

# How important is the strategic order of product attribute presentation in the non-life insurance market?



Sérgio Dominique-Ferreira<sup>a,b,\*</sup>

<sup>a</sup> Polytechnic Institute of Cavado and Ave (School of Management), Portugal

<sup>b</sup> School of Economics and Management of the University of Porto, Portugal

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## ABSTRACT

Sales management plays an important role in firms' profit. Its main goal is to determine the best time to present insurance customers with prices, insurers, bundling strategies, and the intermediary's recommendation.

In this study, a triangular approach was used. For attribute selection, three focus groups were performed with insurance customers and intermediaries. Conjoint analysis was carried out by presenting the attributes in three different orders.

Primacy and recency effects were detected; a transfer or anchor effect was also found related to the importance of the attributes preceding and succeeding a given attribute.

According to the findings, salespeople can improve their approach to customers by decreasing the importance given to price and increasing the positive impact of bundling strategies and the intermediary's recommendation in sales.

Although the order of attribute presentation has previously been analyzed, this is the first study to examine this issue in non-life insurance products, providing useful information to insurance salespeople and marketing managers for a better understanding of insurance customers' buying decision process.

## 1. Introduction

Various elements affect the success or failure of salespeople's approach to consumers. In the insurance sector, these elements include, for instance, insurers, the intermediary's recommendation, price, and discounts. However, the importance that consumers assign to each attribute varies under different conditions. For instance, the moment at which each characteristic of the product is presented during the sale<sup>1</sup> may be of particular importance to consumers (see Buda and Zhang (2000), Gatzert et al. (2010) and Hogarth and Einhorn (1992)). For example, consumers often evaluate a brand's current price against its past prices or the prices of previously encountered brands (Monroe, 1990, as cited in Suk et al. (2012)). Atkinson and Shiffrin's (1968) groundbreaking study was one of the first to explain primacy and recency effects. In this context, salespeople can play an important role in firms, and *often use adaptive influence tactics to engage consumers in a way that drives sales performance* (Homburg, Muller and Klarmann, 2011, as cited in Xie and Kahle (2014)).

The literature (e.g., Chrzan, 1994; DeMoranville and Bienstock, 2003; Li, 2009) has shown that customers may be affected not only by the moment at and order in which price is presented—i.e., primacy and recency effects—but also by a transfer effect, or a logic chain order effect. Therefore, it may not be enough to say that price should be presented at the beginning, middle, or close to the end of the sale. Price may also be affected by the attributes that precede and succeed it; i.e., there may be an anchor effect. Thus, salespeople may reduce consumers' responsiveness to price changes by first presenting other attributes that consumers value highly.<sup>2</sup>

Considering the timeliness of this much-discussed issue (e.g., Huber et al., 2015), the authors of this work intend to identify the point at which insurance salespeople should present the following in order to decrease the perceived importance of the premium in sales and increase cross-selling through price bundling: (a) the premium (and the associated covers); (b) the insurer; (c) bundling strategies; and (d) the intermediary's recommendation.

The authors decided to study non-life insurance products because

\* Department of Marketing and Tourism, School of Management, Polytechnic Institute of Cavado and Ave. Address: Campus of IPCA, Vila Frescainha, 4750-801 Barcelos  
E-mail addresses: [sdominique@ipca.pt](mailto:sdominique@ipca.pt), [sergio.dominique@gmail.com](mailto:sergio.dominique@gmail.com).

<sup>1</sup> The Financial Services Authority carries out surveys in similar areas, e.g., in *financial behaviour and attitudes in five key areas: making ends meet, keeping track of money, planning ahead, choosing products, and staying informed across the UK population* (de Meza et al., 2008, p. 1).

<sup>2</sup> As indicated by the Financial Service Authority, *psychological rather than informational differences may explain much of the variation in financial capability reported in the FSA (2006) Baseline Survey. This applies both to differences between individuals and across competence dimensions* (de Meza et al., 2008, p. 2).

**Table 1**  
Evolution of life and non-life insurance products (IPFSA, 2015).

	2011	2012	$\Delta$ 12/ 11 (%)	2013	$\Delta$ 13/ 12 (%)	2014	$\Delta$ 14/ 13 (%)
Life products	7,536	6,922	-8.1	9,248	33.6	10,439	12.9
Non-life products	4,110	3,983	-3.1	3,855	-3.2	3,852	-0.1
Total	<b>11,646</b>	<b>10,905</b>	<b>-6.4</b>	<b>13,104</b>	<b>20.2</b>	<b>14,292</b>	<b>9.1</b>

this particular insurance market has experienced some difficulties in recent years (IPFSA, 2015) (Table 1). In addition, it seems that only one study has been published on this topic in the insurance industry to date, and this concerns life insurance products (i.e., Huber et al., 2015).

## 2. Theoretical background

### 2.1. Effect of the order of attribute presentation

Primacy and recency effects have been well understood for many decades (e.g., Asch, 1946; Anderson, 1965; Chrzan, 1994). In the specific case of conjoint analysis with full profiles (FPs) (orthogonal fractional factorial designs), many effects related to order presentation have been identified (see Acito (1977), DeSarbo and Green (1984), Johnson (1987), Chrzan (1994), Orme et al. (1997) and DeMoranville and Bienstock (2003)).

Order effects exist if the estimated attribute importance differs depending on the position it occupies in each profile, keeping the research design, attributes, and levels unchanged. This fact negatively affects the predictive ability of conjoint analysis (see DeSarbo and Green (1984), Johnson (1987) and Orme et al. (1997)). Johnson's (1987) study using FPs (1987) found that the order effect was responsible for 16% of the error variance for conjoint predictions. Other studies have also found that the order of the attributes' presentation has negative effects on results (Acito, 1977; DeMoranville and Bienstock, 2003).

In addition, previous studies have found that attribute levels and the factors that determine how much weight is assigned to each level influence evaluation and choice (Fishbein and Ajzen, 1975; Nowlis and Simonson, 1997; Dhar et al., 1999; Hsee and Zhang, 2004). According to Sela and Berger (2012), many firms present their products with few attributes (e.g., the Avis website, www.avis.com). It seems that presenting more attributes to consumers tends to benefit evaluation when the options are perceived as being less useful (the opposite also holds true).

Other studies have focused on the specific place or selling moment in which price is presented (see DeSarbo and Green (1984), Johnson (1987) and Orme et al. (1997)). However, in terms of simulation predictions, such as those based on conjoint analysis experiments, this situation can produce biased results<sup>3</sup> (Acito, 1977; Johnson, 1987; DeMoranville and Bienstock, 2003). Primacy and recency effects have also been analyzed in the context of a long-term memory test of Super Bowl commercials (see Li (2009), wherein the results show a strong primacy effect).

This paper aims to study the possible primacy and/or recency effects in the insurance sector. The first hypothesis is as follows:

**Hypothesis 1.** The importance assigned to insurance companies (brand) is affected by the order of attributes' presentation.

<sup>3</sup> According to de Meza, Irlenbusch and Reyniers (2008, p. 2), *behavioral economics has identified a collection of deep seated cognitive biases that influence decisions in both financial and non-financial contexts.*

### 2.2. Price perception

Pricing plays a central role in sales (see, e.g., Tung et al. (1997) and Avlonitis and Indounas (2006)). A wide range of literature has analyzed the factors that influence price perception (see, e.g., Damay et al. (2011) and Weisstein et al. (2014)). Bagchi and Davis (2012) presented three dimensions, or literature streams, that explain the process of price perception:

- Computation—i.e., how consumers think about prices. The literature on computation has focused on the following factors:
  - Individual difference variables, such as cognitive skills and analytical ability (see Cacioppo and Petty (1982)).
  - Situational factors, such as information overload, time constraints, and decision context factors (Suri and Monroe, 2003).
- Numerosity and number encoding—i.e., how the size of numbers affects perceptions. In this dimension, the authors studied how loyalty programs can increase effectiveness; e.g., points earned per dollar spent (see Bagchi and Li (2011)). In relation to loyalty programs, it is also possible to separate between hedonic and utilitarian attributes; i.e., more emotional attributes<sup>4</sup> versus more rational/useful attributes, respectively. According to Sela and Berger (2012), *an increase in perceived usefulness also may help hedonic options more than utilitarian ones because it enables consumers to balance two competing goals: obtaining utilitarian benefits and hedonic pleasure.*
- Anchoring—i.e., the fact that individuals tend to anchor on the first part of information for initial judgments. For example, does first presenting price and then presenting quantity lead to the same results as first presenting quantity and then presenting price? Bagchi and Davis (2012) analyzed the difference between “\$29 for 70 items” and “70 items for \$29” using car insurance as the anchor product (see also Yadav (1994)).

Other literature has focused on trade-in acquisitions (see Purohit (1995), Okada (2001) and Zhu et al. (2008)). Two of these studies (Okada, 2001; Zhu et al., 2008) achieved interesting results about trade-in purchases in the automobile sector: customers are willing to pay more for a new car if the seller pays more for the used car. However, there are some controversial results concerning the specific research topic of trade-ins. For example, Srivastava and Chakravarti (2011) obtained opposite results. Relevant research has also been conducted concerning the specific effect of how options are presented (see Dhar and Simonson (1992) and Diehl and Zauberman (2005)). The general result is that when prices are presented to customers in descending order, customers tend to choose the more expensive options; when prices are presented in ascending order, customers tend to choose the less expensive options (see Suk et al. (2012)).

This issue is particularly important if we consider that “current regulatory efforts” are being made “in most countries of the European Union to require that insurance companies provide a detailed price presentation, including administration costs and other elements to their consumers (see Huber et al. (2015)). Other investigations have also shown the importance of insurance regulation (e.g., Cummins and Tennyson, 1992; Weiss et al., 2010; Derrig and Tennyson, 2011; Brophy, 2012). Although several national regulators have consumer protection legislation, the Portuguese insurance market is somewhat different. Only recently, the former Portuguese Institute of Insurance changed its designation to Portuguese Insurance and Pensions Funds Supervision Authority. This change to “supervisory authority” is seen by insurers and intermediaries as movement towards empowering the

<sup>4</sup> For more details, please, see Slovic, Finucane, Peters and Mc Gregor, 2002, cited in de Meza et al. (2008, p. 53)).

regulation and strengthening the regulator's toolkit to control the financial crisis. This supervisory authority mainly bases its regulation on having a minimum premium (price), which aims at maintaining the financial stability and the soundness of the financial institutions that operate in the insurance market.

In any case, we agree that, ideally, it would be better if consumers' financial capabilities could be improved, opening the possibility to have lighter regulation in the insurance: *over time, improving people's financial capability will not only benefit them directly, but also enable them to exert a stronger influence in the retail markets, creating more effective and efficient markets and reducing the need for regulatory intervention* (De Meza et al., 2008, p. 2).

This paper aims to explore whether an anchor effect occurs when attributes are presented in different orders. Thus, the second hypothesis is:

**Hypothesis 2.** The importance assigned to price is affected by the order of attributes' presentation.

### 2.3. The importance of bundling strategies in sales

Adams and Yellen (1976) defined bundling as the act of selling goods in packages. In 1987, Guiltinan (1987) added to this definition the concept of selling products and services in one package for a “special price”. Some literature has shown the benefits of using price bundling (see, e.g., Herrmann et al. (1997), Naylor and Frank (2001) and Arora (2008)). According to Johnson et al. (1999), one possible benefit of bundling strategies (such as bundle discounts) is to increase consumers' repurchase intentions and willingness to make a recommendation; i.e., loyalty behaviors.

Other literature has analyzed the specific effect of price bundling presentation; for example, partitioned price and combined price (see Chakravarti et al. (2002), Stremersch and Tellis (2002), Hamilton and Srivastava (2008) and Brito and Vasconcelos (2015)). As Sheikhzadeh and Elahi (2013) stated, bundling strategies are (a) a tool for price discrimination, (b) a cost-saving mechanism, and (c) a means of entry deterrence.

Moreover, there are two different types of bundling strategies: product bundling and price bundling (see Naylor and Frank (2001), Stremersch and Tellis (2002) and Gilbride et al. (2008)). However, bundling strategies require some precautions. According to Harris and Blair (2012), if consumers fail to process information about a bundle discount, optimal bundle pricing may be affected from the retailer's perspective (see also Drumwright (1992)). Another important aspect, according to Yan et al. (2014), is that *the complementarity of the price discount to the identical products must be attractive to customers and the degree of product complementarity to the complementary products must be large enough*.

Therefore, in this study we focus on car insurance as the main product, and home insurance as the other part of the bundle strategy, for two reasons: (a) the two products are complementary; (b) consumers evaluate bundled products based on an anchoring and adjustment model (see Yadav (1994)), and car insurance is the most relevant insurance product to Portuguese customers (see Associação Portuguesa de Seguros (2013)) because it is compulsory. The third hypothesis is as follows:

**Hypothesis 3.** The importance assigned to price bundling is affected by the order of attributes' presentation.

### 2.4. The importance of intermediaries in insurance sales

Intermediaries assume great importance in the insurance sector. According to The Council of Insurance Agents and Brokers (2015), *insurance intermediaries facilitate the placement and purchase of insurance, and provide services to insurance companies and consumers that complement the insurance placement process*. According

to Eckardt and Rathke-Doppner (2010),

The profound information asymmetries between consumers and insurance companies have resulted in the evolution of institutions that mediate between consumers and insurance companies. Insurance intermediaries such as exclusive agents and insurance brokers hold an important position as matchmakers between the supply and demand sides on insurance markets.

In terms of demand, consumers' preferences in regard to insurance-related information, other transaction services and their transaction costs influence their make-or-buy decisions. Since many information services depend on information that is privately held by consumers, intermediation service quality also depends on cooperation between consumers and intermediaries (see Eckardt and Rathke-Doppner (2010)). On the supply side, distribution of the relevant information and the search technology used are important factors that affect the search costs incurred in producing information as well as producing other services at a certain level of quality (Rose, 1999; Eckardt, 2007, as cited in Eckardt and Rathke-Doppner (2010)). Rose (1999) presented different cost reductions from the services of intermediaries, including search costs, information costs, and opportunity costs (for more detail, see Table 2).

In this context, the authors aim to investigate the specific importance of intermediaries from the perspective of insurance customers, as well as to identify the ideal moment at which insurance intermediaries should recommend what they consider to be the best product. The final hypothesis of the study is as follows:

**Hypothesis 4.** The importance assigned to the insurance intermediary's recommendation is affected by the order of attributes' presentation. Fig. 1 presents an overview of the hypotheses of this study.

## 3. Methodology

### 3.1. Participants

Data collection took place in late 2013 and early 2014. Data was gathered from 394 insurance customers (59.1% men; 40.9% women), aged between 19 and 80 (mean=43.92; standard deviation=12.299). The sample error was  $\pm 4.94\%$  ( $p=q=50$ ), with a confidence level of 95% ( $k=2$  sigma).

**Table 2**  
Transaction cost reduction from intermediaries (Rose, 1999).

Transaction stages	Intermediary service	Cost reduction
Searching and matching	1. Direct sales of information 2. Matchmaking 3. Market-making	1. Search costs 2. Information costs 3. Opportunity costs of time
Availability and immediacy of products	1. Compensation of variances in demand and supply	1. Opportunity costs of time
Negotiating and contracting	1. Strong bargaining position 2. Exploitation of differences in contract terms between supply and demand market side 3. Standardization of contracts	1. Negotiation costs 2. Information costs 3. Administrative costs 4. Opportunity costs of time
Monitoring and guaranteeing	1. Expertise in determining product and service quality 2. Cross-sectional and temporal reuse of information 3. Guarantee of high product quality	1. Information costs 2. Monitoring and control costs 3. Costs resulting from uncertainty 4. Investment in expertise

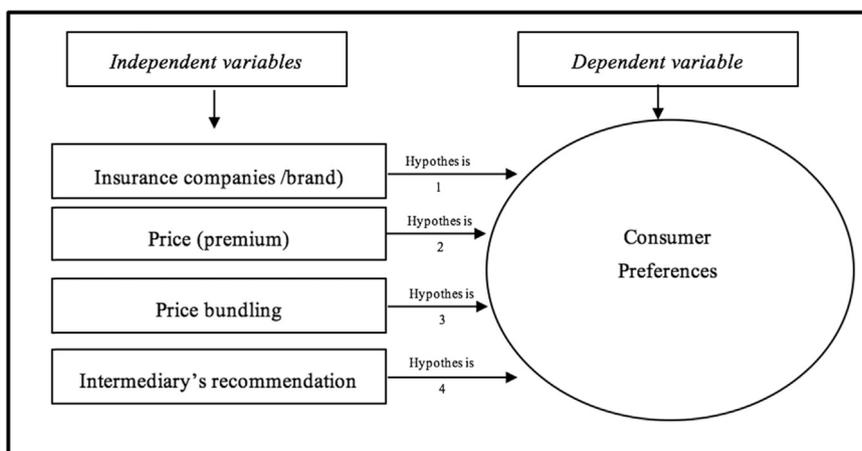


Fig. 1. Overview of hypotheses.

### 3.2. Selection of attributes

A qualitative approach was used in order to identify the most important attributes. The authors conducted three focus groups (consisting of both customers and insurance intermediaries) lasting 47–55 min (focus groups were conducted in 2012). Finally, the selected attributes were:

- Insurance companies;
- Price (premium)<sup>5,6</sup>;
- Bundling strategy;
- Intermediary's recommendation.

A review of the literature also shows that premiums (Rothschild and Stiglitz, 1976; Barroso and Picón, 2012; Rai and Medha, 2013), intermediary recommendations (O'Loughlin and Szmigin, 2007; Robson and Sekhon, 2011; Brophy, 2013) and pricing strategies, such as price bundling (Weston, 2007, as cited in Brophy (2014)), are very important attributes.

### 3.3. Procedure

Conjoint analysis was performed in order to achieve conditions that were as similar to the selling environment as possible (other investigations used the same logic; e.g., Gareth et al., 1990; Moogan et al., 2001; Dominique-Ferreira et al., 2016). The intermediaries who collected the data indicated that the FP option would mimic the decision-making process of insurance customers more closely than choice-based conjoint analysis. In addition, other studies have shown that FP has performed well in predicting consumers' preferences (Molin et al., 2000; Oppewal and Klabbers, 2003). In the specific case of pricing studies, conjoint analysis is one of the most popular methods in marketing for measuring willingness to purchase (Jedidi and Jaspal, 2009, p. 42).

To perform conjoint analysis, the abovementioned four attributes were selected, with different levels for each (2x4x4x2). From the 64 possible combinations, an orthogonal fractional factorial design was used, with 16 and two holdout cards selected; these were eventually used in the data collection (with the "Orthoplan" procedure of SPSS v. 21). We built 18 cards, each of which represented one of the 18 combinations of the levels of attributes. For the specific purpose of this

<sup>5</sup> Respondents were informed about the coverage associated with each level of premium.

<sup>6</sup> 150€ – Standard product through regulation (after the decree-law no. 72/2008, April 1616th); 200€ – the same coverage as the option of 150€ and vehicle occupants' insurance; 250€ – the same coverage as the option of 200€ and auto glass insurance; 300€ – the same coverage as the option of 250€ and theft coverage.

study, we used three orders of attribute presentations called "series," which were characterized as shown in Table 3.

Due to the high number of possible combinations, three series were used. In series A, price was placed at the beginning, mainly for the purpose of verifying the results of Bagchi and Davis (2012) (that individuals tend to anchor on the first part of information for initial judgments). In series B and series C, price was placed at the end for the same reason. The only difference between series B and series C was the order of the presentation of the attributes preceding price; in series B, the other attributes were sorted based on what the authors believed to be the descending order of importance. In other words, it was assumed that bundling would be the second most important attribute, followed by the intermediary's recommendation, and finally the insurer. In series C, the authors placed the presumed least important attribute first, followed by the other attributes.

### 3.4. Methods and results

As noted above, the study of consumer preferences was performed through conjoint analysis. In order to analyze the possible order effect on each attribute (Section 4.2), the Kruskal–Wallis test was performed.

Finally, as outlined in Section 4.3.3, the variation attributed to the change (based on the ideal product and the anti-ideal product obtained from the results of the conjoint analysis) was used in order to estimate the gain or loss when changing the order of the attributes' presentation. This methodology was recently developed by USC-PSICOM (e.g., ACEMEU®). Thus, a triangular approach was applied (see Svensson et al. (2008)).

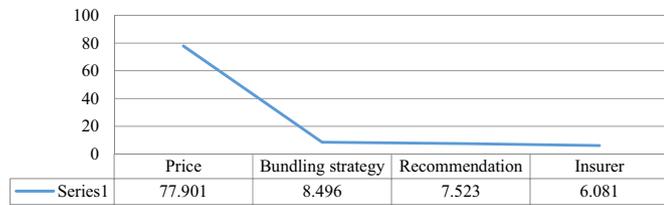
## 4. Results

### 4.1. Conjoint analysis results

The model fit is very high, so it can be concluded that the validity of the results is also high (Pearson's R=0.999; Kendall's Tau=0.983). The most important attribute is price, with an importance of 77.901%. The

Table 3  
Orders of attributes' presentation.

Series A	Series B	Series C
Insurer Price	Bundling Intermediary's recommendation	Insurer Bundling
Intermediary's recommendation Bundling	Insurer Price	Intermediary's recommendation Price



Graph 1. Importance of attributes.

Table 4 Importance of each attribute by series.

Attributes	Series A (%)	Series B (%)	Series C (%)	A-B (%)	A-C (%)	B-A (%)
Insurer	3.542	5.678	8.550	2.136	5.008	2.872
Price	83.97	79.359	72.996	4.611	10.974	6.363
Intermediary's recommendation	6.116	3.841	10.678	2.275	4.562	6.837
Bundling strategy	6.371	11.122	7.777	4.751	1.406	3.345
Average	–	–	–	3.433	5.488	4.854

Table 5 Hypotheses validation.

Hypothesis	Results
Hypothesis 1: The importance assigned to insurance companies is affected by the order of attributes' presentation.	Supported
Hypothesis 2: The importance assigned to price is affected by the order of attributes' presentation.	Not supported
Hypothesis 3: The importance assigned to price bundling is affected by the order of attributes' presentation.	Not supported
Hypothesis 4: The importance assigned to the intermediary's recommendation is affected by the order of attributes' presentation.	Not supported

Table 6 Effects detected with possible practical implications.

Attribute	Effects
Insurance companies	Primacy
Price (premium)	Primacy Transfer
Price bundling	Primacy
Intermediary's recommendation	Primacy

second most relevant attribute is the bundled discount, with an importance of 8.496%. The recommendation has an importance of 7.523%, and the brand seems to be the least important attribute of the four (6.081%) ( Graph 1).

Concerning levels of the price attribute, the preferred level is, as expected, €150 (u=4.448). However, it should be noted that paying €50 more—i.e., €200 (u=1.560)—presents a positive part-worth. The levels €250 and €300 present negative part-worths (u=-1.377 and -4.631, respectively). In addition, bundled discounts are a good option for customers (u=0.495). Concerning the recommendation attribute, customers actually give preference to products recommended by intermediaries (u=0.438). Concerning the brand attribute, Açoreana seems to be the preferred brand (u=0.34). Fidelidade-Mundial is the

Table 7 Simulations.

Series	Brand	Price	Intermediary's recommendation	Bundling strategy	Global Utility	VAC
A	Açoreana	€200	Yes	Yes	10.990%	Benchmark 1
C	Açoreana	€200	Yes	Yes	11.540%	+4.74% (Comparing with Benchmark 1)

only other brand that presents a positive utility (u=0.143).

#### 4.2. Results by series

##### 4.2.1. Insurance companies

**Hypothesis 1:** The importance assigned to insurance companies is affected by the order of attributes' presentation.

In the case of the insurer, there is a more complex effect. When the insurer is presented at the beginning (series A and series C), consumers assign the lowest importance in series A ( $U_{Insurer A}=3.542\%$ ), but the highest importance in series C ( $U_{Insurer C}=8.550\%$ ).

The difference between the highest and lowest importance is 5.008%. Therefore, it is not possible to argue that there is a primacy or recency effect ( $U_{Insurer B}=5.678\%$ ).

The reason for this may be that in series A the insurer attribute ( $U_{Insurer A}=3.542\%$ ) is immediately succeeded by price ( $U_{Price A}=83.97\%$ ), which is the most important attribute. Thus, this could be explained by the enormous importance of price in series A combined with the primacy effect observed in price. It seems that the same situation occurs in series B.

In series C, the situation is different because the attribute that succeeds insurer is a less important attribute (bundling strategy) than price. A test of normality revealed that the data are not normally distributed ( $p < 0.001$ ).

The Kruskal–Wallis test was then performed; the results show that it is possible to reject the null hypothesis ( $p=0.024$ ) (Table 4).

##### 4.2.2. Price

**Hypothesis 2:** The importance assigned to price is affected by the order of attributes' presentation.

The results show that price has a lower importance when presented at the end of the sale ( $U_{Price B}=79.359\%$ ;  $U_{Price C}=72.996\%$ ). Consumers assign more importance to price when it is presented at the beginning ( $U_{Price A}=83.97\%$ ).

The difference between the highest value ( $U_{Price A}=83.97\%$ ) and the lowest value ( $U_{Price C}=72.996\%$ ) is 10.974%. This difference of importance (10.974%) is higher than the importance of any of the other attributes. This could be an indication of a primacy effect when price is presented at the beginning (series A).

There is also a transfer effect; i.e., when price is presented at the end and is preceded by a relevant attribute (such as the intermediary's recommendation), its importance is lower (series C). When price is presented at the end but preceded by the least important attribute (insurer), the transfer effect is not as strong (series B).

A test of normality revealed that the data are not normally distributed ( $p < 0.001$ ). Thus, the Kruskal–Wallis test was performed; the results show that the null hypothesis should be retained ( $p=0.374$ ).

##### 4.2.3. Price bundling

**Hypothesis 3:** The importance assigned to price bundling is affected by the order of attributes' presentation.

Regarding the bundling strategy attribute, it seems that there is a primacy effect: this attribute has the highest importance when it is presented at the beginning ( $U_{Bundling B}=11.122\%$ ); the second highest importance when it is presented second ( $U_{Bundling C}=7.777\%$ ); and the lowest when it is presented at the end ( $U_{Bundling A}=6.371\%$ ). The difference between the highest and lowest values is 4.751%.

It appears that there is a primacy effect in series B (presented in

first place) and series C (presented in second place).

The Shapiro–Wilk test performed in this case revealed that the data are not normally distributed ( $p < 0.001$ ). Therefore, the Kruskal–Wallis test was performed again; the results show that the null hypothesis should be retained ( $p=0.794$ ).

#### 4.2.4. Intermediary's recommendation

**Hypothesis 4:** The importance assigned to the intermediary's recommendation is affected by the order of attributes' presentation.

Regarding the recommendation made by the intermediary, the highest value is observed when the attribute is presented near the end ( $U_{\text{Recommendation C}}=10.678\%$ ;  $U_{\text{Recommendation A}}=6.116\%$ ). When presented near the beginning, it has the lowest importance ( $U_{\text{Recommendation B}}=3.841\%$ ). The difference between the highest and lowest values is 6.837%. In this case, it appears that there is not a clear effect (if anything, there may be a primacy effect).

The Shapiro–Wilk test revealed that the data are not normally distributed ( $p < 0.001$ ). Therefore, the Kruskal–Wallis test was performed; the results show that the null hypothesis should be retained ( $p=0.747$ ).

Finally, it is interesting to note that the variability of the attributes' importance is lower when price is presented at the beginning (series A), in the same circumstances in which the importance of price is highest. Our argument is also supported because the highest variability of the attributes' importance is found in series C (which is precisely our recommendation for salespeople's approach to customers). Table 5 presents a summary of the results in relation to the hypotheses.

Table 6 presents a summary of the main results obtained based on the possible practical/managerial implications, but not (necessarily) on statistical implications.

#### 4.3. Statistical differences versus simulation analysis

According to Bakan (1966, as cited in Cohen (1994)), “a great deal of mischief has been associated” with the test of significance. In most cases, the practical reality is sidelined because “if [a researcher] tried to publish this result without a significance test, one or more reviewers might complain? It could happen.” This logic seems to place the statistical implications in contradiction with the practical implications. However, in terms of the results obtained in this study, it is questionable as to whether the non-statistically significant differences are relevant in real sales situations. Table 7 shows some simulation analyses conducted through VAC (variation attributed to change). For example, “benchmark 1” shows that it is possible to increase the attractiveness of a product by 4.74% based on the effect of the order of attribute presentation (from series A to series C). Thus, the results obtained in this study should be considered in terms of their business management implications.

### 5. Discussion and managerial implications

Price is frequently the most important attribute for customers. However, it is clearly not the only attribute that customers consider in the buying process. In order to conduct this study, three focus groups were carried out; they showed that three other attributes are also relevant in insurance customers' buying process: insurer, bundling strategy, and intermediary's recommendation.

The general results show that price is the most important attribute, as expected, followed by bundling strategy, the intermediary's recommendation, and the insurer's identity. However, when customers are exposed to a different attribute presentation order, the results are quite different. For example, the intermediary's recommendation can be the second most important attribute ( $\text{Imp}=10.678\%$  in series C), as well as the least important attribute ( $\text{Imp}=3.841\%$  in series B). In this sense, each attribute's importance shows great variability depending on the specific moment/place in which the salesperson presents each attri-

bute. This is mainly due to primacy and recency effects, but it is also influenced by a transfer effect; i.e., the relative importance of the attributes preceding and succeeding a given attribute affect its importance. This result is even more salient if we consider that intermediaries play an important role in the consumer buying decision process. Therefore, our results share some similarities with those obtained in other studies (Chrzan, 1994; DeMoranville and Bienstock, 2003).

Concerning implementation of bundling strategies in the Portuguese insurance sector, it seems that sales managers should pay special attention to detection of the primacy effect, which could be used as an anchor element in sales (Yadav, 1994). Bundling strategies are also an important strategy to improve consumer services management (similar results were obtained by Yan et al. (2014)).

The next issue that arises is that of how salespeople can most efficiently approach customers. In order to decrease the importance of price, our results suggest that salespeople should first present the insurer's identity, followed by the bundling strategy, the intermediary's recommendation and, finally, the price. This approach seems to be able to decrease the importance of price by 10.975% compared to the least effective order of presentation. These results show some similarities with those of a study conducted by Bagchi and Davis (2012).

One limitation of this study is its use of only three different series. It would be interesting to use additional combinations and analyze the results thereof. In further research, it would also be interesting to conduct a behavioral experiment to show whether the effects detected in this study can be replicated (different presentations influence decision-making differently) and whether they have significant consequences (affecting evaluations and customers' willingness to buy).

### References

- Acito, F., 1977. An investigation of some data collection issues in conjoint measurement. *Am. Mark. Assoc. Educ. Proc.*, 82–85.
- Adams, W., Yellen, J., 1976. Commodity bundling and the burden of monopoly. *Q. J. Econ.* 90, 475–498.
- Anderson, N.H., 1965. Averaging versus adding as a stimulus-combination rule in first formation. *J. Exp. Psychol.* 70 (4), 394–400.
- Arora, R., 2008. Price bundling and framing strategies for complementary products. *J. Prod. Brand Manag.* 17 (7), 475–484.
- Asch, S.E., 1946. Forming impressions of personality. *J. Abnorm. Soc. Psychol.* 41, 258–290.
- Associação Portuguesa de Seguros, 2013. Seguros em Portugal: Panorama do mercado segurador 12/1, Associação Portuguesa de Seguros, Lisboa
- Atkinson, R., Shiffrin, R., 1968. Human memory: a proposed system and its control processes. In: Spence, K.W., Spence, J.T. (Eds.), *The Psychology of Learning and Motivation: Advances in Research and Theory*. Academic Press, New York, 89–195.
- Avlonitis, G., Indouan, K., 2006. Pricing practices of service organizations. *J. Serv. Mark.* 20 (5), 346–356.
- Bagchi, R., Davis, D., 2012. \$29 for 70 items or 70 items for \$29? How presentation order affects package perceptions. *J. Consum. Res.* 39, 62–72.
- Bagchi, R., Li, X., 2011. Illusionary progress in loyalty programs: magnitudes, reward distances, and step-size ambiguity. *J. Consum. Res.* 37, 888–901.
- Barroso, C., Picón, A., 2012. Multi-dimensional analysis of perceived switching costs. *Ind. Mark. Manag.* 41 (3), 531–543.
- Brito, D., Vasconcelos, H., 2015. Inter-firm bundling and vertical product differentiation. *Scand. J. Econ.* 117 (1), 1–27.
- Brophy, R., 2012. Development of insurance regulation in Ireland. *J. Financ. Regul. Compliance* 20 (3), 248–263.
- Brophy, R., 2013. Adding value to insurance products: the AXA Irish experience. *J. Prod. Brand Manag.* 22 (4), 293–299.
- Brophy, R., 2014. Rebrand in crisis: how Liberty came to Ireland. *J. Strateg. Mark.* 22 (2), 93–103.
- Buda, R., Zhang, Y., 2000. Consumer product evaluation: the interactive effect of message framing, presentation order, and source credibility. *J. Prod. Brand Manag.* 9 (4), 229–242.
- Cacioppo, J., Petty, R., 1982. The need for cognition. *J. Personal. Soc. Psychol.* 42 (1), 116–131.
- Chakravarti, D., Rajan, K., Pallab, P., Srivastava, J., 2002. Partitioned presentation of multi-component bundle prices: evaluation, choice, and underlying processing effects. *J. Consum. Psychol.* 12 (3), 215–229.
- Chrzan, K., 1994. Three kinds of order effect in choice-based conjoint analysis. *Mark. Lett.* 5, 165–172.
- Cohen, J., 1994. The earth is round ( $p < 0.05$ ). *Am. Psychol.* 49 (12), 997–1003.
- Council of Insurance Agents & Brokers, 2015. The Role of Insurance Intermediaries, retrieved on February 19, 2015. (<https://www.ciab.com/uploadedfiles/resources/>)

- roleofinsint.pdf)
- Cummins, J., Tennyson, S., 1992. Controlling automobile insurance costs. *J. Econ. Perspect.* 6 (2), 95–115.
- Damay, C., Guichard, N., Clauzel, A., 2011. When children confront prices: an approach based on price presentation. *J. Prod. Brand Manag.* 20 (7), 514–525.
- De Meza, D., Irlenbusch, B., Reyniers, D., 2008. Financial Capability: A Behavioural Economics Perspective. The Financial Services Authority, London.
- DeMoranville, C., Bienstock, C., 2003. Question order effects in measuring service quality. *Int. J. Res. Mark.* 20 (3), 217–231.
- Derrig, R., Tennyson, S., 2011. The impact of rate regulation on claims: evidence from Massachusetts automobile insurance. *Risk Manag. Insur. Rev.* 14 (2), 173–199.
- DeSarbo, W., Green, P., 1984. Concepts, theory, and techniques: choice-constrained conjoint analysis. *Decis. Sci.* 15, 291–323.
- Dhar, R., Nowlis, S., Sherman, S., 1999. Trying hard or hardly trying: an analysis of context effects in choice. *J. Consum. Psychol.* 9 (4), 189–200.
- Dhar, R., Simonson, I., 1992. The effects of the focus of comparison on consumer preference. *J. Mark. Res.* 29, 430–440.
- Diehl, K., Zauberger, G., 2005. Searching ordered sets: evaluations from sequences under search. *J. Consum. Res.* 31 (4), 824–832.
- Dominique-Ferreira, S., Vasconcelos, H., Proença, J., 2016. Determinants of customer price sensitivity: an empirical analysis. *J. Serv. Mark.* 30 (3), 327–340.
- Drumwright, M., 1992. A demonstration of anomalies in evaluations of bundling. *Mark. Lett.* 3 (4), 311–321.
- Eckardt, M., Rathke-Doppner, S., 2010. The quality of insurance intermediary services – empirical evidence for Germany. *J. Risk Insur.* 77 (3), 667–701.
- Fishbein, M., Ajzen, I., 1975. *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*. Addison-Wesley, Reading, Massachusetts.
- Gareth, G., Levin, I., Chakraborty, G., Levin, A., 1990. Consumer evaluation of multi-product bundles: an information integration analysis. *Mark. Lett.* 2 (1), 47–57.
- Gatzert, N., Huber, C., Schmeiser, H., 2010. How do price presentation effects influence consumer choice? The case of investment guarantees in unit-linked life insurance products. *Work. Pap. Risk Manag. Insur.* 82, 1–38.
- Gilbride, T., Gultinan, J., Urbany, J., 2008. Framing effects in mixed price bundling. *Mark. Lett.* 19, 125–139.
- Gultinan, J., 1987. The price bundling of services: a normative framework. *J. Mark.* 51, 74–85.
- Hamilton, R., Srivastava, J., 2008. When 2+2 is not the same as 1+3: variations in price sensitivity across components of partitioned prices. *J. Mark. Res.* 45 (4), 450–461.
- Harris, J., Blair, E., 2012. Consumer processing of bundled prices: when do discounts matter? *J. Prod. Brand Manag.* 21 (3), 205–214.
- Herrmann, A., Huber, F., Coulter, R.H., 1997. Product and service bundling decisions and their effects on purchase intention. *Pricing Strategy Pract.* 5 (3), 99–107.
- Hogarth, R.M., Einhorn, H.J., 1992. Order effects in belief updating: the belief-adjustment model. *Cogn. Psychol.* 24, 1–55.
- Hsee, C., Zhang, J., 2004. Distinction bias: misprediction and mischoice due to joint evaluation. *J. Personal. Soc. Psychol.* 86 (5), 680–695.
- Huber, C., Gatzert, N., Schmeiser, H., 2015. How does price presentation influence consumer choice? The case of life insurance products. *J. Risk Insur.* 82 (2), 401–431.
- Insurance and Pension Funds Supervisory Authority (IPFSA), 2015. Insurance activity – 2014, retrieved on February 23, 2015, (<http://www.asf.com.pt/NR/rdonlyres/2392081F-E0B6-491A-8D5d-78EE4709C83B/0/Producaoprovisoria2014.pdf>)
- Jedidi, K., Jaspal, S., 2009. Willingness to pay: measurement and managerial implications. In: Rao, V. (Ed.), *Handbook of Pricing Research in Marketing*. Edward Elgar Publishing, Northampton, 37–60.
- Johnson, M., Herrmann, A., Bauer, H., 1999. The effects of price bundling on consumer evaluations of product offerings. *Int. J. Res. Mark.* 16 (2), 129–142.
- Johnson, R., 1987. Adaptive conjoint analysis, Proceedings of the Sawtooth Software Conference on Perceptual Mapping, Conjoint Analysis, and Computer Interviewing, Sawtooth Software, Ketchum, Idaho.
- Li, C., 2009. Primacy effect or recency effect? A long-term memory test of super bowl commercials. *J. Consum. Behav.* 9, 32–44.
- Molin, E., Oppewal, H., Timmermans, H., 2000. A comparison of full profile and hierarchical information integration conjoint methods to modeling group preferences. *Mark. Lett.* 11 (2), 165–175.
- Moogan, Y., Baron, S., Bainbridge, S., 2001. Timing and trade-offs in the marketing of higher education courses: a conjoint approach. *Mark. Intell. Plan.* 19 (3), 179–187.
- Naylor, G., Frank, E., 2001. The effect of price bundling on consumer perceptions of value. *J. Serv. Mark.* 15 (4), 270–281.
- Nowlis, S., Simonson, I., 1997. Attribute–task compatibility as a determinant of consumer preference reversals. *J. Mark. Res.* 34, 205–218.
- Okada, E., 2001. Trade-ins, mental accounting, and products replacement decisions. *J. Consum. Res.* 27, 433–446.
- O’Loughlin, D., Szmigin, I., 2007. Services branding: revealing the rhetoric within retail banking. *Serv. Ind. J.* 27 (4), 435–452.
- Oppewal, H., Klabbbers, M., 2003. Compromising between information completeness and task simplicity: a comparison of self-explicated, hierarchical information integration, and full-profile conjoint methods. *Adv. Consum. Res.* 30 (1), 298–304.
- Orme, B., Alpert, M., Christensen, E., 1997. Assessing the validity of conjoint analysis – continued. In: *Sawtooth Software Conference Proceedings, Ketchum, Idaho*, pp. 209–225.
- Purohit, D., 1995. Playing the role of buyer and seller: the mental accounting of trade-ins. *Mark. Lett.* 6 (2), 101–110.
- Rai, A., Medha, S., 2013. The antecedents of customer loyalty: an empirical investigation in life insurance context. *J. Compet.* 5 (2), 139–163.
- Robson, J., Sekhon, Y., 2011. Addressing the research needs of the insurance sector. *Int. J. Bank Mark.* 29 (7), 512–516.
- Rose, F., 1999. *The Economics, Concept, and Design of Information Intermediaries*. Physica Verlag, Heidelberg.
- Rothschild, M., Stiglitz, J., 1976. Equilibrium in competitive insurance markets: an essay on the economics of imperfect information. *Q. J. Econ.* 90 (4), 629–649.
- Sela, A., Berger, J., 2012. How attribute quantity influences option choice. *J. Mark. Res.* 49, 942–953.
- Sheikhzadeh, M., Elahi, E., 2013. Product bundling: impacts of product heterogeneity and risk considerations. *Int. J. Prod. Econ.* 144 (1), 209–222.
- Srivastava, J., Chakravarti, D., 2011. Price presentation effects in purchases involving trade-ins. *J. Mark. Res.* 48 (October), 910–919.
- Stremersch, S., Tellis, G., 2002. Strategic bundling of products and prices: a new synthesis for marketing. *J. Mark.* 66, 55–72.
- Suk, K., Lee, J., Lichtenstein, D., 2012. The influence of price presentation order on consumer choice. *J. Mark. Res.* 49 (October), 708–717.
- Suri, R., Monroe, K., 2003. The effects of time constraints on consumers’ judgments of prices and products. *J. Consum. Res.* 30, 92–104.
- Svensson, G., Tronvoll, B., Slaten, T., 2008. An assessment of the empirical characteristics of top journals in services marketing. *Manag. Serv. Qual.: Int. J.* 18 (3), 289–304.
- Tung, W., Capella, P., Tat, P., 1997. Service pricing: a multi-step synthetic approach. *J. Serv. Mark.* 11 (1), 53–65.
- Weiss, M., Tennyson, S., Regan, L., 2010. The effects of regulated premium subsidies on insurance costs: an empirical analysis of automobile insurance. *J. Risk Insur.* 77 (3), 597–624.
- Weisstein, L., Asgari, M., Siew, S.-W., 2014. Price presentation effects on green purchase intentions. *J. Prod. Brand Manag.* 23 (3), 230–239.
- Xie, G.-X., Kahle, L., 2014. Approach or avoid? The effect of regulatory focus on consumer behavioral responses to personal selling attempts. *J. Pers. Sell. Sales. Manag.* 34 (4), 260–271.
- Yadav, M., 1994. How buyers evaluate product bundles: a model of anchoring and adjustment. *J. Consum. Res.* 21, 342–353.
- Yan, R., Myers, C., Wang, J., Ghose, S., 2014. Bundling products to success: the influence of complementarity and advertising. *J. Retail. Consum. Serv.* 21 (1), 48–53.
- Zhu, R., Chen, X., Dasgupta, S., 2008. Can trade-ins hurt you? Exploring the effect of a trade-in on consumers’ willingness to pay for a new product. *J. Mark. Res.* 45, 159–170.

PhD in Management and Marketing at the University of Porto, Adjunct Professor at the Polytechnic Institute of Cavado and Ave. His research topics are marketing and management.