Perceived risk on goods and service purchases


Abstract
The variable perceived risk has been studied since the 1960s, mainly for its influence on consumer behaviour in the decision making process. The extension of marketing to the service arena has led researchers to analyse this variable which is assumed in the literature to exert a higher influence on service purchases due to the inherent features of service. However, results from this empirical research do not confirm this premise. A consumer may consider the purchase of certain goods as riskier than certain services, so there are other aspects in addition to the different nature of services that can play an important role on risk perception in the purchase of both goods and services.

Keywords: Consumer behaviour, services marketing, perceived risk.

JEL Code: M31.
1. Introduction
Much theoretical and empirical research has been done on the variable perceived risk since the original proposal by Bauer (1960). Among the reasons justifying this transcendence is its wide capacity to explain consumer purchase behaviour, often more motivated by the goal of avoiding mistakes rather than maximizing purchase utility (Mitchell, 1999). This variable can influence marketing decision making concerning efficient resources location (towards marketing strategies considering the impact of products’ perceived risk), segmentation strategies can be designed according to risk reduction strategies employed by customers (Mitchell and McGoldrick, 1996; Mitchell, 1999), perceived risk can be considered to develop the image and positioning of a brand and it can even help to generate ideas for new products (Mitchell and Boustani, 1993).

The extension of marketing to the service arena has led researchers to analyse this variable. It is assumed in the literature that services are riskier mainly because of their inherent properties, i.e. heterogeneity, perishability, inseparability and intangibility, (Gusman, 1981; Murray and Schlacter, 1990; Mitchell and Greatorex, 1993; Mitchell, 1999). However, this premise has not always been empirically corroborated (George et al., 1985), severely questioned in a recent study by Laroche et al. (2003).

Thus, we want to analyse consumers’ risk perception when they purchase certain proposed goods and services, with the aim of comparing results from both product categories and shed light on the above discussion.

2. The perceived risk
Bauer (1960) was the first to introduce the concept of risk in marketing with the idea of drawing the attention of a few researchers, however it has been more than 30 years since then and research has not stopped.

The concept was developed later on by Cunningham (1967) producing one of the first but still valid definitions which states that consumer’s pre-purchase perceived risk has two components: the individual’s subjective
feeling of certainty that the consequences will be unfavourable and the amount that would be lost if the consequences of an act were not favourable (Bauer, 1960; Cunningham, 1967). These consequences relate to financial loss, time wasted, social and other damage which would be incurred if the purchase result was not favourable.

Although nowadays most researchers accept this original definition some criticisms have been raised given that sometimes risk relates only to the probability of occurrence of negative events or just with the negative consequences and not with the combination of both aspects (Sjoberg, 1980).

Other later definitions resulted from the proposal of more complex models among which the following three are highlighted. Stone and Winter (1987) view risk as an expectation of loss in that the greater this expectation, the greater the risk for the individual. Greatorex and Mitchell (1993) propose a multiattribute model (not empirically tested) which relates risk to the imbalance between the required amount and the obtained amount of a certain attribute. Finally, Dowling and Staelin (1994) divide perceived risk in two components: product class risk (related to a category of product) and product specific risk (related to a specific brand or product). These concepts are similar to Bettman’s (1973) inherent risk and handling risk.

The study of risk on goods and service purchases offers a variety of results. Most authors conclude that service decision making perceived risk is higher than for goods (Guseman, 1981; George et al., 1985; Garner, 1986; Murray and Schlacter, 1990; Mitchell and Greatorex, 1993), due mainly to the implications of intangibility and heterogeneity (Garner, 1986; Mitchell and Greatorex, 1993) which cause uncertainty in the consumer (Mitra et al., 1999) and makes it more difficult to assess the service (Zeithaml, 1981; Bateson and Hoffman, 1999).

On the contrary, the empirical study by George et al. (1985) showed no significant differences for perceived risk between a certain goods category and their substitutive services. Recently, Laroche et al. (2003) has sta-
ted that services are not always perceived as riskier than goods. Although they confirm that intangibility increases risk perception they postulate that the cause is not physical intangibility but mental intangibility. Consequently you can find mental intangible goods (such as music software) which can be riskier than certain mental tangible services (such as those provided by an electronic bank).

Several factors influence the type and level of perceived risk on different goods and services: product attributes (Dowling and Staelin, 1994; Mitra et al., 1999), customer personality (Garner, 1986; Zinkham and Kirande, 1991), demographical (Mitchell and Boustani, 1993), cultural (Verhage et al., 1990 a; Verhage et al., 1990 b) and social characteristics (Hugstad et al., 1987). Occasionally other studies have analysed the relationship of risk to involvement (Dholakia, 2001) and previous knowledge (Murray and Schlacter, 1991). Additionally, there is agreement around some attributes such as high price, complexity, visibility and durability which can increase risk perception (Laurent and Kapferer, 1985).

3. Methodology

Research objective
As mentioned above, most empirical studies show that perceived risk for service purchase is higher than for goods (Guseman, 1981; George et al., 1985; Garner, 1986; Murray and Schlacter, 1990; Mitchell and Greatorex, 1993). This may be justified by the different characteristics of both product categories, especially intangibility and heterogeneity because they cause greater uncertainty in the consumer (Garner, 1986; Mitchell and Greatorex, 1993; Mitra et al., 1999). Additionally, less information is available on services and what there is, is more difficult to obtain (Bateson and Hoffman, 1999) thus, service risk perception may be increased. However, a recent study by Laroche et al. (2003) disputes the statement that consumers always consider services as more intangible than goods (and consequently riskier) and offers some examples of the contrary. Thus, the objective of the present research is to analyse risk perception for a cer-
tain set of goods and services in order to discover where that perception is greater.

Following Mitchell’s (1999) recommendation to assess perceived risk in high value goods and services, several products were selected because they are expected to entail greater effort in decision making and higher perceived risk. The proposed goods were a house, a car or motorbike, a vacuum cleaner, a dishwasher or washing machine, a tv or hi-fi set, and a personal computer. The proposed services were those provided by a dentist, a lawyer or tax adviser, an academy or nursery, household repair, and a travel agency.

Different goods and services are proposed for two reasons. Firstly, to increase the possibilities of answering the questionnaire. If the interviewee had recently acquired more than one product in the same category, he was asked to remember the newest because he would remember his behaviour more easily. Secondly, because we were aiming at the generalization of results and did not want to limit them to a certain goods item or service, as previous researchers have done (Murray, 1991).

Perceived risk assessment

After reviewing the literature we followed the recommendation made by Mitchell (1999) and used Cunningham’s (1967) measure to assess perceived risk from its two components: the probability of an event occurring and its importance, on a five-point Likert. These two items are presented for several types of risk and aggregated to assess the general perception of risk.

We assessed the subjective risk, that is, the risk felt by a consumer when making a decision, independently of the real risk or objective risk involved (Boze, 1987). In the literature, this approach is observed because from the relativist paradigm the existence of an objective risk is questioned (Stone and Winter, 1987) and positivist recognise the difficulty of assessing it (Mitchell, 1999).

We use Cunningham’s (1967) scale in its additive version, that is, partial results of both risk components are added to obtain a general measu-
re of perceived risk. Despite its simplicity, several authors claim that this linear model offers good and even better results than the multiplicative model (Bettman, 1973) and it is specially recommended for assessing service perceived risk (Mitchell and Greatorex, 1990, 1993).

This basic scale has been used by many researchers to date (Cunningham, 1967; Lutz and Reilly, 1973; Brown and Gentry, 1975; Peter and Ryan, 1976; Bearden and Manson, 1978; Guseman, 1981; Dunn et al., 1986; Boze, 1987; Verhage et al., 1990 a and b), despite criticism. Firstly, the independence of the two components of perceived risk has been questioned because some empirical works have found a correlation (Bettman, 1973; Laurent and Kapferer, 1985). Secondly, the equal importance of both components is discussed. Several authors suggest that the “consequences” component should weigh less in the formulation of perceived risk (Peter and Ryan, 1976; Bearden and Mason, 1978) whereas others suggest the contrary (Mitchell, 1999). However, this model is recommended because it is simple and easily understood by interviewees (Mitchell, 1999). Additionally, it has a certain degree of convergent and discriminant validity (Lumpkin and Massey, 1983).

Consequently, we want to prove the scale’s reliability and external validity. The reliability of a measure relates to the extent that it is free of random error and so gives consistent results (Sánchez and Sarabia, 1999). In this research, reliability is assessed by Cronbach’s alpha as a measure of the scale’s internal consistency obtaining a score of 0.69 and 0.65 for the proposed goods and services, respectively. Therefore, reliability is acceptable, given the exploratory character of this work and the low number of items on the scale used (Sánchez and Sarabia, 1999).

Content validity is justified by the fact that it comes from previous research. Construct validity is partially proved by the convergent and discriminant validity of the risk measure used in this work.

In order to assess convergent validity, a confirmatory factor analysis was done by the statistical software EQS (Bentler, 1995), and the results are shown in Table 1.
Table 1 shows a good fit derived from the Chi square analysis given that the associated probability allowed us to reject the null hypothesis that the model is not significant. Similarly, the indexes obtained are favourable because they are close to one except for those related to the residues which are favourably close to zero. Additionally, all T values are significant with a probability below 0.001, as the t value for each $\lambda$ exceeds 3.291. In other words, the items are good indicators of the latent variable analyzed. Lastly, note that most standardized $\lambda$ scores are higher or close to 0.6, although better results were expected in the services context.

Discriminant validity is proved by the Chi square difference test done by EQS statistical software (Bentler, 1995) between the variables of perceived risk and involvement. Involvement is included simply to test the discriminant validity of perceived risk and is measured according to Mittal’s
(1995) recommendation after his comparative study of several scales such as Zaichkowsky’s (1985) and McQuarrie and Munson’s (1986). He also tests the convergent and discriminant validity of his proposal.

Results for discriminant validity of the scale used for assessing perceived risk are shown in Table 2. It can be seen that the unconstrained model (which assumes that both variables are different) is better, not only because the calculated difference is always higher than the critical value of 6.63 but also because of the GFI index.

Table 2. Discriminant validity results for the “perceived risk” scale in goods and services

<table>
<thead>
<tr>
<th></th>
<th>GOODS</th>
<th>SERVICES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \chi^2 ) Constrained</td>
<td>( \chi^2 ) Unconstrained</td>
</tr>
<tr>
<td></td>
<td>model</td>
<td>model</td>
</tr>
<tr>
<td>INVOLVEMENT - RISK</td>
<td>( \chi^2 = 257.00 )</td>
<td>( \chi^2 = 222.61 )</td>
</tr>
<tr>
<td></td>
<td>d.f.= 27</td>
<td>d.f.= 27</td>
</tr>
<tr>
<td></td>
<td>Fit index: L GFI= 0.813</td>
<td>Fit index: L GFI= 0.831</td>
</tr>
<tr>
<td>INVOLVEMENT - RISK</td>
<td>( \chi^2 = 97.34 )</td>
<td>( \chi^2 = 83.91 )</td>
</tr>
<tr>
<td></td>
<td>d.f.= 26</td>
<td>d.f.= 26</td>
</tr>
<tr>
<td></td>
<td>Fit index: L GFI= 0.932</td>
<td>Fit index: L GFI= 0.944</td>
</tr>
</tbody>
</table>

\( \chi^2 1\% (1 \text{ d.f.}) = 6.63 \)

Survey characteristics
The sample universe comprised the total number of inhabitants living in Valencia city, between the ages of 18 to 79, according to the latest publis-
hed report at the moment of the study. Table 3 offers a summary of the main features of the field work.

Table 3. Sample characteristics

<table>
<thead>
<tr>
<th>UNIVERSE</th>
<th>Inhabitants over 18, living in Valencia city (Spain)</th>
</tr>
</thead>
<tbody>
<tr>
<td>METHOD FOR GATHERING INFORMATION</td>
<td>Personal structured survey</td>
</tr>
<tr>
<td>SAMPLE SIZE</td>
<td>300 people</td>
</tr>
<tr>
<td>CONFIDENCE LEVEL</td>
<td>95%; Z = 2; p = q = 0.5</td>
</tr>
<tr>
<td>SAMPLE ERROR</td>
<td>±0.0577</td>
</tr>
<tr>
<td>SAMPLING PROCEDURE</td>
<td>Random route, with prior double sampling by age and sex according to population quotas.</td>
</tr>
</tbody>
</table>

4. Results

In order to achieve the goal of comparing perceived risk on the proposed goods and services, firstly main statistical descriptives are obtained as shown for both product categories aggregately in Table 4.

Table 4. Perceived risk descriptives on goods and services

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Min.</th>
<th>Max.</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>GOODS</td>
<td>3.66</td>
<td>0.64</td>
<td>1</td>
<td>4.75</td>
<td>300</td>
</tr>
<tr>
<td>SERVICES</td>
<td>3.62</td>
<td>0.60</td>
<td>1</td>
<td>4.75</td>
<td>300</td>
</tr>
</tbody>
</table>

Table 4 shows a higher perceived risk mean value for goods than services, thus inviting further in-depth analysis of previous comparative research which stated the contrary. With this aim Table 5 is presented. It con-
tains some of the goods and services compared in three of the most relevant studies from the literature review which report a higher service perceived risk. The high heterogeneity of goods and services compared is notable given that for a consumer the importance and cost of some sweets have nothing to do with renting a flat, for instance. Therefore, the premise of higher service purchase perceived risk seems to be founded on research done on questionable samples. This leads us to call for new comparative studies to discover whether there really is a riskier product category (goods or services).

Table 5. Goods and services compared in previous research on perceived risk

<table>
<thead>
<tr>
<th>GOODS</th>
<th>SERVICES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guseman (1981)</td>
<td>Motels</td>
</tr>
<tr>
<td>Butter</td>
<td>Banks</td>
</tr>
<tr>
<td>Cough sweets</td>
<td>Doctors</td>
</tr>
<tr>
<td>Cassette recorder</td>
<td>Flat renting</td>
</tr>
<tr>
<td>Mattress</td>
<td></td>
</tr>
<tr>
<td>Murray and Schlacter (1990)</td>
<td>Teeth cleaning</td>
</tr>
<tr>
<td>Jacket</td>
<td>Eye check up</td>
</tr>
<tr>
<td>Tennis racquet</td>
<td>Tax advice</td>
</tr>
<tr>
<td>Barbeque grill</td>
<td>Indoor decorating</td>
</tr>
<tr>
<td>Photograph camera</td>
<td></td>
</tr>
<tr>
<td>Mitchell and Greatorex (1993)</td>
<td>Portable television set</td>
</tr>
<tr>
<td>Portable television set</td>
<td>Hairdresser</td>
</tr>
<tr>
<td>Tennis racquet</td>
<td>Hotels</td>
</tr>
<tr>
<td>Coat</td>
<td>Banks</td>
</tr>
<tr>
<td>Jeans</td>
<td>Sports centre</td>
</tr>
</tbody>
</table>

The results that consumers have a higher perceived risk when purchasing the proposed goods rather than services can be explained by the incidence of the variable’s antecedents. If we divide these antecedents into two wide groups: those related to the product and those related to the consumer, the former are the most relevant in the current research (given that the same interviewee answered questions about the purchase of a goods item and a service). Therefore, the particular characteristics of the proposed goods have increased risk perception more than the differential nature of services.
In order to observe possible differences for each proposed product, mean values and standard deviations were obtained and are shown in Table 6.

Table 6. Perceived risk for every product

<table>
<thead>
<tr>
<th>GOODS</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>N</th>
<th>SERVICES</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOUSE</td>
<td>3.98</td>
<td>0.59</td>
<td>26</td>
<td>DENTIST</td>
<td>3.57</td>
<td>0.68</td>
<td>83</td>
</tr>
<tr>
<td>CAR/MOTORBIKE</td>
<td>3.73</td>
<td>0.64</td>
<td>85</td>
<td>LAWYER/TAX ADV.</td>
<td>3.62</td>
<td>0.51</td>
<td>35</td>
</tr>
<tr>
<td>VACUUM/...</td>
<td>3.56</td>
<td>0.58</td>
<td>64</td>
<td>ACADEMY/NURSERY</td>
<td>3.65</td>
<td>0.53</td>
<td>49</td>
</tr>
<tr>
<td>TELEVISION SET</td>
<td>3.64</td>
<td>0.63</td>
<td>73</td>
<td>HOUSE REPAIR</td>
<td>3.57</td>
<td>0.62</td>
<td>78</td>
</tr>
<tr>
<td>COMPUTER</td>
<td>3.56</td>
<td>0.68</td>
<td>52</td>
<td>TRAVEL AGENCY</td>
<td>3.76</td>
<td>0.55</td>
<td>55</td>
</tr>
</tbody>
</table>

In Table 6 a house purchase is highlighted as the one with the highest perceived risk, followed by the service provided by a travel agency. For goods, in second place for a high risk is the purchase of a car or motorbike and in third a television set. For services, in second place is the acquisition of services offered by an academy or nursery closely followed by those provided by a lawyer or tax adviser.

5. Conclusions

In this paper consumer risk perception on the purchase of certain goods and services has been compared. Although there are many studies which report that purchase risk is higher for services rather than goods, the results obtained in our research contradict that premise. We therefore conclude that it is not possible to state that purchase risk is always higher for services than for goods. Results from previous research showing a higher risk related to service acquisitions were obtained by comparing a certain sample of goods and services. Reported results are valid for those samples but should not be generalised for any combination of goods and services given that, as this research proves, depending on the type of product compared, that perception can be higher or lower. In this sense,
a house purchase is riskier than services provided by a dentist or a lawyer, for instance.

Consequently and, although it is true that the implicit characteristics of service (intangibility, heterogeneity, inseparability of production and consumption, and customer participation) probably increase service risk, other factors exert a greater influence on that perception. Several authors have pointed out that some personal features can influence perceived risk (Zinkham and Kirande, 1991). However, in this study the same consumer considered a recent acquisition of a goods item and a service thus reducing the influence of personal features. With reference to the compared goods and services, it seems that certain attributes such as the implicit financial expenditure for the purchase, its social visibility and durability among others are the ones which most influenced the related risk, as several authors have noted in the literature (Laurent and Kapferer, 1985).

However, other antecedents for perceived risk have been proposed, such as involvement (Dholakia, 2001), previous product knowledge (Murray and Schlacter, 1990) and, recently, mental intangibility associated to the product (Laroche et al., 2003) and it would be interesting to study them in greater depth.

Nevertheless, for marketing executives, knowing that the purchase of certain goods can be considered very risky by consumers should encourage them to study the perception of the products they sell as well as the strategies applied by customers to make such a risky purchase, so that appropriate policies adapted to that behaviour can be developed. For instance, if, as a way of reducing risk, consumers mainly search for information before making their purchase decision, companies should diffuse information on key attributes considered by consumers in order to diminish that risk perception and facilitate purchase of the product or brand they sell.

Lastly we mention as limitations of this study the fact that it is based on consumers’ remembrance, a method not always considered convenient or reliable (Varela, 1993) and the particular combination of goods and services compared.
References


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