interest. The analyzed data, were constrained to the identification and understanding of the consumer perceptions' regarding the products or services that utilize the most cutting edge innovation, psychographic profile and socio-demographic information modules.

The study sample was composed of 341 persons, 57% being women, and 43% men. The vast majority of them are high school graduates (57.4%), university (29.6%) and postgraduate (7.4%). Foremost classification of respondent's age was 18-25 years old (33.4%), followed by 26-35 years old (24.9%) and

36-45 years old (18%). Income per family in most cases was between 1001 and 3,500 lei (300 – 1000 USD at the official currency rate of change of the National Bank of Romania from the 20th December 2012) (Romania, 2012), while the number of families members was of 3 persons (33.5%), 4 persons (27.8%) and 2 persons (21.5%) (Figure 1). From the employment perspective, according to the classification of occupations in Romania, the vast majority of them were students (26.7%), specialists in intellectual and scientific occupations (14.3%), operative workers in services and trade (12.5%), retired persons (11.9%), administrative authorities (11.2%) and management administration positions of senior civil servants, chiefs or managers of socio-economic and political units (5.8%).

Ranges of residence, taking into account geographical and historical Romanian major regions are Wallachia (89%), Moldavia (7.1%) and Transylvania (3.9%), but the dominant part of the subjects are living in Bucharest (50.9%) and Wallachia (30.7%). Respondents are living in urban environment (76.1%) and rural areas (23.9%), the vast majority of them being unmarried (46.2%), followed by those married (40.5%) and divorced or widowers (8.3%), and some of them being living in concubinage (5%).

In terms of type of housing in which they live and their legal ownership, the larger part are staying in apartments built more than 20 years ago (77.5%), legally owned by them or a relative (85.3%).

The research purpose is to get a first set of information on consumers' perception of product innovation and new implemented innovative production techniques. The analysis is near the first around there, and it is from this perspective in an exploratory stage.

Future research will be carried out to create an economical-statistical-scientific model designed to have the capacity to foresee consumers' response to a product which will utilize an absolutely different technology than those currently known. On account that all of the new theories developed for the future are dependent upon information from the past (Christensen, 2012), information gathered with this occasion, can be utilized to validate the model. Challenging thing to do, specifically due to new unique discoveries of empirical studies directed on randomly generated database (Garson, 2012), which demonstrated that out of 100 variables, 5% of them are found to be significantly correlated for any data regression model. Consequently, there always exists the vulnerability in developing a model forecast, regardless of the fact that several variables have recognized the capacity to significantly influence variation in data, they might be within the rate of 5% of the information that being created even haphazardly, are still significant for the considered model. The model will quantify and incorporate also a stage of accommodation and learning of the consumers' due to their exposure to products and services that use brand new advanced technologies (Roberts, 2011).

3. Results of the research

In a comparative approach to consumers' perceptions about organic food, recently released products and generic products made or being the results of the advances in innovative technologies (Figure 2)

might be viewed that there are certain divergences in the total amount of acceptable money to be spent on such products. For the fact that organic products and customer products (presented as new), every individual has a more or less comparable picture, the amounts of money dispensed to the purchase of such products are comparable also. Rather on items that incorporate imaginative innovations, the discernment of every individual is distinctive. This is largely due to uncertainty about the attributes of the items and the related feelings of insecurity. Then, the customers being challenged with a new product, service or feature, about which they doesn't know very many details, attempt to update their willingness to pay just from weighing the level of price that might be paid (Park, MacLachlan, & Love, 2011). This leads to the easy acceptance of spending a larger sum of money, just for the label „inventive-innovative-innovation” that the aforementioned products bear.

Running a bivariate analysis between the willingness to pay for an innovative, organic or just a new product, we can observe, using Spearman's rho correlation, that there are significant and positive low and medium correlations between the variables (Table 1). More than that, we can tell that there is a greater relation amongst the sum of money allocated for organic food and generally new products. We may affirm that consumers are searching primarily for products from the food industry which are new and are organically obtained. They are not interested so much if the new products are the result of an evolving technology or an innovative new one.

	Innovative technologies products	Organic food products	New consumer products
Innovative technologies products	1	0,395**	0,296**
Organic food products		1	0,458**
New consumer products			1
Correlation is significant at the 0.01 level (2-tailed).			

Table 1. Bivariate correlations for willingness to pay between innovative, organic and new products

Products incorporating the most recent innovations discoveries seem to be acquired mainly, ironically, for the confidence in their features which otherwise increases the fear of novelty feelings. Respondents have an increased appetite for risk and an incredible eagerness to try something else, which in some cases may settle different uses, not only those addressed expressly by the acquired item. Romanians are

attempting to make their work and life easier and in the same time they are searching for ways to expand their level of financial savings.

Given the flat level of expendable cash, purchasers, whether like it or not, until gathers money to buy certain items that incorporate innovative technologies, firstly permit to occur all of the feature upgrades and analyzes it thorough suggestions from those who have bought and tried the items before them (Figure 4). By doing in this way, after a more brief or longer period of time, they manage to make the purchase at a much lower price, yet it lack the capacity to be stating that they acquired the last generation of such products.

Consumers in Romania are basically interested by the emergence of new technologies and innovations on the market for household items or appliances (47.8%), followed by the methods of transportation at lower costs that are friendly to the environment (22.3%) and were concerning to expand the comfort in their living houses (29.8%) (Figure 5). They are hardly saving money to buy the proposed items, the majority of them are making a purchase less frequently than once a year, once a year or two to three times a year. A very small percentage of respondents (3.3%) are ready to acquire the most cutting edge innovation item once a month, or more regularly, as confirmed by the low percentage (2.7%) of those with family income levels higher than 2,500 USD (Figure 1).

4. Conclusions

The analyze uncovered that Romanian market was partially underdeveloped, the power of purchasing was consequently at a low level, and that was making some delay in the introduction to the general public of latest scientific discoveries embodied in new products, utilities or services. And even if from a comparison to Maslow`s Needs Hierarchy (Maslow, Frager, & Fadiman, 1970), some of the Romanian consumers might have particular problems with the assurance of the basic needs, they were looking to get necessities of food and shelters, in an always new creative ways. As we can see from our survey analyses they were interested in finding products from the food industry which were new and were organically obtained. The study has indicated this state of facts and has been able to outline the Romanian consumers` perception concerning the latest items launched on the market. In this way, the perception was one of expectancies, determined by a passive attitude of actively observing events and challenges of the moment. This state of mind was overall clarified by the absence of risk capital expenditures, which might have the ability to guarantee a faster rhythm of testing new opportunities that, from time to time, appear on the market.

Nonetheless, this time paying little mind to the item nature, those subjected to the examination survey, stated they were eager to try new features or services from which they have not previously benefitted, but were hesitant to do so due to prohibiting costs charged by manufacturers or merchandisers. They were primary interested by the items that were increasing the comfort and quality of life and items that were friendly to the environment.

After identified these primary facts about Romanian consumers` attitudes towards innovative technologies products, we will try to quantify the findings into an economical-statistical-scientific model. Future research will be based on this exploratory study in the effort to make the model to actually forecast consumers` response to a product which will utilize an absolutely different technology than those currently known.

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