Consumers’ perceptions on green and smart furniture innovation

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Abstract: Ecological and intelligent furniture appears to gain popularity since both smart multi-functionality and eco-sensitivity seem to grow. On the other hand, an emergent stream of the entrepreneurship literature regards the involvement of customers in the definition and creation of value to new products and services as vital; value creation strategies focus actually on the location and exploitation of the various dimensions along which customers perceive value. The study investigates the perceptions of consumers of the third age regarding the attractiveness of green smart furniture (GSF) products. The research contains data from a random sample of 399 consumers from different regions of Greece during 2013. The data were recorded, processed and analysed via the statistical package SPSSWIN ver 20.0. According to the findings, third age consumers’ everyday living and its difficulties regarding the use of furniture seem to play the most significant role, along with health improvement support and environmental protection. However, price plays also a crucial role.

Keywords: value creation; green innovation; smart innovation; furniture; consumers.


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Consumers’ perceptions on green and smart furniture innovation

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This paper is a revised and expanded version of a paper entitled ‘Consumer value co-creation in launching green and smart innovation within the furniture industry. The case of the GSF research project’ presented at the 3rd International Conference on Contemporary Marketing Issues (ICCMI), London, UK, 29 June to 3 July 2015.

1 Introduction

In today’s knowledge-based society science and technology seem to be the main drivers of social and economic development. The intense competition and maturation of the markets, especially regarding traditional products, such as furniture and textiles, impose the need for novel ways to retain customers. As customers’ demands are increasing, their participation in the creation of a product or service and hence value has become a significant object of both theorists’ and practitioners’ discussions. Although customer behavior literature has focused on the customer decision-making process regarding purchases, according to a recent small but increasing stream of literature, customers are not only responders but also value creators (e.g. Xie et al., 2008). On the other hand, business leaders need to move away from the classical innovation development motives of the old industrial economy, and their firm- and product-centric views of value. In the global knowledge economy with the internationalisation of markets and the revolution in information technologies, the participation of customers in the creation of value seems to be rather a dominating issue (Priem, 2007). Enterprises need to focus on providing tailor-made products and services according to contemporary customers’ needs (Johannessen and Olsen, 2010).
The research objective of the present study is the exploration of potential customers' perceptions regarding the innovative green and smart furniture (GSF) products. More precisely, the research uses Smith and Colgate’s (2007) customer-value creation framework as a springboard to examine whether the innovative concept of GSF products could attract the interest of the specific consumer group of the third age.

2 Literature review

2.1 The contribution of consumers to value-creation strategies

The development of a value creation strategy presupposes that the firm should first identify what kind of elements of value their potential customers would be interested in (O’Cass and Ngo, 2011). Value-creation strategies focus on the various dimensions along which customers perceive value. Ulaga (2003) identified eight dimensions of value creation in a business-to-business context: product quality, service support, delivery performance, supplier know-how, time-to-market, personal interaction, price, and process costs. Smith and Colgate (2007) proposed a customer-value creation framework that identifies four main types of value that can be created by organisations:

1. functional/instrumental value: the extent to which a product is useful and fulfills a customer’s desired goals
2. experiential/hedonic value: the extent to which a product creates appropriate experiences, feelings, and emotions for the customer
3. symbolic/expressive value: the extent to which customers attach or associate psychological meaning to a product
4. cost/sacrifice value: the cost or sacrifice that would be associated with the use of the product.

O’Cass and Ngo (2011) assert that a firm’s pre-emptive value-creation strategy is comprised of the product’s attributes and the attributes’ performance and to the fair price or the value price. The fair price refers to customers believing they are paying a fair price for a product or service; the value price refers to a price that justifies the benefits of purchasing a product. Furthermore they distinguish the relationship value and co-creation value. Under modern market conditions, customer engagement into value creation is acknowledged as a factor that makes it possible for companies to survive the competition (Banyte and Dovaliene, 2014). Two streams of research exist within this research domain. One stream focuses on value from the managerial perspective (O’Cass and Ngo, 2011; Ngo and O’Cass, 2009; Sirmon and Hitt, 2007), while the second stream focuses on value from the customers’ perspective (Priem, 2007; Ulaga and Eggert, 2006; DeSarbo et al., 2001). However, value creation is a multi-stage process involving different users of value at different points in the process (Bowman and Ambrosini, 2000).

However, today, the consumer may hold a more active role in the value creation strategies. Value co-creation is a quite novel concept which appeared with the entrance of the new millennium to explain how products or services enhance value when
collaboratively created by producers, customers and other stakeholders (Vargo and Akaka, 2009; Vargo et al., 2008; Prahalad and Ramaswamy, 2000). Value co-creation offers several advantages including understanding of customer needs, and continuous inter-organisation cooperation resulting into competitive advantage (Chen, 2012; Ching et al., 2011; Vargo and Lusch, 2004). According to O’Cass and Sok (2013), a firm’s innovation capability has a positive effect on the firm’s value offering, the value offering has a positive relationship with customer perceived value-in use (PVI), and PVI has a positive relationship with firm performance.

2.2 Green and smart innovations in furniture industry

A fruitful area of innovation and value creation is the global demand about improvements in the environmental performance of firms. This need is imposed by the global financial markets, and consumers as well as the public opinion and the implementing policies at a global level. Environmental innovation in combination with the effective use of resources constitutes a significant way to advance the classical entrepreneurial activities to environmental friendly economic activities enhancing business competitiveness (Trigkas et al., 2012a, 2012b; Springett, 2003; Porter, 1990). The relevant literature encourages firms to make strategic commitments towards environmental protection activities as a means to increase firm profitability and create sustainable competitive advantages (Papadopoulos et al., 2014; Unruh and Ettenson, 2010; Porter and Reinhardt, 2007; Porter and van der Linde, 1995). The recent introduction of the green innovation value chain (GIVC) concept highlights also the central role of customers’ perceived value in the whole value chain (Olson, 2013). It is quite interesting that the number of companies that get involved in activities to improve their environmental performance is increasing (Frondel et al., 2007; Epstein and Roy, 2006).

In regard of the furniture industry, a study of Handfield et al. (1997) suggest that in order to be successful, environmental management strategies must be integrated into all stages of the value chain. While the potential for environmental performance improvement is evident, furniture enterprises demonstrate ‘pockets’ of environmentally-friendly practices in different areas of their respective value chain functions. The research also suggests that environmental friendly products must anticipate and pre-empt changing environmental regulations and customer expectations (Handfield et al., 1997). Trigkas et al. (2011) investigated the furniture consumers’ perspectives in regards of green entrepreneurship. The results indicate that the majority of the consumers confront more positively the firms that can prove their ecological perceptiveness (Trigkas et al., 2011). Furthermore, technological development and especially the fast development of information technology is one of the forces changing demands of value creation in products. Innovations in information technology continue to open up areas for new kinds of products. The realisation and use of ICT creates challenges to managers regardless of whose perspective, – buyer’s or seller’s –, is adopted (Komulainen et al., 2004). Smart furniture constitutes the future evolution and tendency in furniture industry (Zongdeng and Wenjin, 2010; Tokuda et al., 2003). Thus, for instance, a smart furniture product has the capability to alter a conventional space into an intelligent spot that includes computing systems (Ito et al., 2003) under the context of a ubiquitous computing (UmpiComp) environment (Wuliji, 2009).
3 Research method

The research followed the quantitative research approach under the positivist research philosophy and was contacted in 2013. The sample was chosen to include consumers of the third age and intended to investigate their intention to buy smart and ecological furniture. In order to collect the necessary data, a structured questionnaire was prepared and random sampling was engaged due to its ease of use and its accurate representation of the larger population (Papageorgiou, 2015; Saunders et al., 2014; Zafeiropoulos, 2013). Questions were short, precise and easy to be understood by the majority of respondents. Likert scale was used for the majority of the questions. The items pertaining to each scale were pre-tested with five face-to-face interviews. The pre-testing process allowed the researchers to assess the content validity of items and ensure that interviewees understood the research instrument as they were intended to. The final sample consists of 399 consumers from different regions of Greece, since the minimum sample size was determined in the number of 246 research subjects at a confidence level of 95% according to Saunders et al (2014) following formula:

\[
n = p\%Xq \times \left( \frac{z}{e\%} \right)^2
\]

where

- \(n\) is the minimum (or adjusted minimum) sample size
- \(p\%\) the relative frequency of buying GSF products (20% in this case)
- \(q\%\) the sum of non-buy frequencies (80%)
- \(z\) 1.96 (confidence level of 95%)
- \(e\%\) margin of error (here 5%)

Before the launch of the survey, a content validity test was conducted regarding the questionnaires. This test was based on discussions with furniture enterprises and specialised scientists in the furniture field along with the extended literature reviewing. The construct validity was based on the test of unidimensionality of the elements constituting each factor, as well as the content validity of each factor separately. We used Factor analysis according to the method of principal component analysis, in order to eliminate the quite big number of factors (variables) which were located to affect the consumers’ tendency to buy GS furniture. This would facilitate decision making for all interested in the issue. Furthermore, factor analysis use was encouraged by the quite big size of the sample and the direct and indirect conceptual relations among the variables. Factor analysis choice was further justified by the fact that it turned out that variables had a high loading (> 0.5) on a single factor and too low (even 0) on the others.

Regarding the content validity of the research variables, the statistical factor of Cronbach’s alpha was used (Siomkos and Vasilikopoulou, 2005). Data were processed and statistically analysed and all the related tests (descriptives statistics and correlation analysis) were made (Norusis, 2007; Howitt and Cramer, 2003).
The demographic profile of the sample can be seen in Table 1. The majority of respondents are between 61 to 75 years old, of medium and low family year income ranging from 5,000€ to 20,000€. The respondents have stated that they could devote money to buy GSF of high added value. The majority live in cities in one and two dwelling buildings of 50–100 square meters; however a 24.0% occupies larger places of 101–120 m². They live either with their partner (wife or husband) or with other members of the family.

Table 1  Descriptive statistics of the sample consumers

<table>
<thead>
<tr>
<th>Variables</th>
<th>%</th>
<th>Variables</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Age (years)</td>
<td></td>
<td>B. Family year income (€)</td>
<td></td>
</tr>
<tr>
<td>&lt; 50</td>
<td>4.8</td>
<td>5,000–</td>
<td>6.7</td>
</tr>
<tr>
<td>50–55</td>
<td>3.0</td>
<td>5,000–10,000</td>
<td>30.6</td>
</tr>
<tr>
<td>56–60</td>
<td>7.8</td>
<td>10,000–15,000</td>
<td>31.4</td>
</tr>
<tr>
<td>61–65</td>
<td>20.2</td>
<td>15,000–20,000</td>
<td>20.1</td>
</tr>
<tr>
<td>66–70</td>
<td>27.5</td>
<td>20,000–25,000</td>
<td>6.4</td>
</tr>
<tr>
<td>71–75</td>
<td>18.9</td>
<td>25,000–30,000</td>
<td>2.3</td>
</tr>
<tr>
<td>76–80</td>
<td>11.1</td>
<td>30,000–35,000</td>
<td>1.5</td>
</tr>
<tr>
<td>81–85</td>
<td>4.5</td>
<td>35,000–40,000</td>
<td>0.3</td>
</tr>
<tr>
<td>85+</td>
<td>2.0</td>
<td>40,000–45,000</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>45,000+</td>
<td>0.3</td>
</tr>
<tr>
<td>C. Rural/urban</td>
<td></td>
<td>D. Size of home (m²)</td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>64.9</td>
<td>&lt;50</td>
<td>4.5</td>
</tr>
<tr>
<td>Rural</td>
<td>35.1</td>
<td>51–80</td>
<td>28.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>81–100</td>
<td>28.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>101–120</td>
<td>24.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>121–150</td>
<td>11.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>151+</td>
<td>4.1</td>
</tr>
</tbody>
</table>

4  Results

4.1  Attributes shaping GSF value offering

Environmental protection constitutes a significant motive to buy such types of furniture for the 62.3% of the sampled consumers; they focus on production or life cycle of minimum environmental pollution. However, a 12.5% seems to be indifferent regarding furniture products and environmental consequences at times of buying their furniture.

Besides this percentage, the correlation of those really interested in environmental protection is significant indicating the importance of the factor as a buying criterion (Phi = 0.450, p < 0.001). In the same vein, significant correlations have been observed regarding the environmental-friendly criterion and the following consumer types:
a consumers that recycle garbage (Phi = 0.336, \( p < 0.001 \)) and are really conscious on
garbage disposal

b consumers that have participated in tree planting (level 95\%, Phi = 0.157, \( p < 0.05 \)).

On the contrary, and quite surprisingly, the correlation was not statistically significant for
consumers who are members of ecological organisations (Phi = 0.146, \( p < 0.1 \)).

As expected, significant correlations were also traced with:

a consumers who consider the environmental protection as a major criterion for
purchasing products

b consumers that intent to change conventional furniture with eco-smart ones under
certain conditions (Phi = 0.328, \( p < 0.001 \)).

Conditions regard mainly prices at a percentage of 54.4\%, health issues at 50.4\% and the
improvement of everyday life at a percentage of 49.4\%.

The chi-square (\( \chi^2 \)) test indicated (for two dichotomous variables) that the purchase of
smart but ecological furniture is statistically related at a significant level with the age of
the consumers (\( \chi^2 = 17.751 \) for \( \alpha < 0.05 \)) and the place of living. However, it appears to
be irrelevant of the yearly family income and the size of the building. Kendall’s Tau \( b \)
(Siomkos and Vasilikopoulou, 2005) was used to relate the positive or negative
correlation of the GSF market with the age of the consumers; results indicate that
consumers over 50 seem to hold a slightly negative attitude (\( t = -0.128 \)) at a confidence
level of 95\%, against GSF purchases. However, using again Kendall’s Tau \( b \) (–0.141), at
a confidence level of 95\%, it appears that consumers at cities are more prone to GSF
products.

4.2 Attributes of consumers value proposition

The data analysis indicates that the three most important factors that influence the
participants’ decision in purchasing GSF in general appear to be price, quality and
functionality of the furniture as presented in Table 2. The rest of the factors follow, such
as safety and ergonomics, environmental protection, technology and the design.

The above mentioned factors of Table 2 are correlating each other and the correlation
analysis using the Pearson correlation coefficient (Pcc) indicates that at a significance
level of 0.01 the factors that affect positively each other in order for a consumer to buy
GSF are the following:

Quality in relation to:

a raw materials used (Pcc = 0.606)

b functionality (Pcc = 0.469)

c ergonomics and safety (Pcc=0.412).

Price in relation to:

a quality (Pcc = 0.365)

b functionality (Pcc = 0.229).
Consumers’ perceptions on green and smart furniture innovation

Functionality in relation to:
- safety and ergonomics (Pcc = 0.626)
- raw materials used (Pcc = 0.560).

Design in relation to:
- technology (Pcc = 0.624)
- ergonomics and safety (Pcc = 0.455).

Based on these findings, it is speculated that the added value for the GSF consumer is significantly related to economic factors, since price is a major criterion, which is quite expected within the context of the severe Greek economic crisis. A significant share of the sampled consumers admits that they are not willing to replace conventional furniture with green and smart ones unless it is cheaper.

Qualitative characteristics and facilitation of everyday routine of users follow indicating that the main criteria regarding the decision of purchasing GSF are not substantially different of those for the conventional furniture. Actually, the most important criteria mentioned are: the health condition of the respondents (or otherwise the ability to use the furniture since the research refers to the third age), the assistance the GSF can offer to their everyday living and the environmental protection that the product supports along with the improvement of their everyday living conditions. It is quite evident that firms will have to detect these specific value adding elements that will allow them to achieve differentiation during production, including the incorporation of sophisticated technology and environmental protection in their products.

Table 2  Significance level of the factors that affect GSF buying decisions

<table>
<thead>
<tr>
<th>Factors</th>
<th>1 (very much)</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5 (none)</th>
<th>Mean</th>
<th>Std. dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price</td>
<td>74.9</td>
<td>15.0</td>
<td>5.8</td>
<td>3.3</td>
<td>1.0</td>
<td>1.40</td>
<td>0.821</td>
</tr>
<tr>
<td>Quality</td>
<td>70.1</td>
<td>19.3</td>
<td>9.0</td>
<td>0.8</td>
<td>0.8</td>
<td>1.43</td>
<td>0.750</td>
</tr>
<tr>
<td>Functionality</td>
<td>62.4</td>
<td>27.1</td>
<td>7.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.53</td>
<td>0.820</td>
</tr>
<tr>
<td>Safety – ergonomics</td>
<td>60.2</td>
<td>23.8</td>
<td>13.0</td>
<td>2.0</td>
<td>1.0</td>
<td>1.60</td>
<td>0.862</td>
</tr>
<tr>
<td>Raw materials</td>
<td>53.9</td>
<td>27.8</td>
<td>14.3</td>
<td>2.0</td>
<td>2.0</td>
<td>1.70</td>
<td>0.926</td>
</tr>
<tr>
<td>Nature protection</td>
<td>50.1</td>
<td>28.3</td>
<td>14.5</td>
<td>4.5</td>
<td>2.5</td>
<td>1.81</td>
<td>1.009</td>
</tr>
<tr>
<td>Design</td>
<td>34.6</td>
<td>23.1</td>
<td>18.8</td>
<td>14.8</td>
<td>8.8</td>
<td>2.40</td>
<td>1.326</td>
</tr>
<tr>
<td>Technology</td>
<td>36.8</td>
<td>25.3</td>
<td>19.3</td>
<td>9.5</td>
<td>9.0</td>
<td>2.29</td>
<td>1.295</td>
</tr>
</tbody>
</table>

Notes: Likert scale: 1–5, 1 = very much, 5 = not at all

The credibility test (Cronbach’s alpha = 0.831) regarding the factors affecting purchasing decisions of eco-smart furniture as presented in Table 2) indicates that the answers and thus the created variables constitute concreate and credible units that can be used to measure the factors they belong to.

Emerging commonalities from factor analysis that measure the variability percentage of each variable, according to the factors of the first column of Table 3, are quite high; thus they highlight the fact that all variables are correlated with some other factor. The
total variance explained of factor analysis indicates that the relevant Eigen values are significant only for two out of eight factors in total as presented in the first column of Table 2. These two factors are the only ones to be further used since they explain the 62.4% of total variation; a quite satisfactory percentage since it is higher than the standard 50% (Siomkos and Vasilikopoulou 2005).

The relevant factor analysis after the rotation of the component matrix (Table 4) indicated that all eight parameters – grouped – describe the level of effect of consumers for purchasing GSF products. These variables actually form two groups:

a a price-quality group which is called the GSF value since it describes the relation of quality to the price of the product

b all the rest variables i.e. 1 to 6 of the first column (Table 3) which we call DET; i.e. design-ecology-technology as a combination of the 1, 2, 3, 4, 5 and 6 factors.

Table 3  Commonalities of factor analysis for variables affecting the purchasing decision regarding GSF products

<table>
<thead>
<tr>
<th>Factors</th>
<th>Initial</th>
<th>Extraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Price</td>
<td>1.000</td>
<td>0.668</td>
</tr>
<tr>
<td>2 Quality</td>
<td>1.000</td>
<td>0.658</td>
</tr>
<tr>
<td>3 Functionality</td>
<td>1.000</td>
<td>0.586</td>
</tr>
<tr>
<td>4 Safety – ergonomics</td>
<td>1.000</td>
<td>0.589</td>
</tr>
<tr>
<td>5 Raw materials</td>
<td>1.000</td>
<td>0.602</td>
</tr>
<tr>
<td>6 Nature protection</td>
<td>1.000</td>
<td>0.587</td>
</tr>
<tr>
<td>7 Design</td>
<td>1.000</td>
<td>0.670</td>
</tr>
<tr>
<td>8 Technology</td>
<td>1.000</td>
<td>0.634</td>
</tr>
</tbody>
</table>

The interpretation of the value factors reached 86.4% of total (Eigen values). However, the importance of this relationship is quite common in relevant literature (e.g. Lalwani and Shavitt, 2013; Sheu, 2014).

Table 4  Rotated component matrix of factor analysis for variables affecting the purchasing decision regarding GSF products

<table>
<thead>
<tr>
<th>Factors</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Technology</td>
<td>0.817</td>
</tr>
<tr>
<td>2 Design</td>
<td>0.795</td>
</tr>
<tr>
<td>3 Nature protection</td>
<td>0.728</td>
</tr>
<tr>
<td>4 Safety – ergonomics</td>
<td>0.682</td>
</tr>
<tr>
<td>5 Raw materials</td>
<td>0.633</td>
</tr>
<tr>
<td>6 Functionality</td>
<td>0.564</td>
</tr>
<tr>
<td>7 Price</td>
<td>−0.093</td>
</tr>
<tr>
<td>8 Quality</td>
<td>0.397</td>
</tr>
</tbody>
</table>
Consumers in their majority appear to be moderately interested in ecological furniture or woodworking in general although it appears that sensitivity towards ecological issues is growing besides the negative impact of the severe economic crisis in Greece which affects everyday living in various ways.

An important question of the research referred to the intention of consumers to buy eco-smart furniture by paying an additional amount of money compared to conventional furniture. Results are presented in Figure 1. The majority of the sampled consumers (27.4%) stated that they would be willing to pay an average of 5–10% over conventional furniture prices in order to buy eco-furniture. Adding the percentages of people that are willing to pay a lower additional amount of money; i.e. 22.4% for 1–5% over conventional furniture and 18.6% for 11–15% more, then, it is quite interesting to indicate that 68% of the sampled consumers appeared willing to pay more for an eco-smart piece of furniture.

**Figure 1** Additional amount of money that consumers are willing to pay for GSF products (see online version for colours)

The correlation analysis with chi-square ($\chi^2$) test indicated that the additional amount of money that consumers are willing to pay for GSF products is statistically related at a significant level with:

a The age of the consumers (Pearson chi-square = 60.400, for a significance level > 95% approx. sig = 0.02). Actually, the older the consumers, the smaller the additional amount they are willing to pay for GSF products (Kendall’s Tau $b = -0.058$).

b The size of the residence (Pearson chi-square = 43.860, for a significance level >95% approx. sig = 0.04) and more precisely the bigger the residence, the more the amount consumers intent to spend on eco-smart furniture (Kendall’s Tau $b = 0.050$).

c Their involvement in recycling (Pearson chi-square = 33.573, for a significance level > 99.9% approx. sig = 0.000); the more involved, the more they are willing to pay.

d The real interest in environmental protection (Pearson chi-square = 13.065, for a significance level > 95% approx. sig = 0.023) in the same vein as with involvement to recycling.
However, according to the above mentioned chi-square test, other factors as the income, the place of permanent residence and the membership in an ecological organisation do not seem to impact in any way the tendency to pay any additional amount for GSF products against conventional furniture.

4.3 Discussion

The research used Smith and Colgate’s (2007) customer-value creation framework as a springboard to examine whether the innovative concept of GSF products could attract the interest of consumers of the third age. Finding indicated that all four types of value fall under the lens of consumers’ consideration although some are tacit and not really expressed. In more detail:

a Functional/instrumental value: the parameters called as DET (i.e. design-ecology-technology) indicate the importance of this type. Consumers of the third age are in need of functionality which can produce a better way of everyday living. This is also confirmed by the fact that health issues (50.4%) and the improvement of everyday life (49.4%) are important conditions for GSF purchase while functionality is among the three major factors of intent formation.

b Experiential value: GSF products may create appropriate experience of the smart technology to people that have been quite lately introduced to the high-tech magic world; however even the middle age groups of today are at the beginning of this journey, since smart technology is not really incorporated in the middle-class residence; we all hear about smart houses and exceptional high-tech experiences but the actual percentage of users is still mediocre. On the other hand, GSF appears to enhance the sensitivity towards environment and its protection which is a strong factor of value creation.

c Symbolic/expressive value: this can be related again to both environment and technology. GSF adds to the owner’s status in their micro-society and enhances involvement potential to broader societies (e.g. the big ecological society or the high-tech one). Purchase of GSF products can be today resembled to the acquisition of a car in the early 19th century or a cell phone in the early 90s.

d Cost/sacrifice value: perhaps this factor dominated the above research. Consumers were asked about GSF products in the middle of a severe socio-economic crisis. GSF proposed products should better deserve sacrifices by consumers. This is quite evident in the answers and their statistic results.

According to the above, third age consumers’ everyday living and its difficulties regarding the use of furniture seem to play the most significant role, along with health improvement support and environmental protection. However, price plays also a crucial role. A GSF product should be based on precise anthropocentric design, including simple and friendly technology regarding health issues. Furthermore, contemporary consumers of the third age, seem to be quite aware on environmental issues, a fact that furniture enterprises should take under consideration regarding their strategy. That means that they should work hard on enhancing the environmental culture of potential consumers besides
the communication of their GSF products. The fact that mere membership in an ecological organisation did not motivate people to turn to eco-friendly furniture is quite puzzling and deserves further research.

GSF customers’ value hierarchy identifies that customers perceive value not only from the attributes of a product itself but also from the consequences of using a product. Thus, the average third age consumer wishes a “multi-functional” furniture, which will also be able to reduce the costs of living, in an indirect way, satisfying as much needs as possible. The cost/sacrifice value identifies the customer’s perception of whether the value created is worth the cost paid. The commoditisation of GSF products allows furniture manufacturers to provide differentiated products at a price point, that a great part of the third age consumers could afford, thereby increasing the customer perception of value added.

5 Conclusions

O’Cass and Ngo (2011) assert that a firm’s pre-emptive value-creation strategy is comprised of the product’s attributes and the attributes’ performance and to the fair price or the value price. In the same vein, consumers’ attitudes can form the basis of a concrete value creation strategy for innovations such as GSF products to enhance differentiation and create new competitive advantages.

According to the findings, the basic criteria regarding the purchase of a GSF product are not fundamentally varying in relation to the conventional furniture; this fact constitutes rather a convenience for firms to orientate their value offering. Nevertheless, regarding their manufacturing strategy, firms should try to detect these differentiation attributes that could allow them to achieve their goals, including sophisticated technology and environmental protection along with affording prices, based on their customers’ needs. The attributes traced are closely related to the perceived value of quality for the people of the third age.

We can argue that GSF customer value perception could be defined as a customer’s evaluation of what they get in return for what they give. Firms need to create customer value propositions that fulfill mainly tacit needs. From their point of view, this proposition lies to three major factors: financial and investment resources, company assets according to the market demand and marketing.

GSF products may represent a new way of interaction between businesses and consumers. Further research could expand to different groups like people of special needs, or parents and children opening the way to new value co-creation potential. Furthermore, the research could be conducted in other countries as well, incorporating the specificities of them. This can be mainly of practical value enhancing the use and publicity of the GSF project. It can also add to the experience of the research team. However, it could be also of theoretical value, since it could add to knowledge about consumer expectations in regard of the new low-technology innovations in general and more precisely the furniture sector; furniture manufacturers could build their strategies on a value co-creation model engaging customers of various target groups in new product development, in order to improve their competitiveness and survive competition.
Acknowledgements

This research has been co-financed by the European Union (European Social Fund – ESF) and Greek national funds through the operational program ‘Education and lifelong learning’ of the National Strategic Reference Framework (NSRF) – research funding program: ARCHIMEDES III. Investing in knowledge society through the European social fund.

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