

# Determinants of perceived and actual knowledge of personal loan's total cost

Track: Consumer behavior

## Abstract

Poor knowledge of total cost paid by a customer for personal loan indicates a vulnerable decision maker who may be unable to distinguish an uncompetitive offer from a competitive one. This paper examines the influence of customer-related and bank-related characteristics on the knowledge of personal loan's total cost paid by customers and tests the hypothesized relationships. Results show that actual knowledge of personal loan's total cost is positively associated with product satisfaction and is negatively associated with old and frequent purchases. Additionally, results show that perceived knowledge of personal loan's total cost is positively associated with use of the price-quality cue, male gender, price advertising exposure, product satisfaction and existing brand customers, and is negatively associated with old purchases. Finally, this study shows that a big market segment, comprising 37.2% of the probability sample, represents vulnerable customers with high perceived knowledge but low actual knowledge. This study shows that this market segment has a high use of price-quality cue.

*Keywords:* Price knowledge; financial services; customer-related characteristics; bank-related characteristics; Personal loans.

## 1. Introduction

Personal (consumer, consumption) loans are those which are given by the banks to consumer in order to meet consumption needs which may range from medical emergency, marriage purpose, educational purpose and so on. Personal loans are particularly relevant in Chile, since around 60% of the households have some personal debt. Unfortunately, personal loan's total costs are high in Chile (Matus et al., 2010; The Economist, 2012). A personal loan's total cost consists of interest, bank up front charges, government taxes, charges paid to third parties (e.g. insurances), etc. Frequently, managers, regulators and academics use common assumptions to analyze and discuss the effects of prices on customers' decisions making, and the tactics the firms should use in order to set prices and to communicate them to customers. One such assumption is that customers do know (to a reasonable degree) the prices of the goods and services they purchase (Connor and Peterson, 1992; Frank, 2006; Von Neumann and Morgenstern, 1944). However, researchers examining customer's price knowledge have revealed that while customer may possess accurate knowledge of prices in certain categories, customer knowledge of prices

varies significantly across product categories and in some cases may be far below levels required for optimal decision making (Dickson and Sawyer, 1990; Estelami and Lehmann, 2001).

In contexts in which price is the result of a negotiation, such as the personal loan context, the price (total cost) obtained by a consumer depends on her/his bargaining power, which depends on the consumer ability to understand and assessing the value of the presented offer (Barrutia and Echebarria, 2010). High levels of price knowledge indicate a well-informed decision maker capable of understanding and assessing the value of the presented offer. On the other hand, poor knowledge of prices indicates a vulnerable decision maker who may be unable to distinguish an uncompetitive price from a competitive one (Vanhuele and Dréze, 2002).

The complicated nature of financial services could result in poor price knowledge. For example, numerous customers have a difficult time remembering the cost of their banking services, such as the monthly maintenance fees for checking account services and ATM transaction charges, or what yearly premiums they are paying for their car insurance. As a result, the general level of price knowledge with which customers interact with financial services providers might be quite limited. Lack of price knowledge can thus serve as a catalyst for creative and sometimes manipulative marketing practices. In Latin America, in June 2011, it came to light that executives at La Polar had been unilaterally renegotiating customers' debts for more than six years. The news stunned Chileans and has become one of the biggest financial scandals of Chilean history. In the same year, the federal prosecutor's office in Rio de Janeiro filed suit against three of Brazil's biggest banks, accusing them of imposing more than \$300 million in illegal bank charges on customers from 2008 to 2010 (Barrionuevo, 2011). In 2013, the Chilean Supreme Court fined Cencosud an estimated \$70 million for a unilateral hike of its supermarket unit's credit card maintenance fees in 2006 (Reuters, 2013).

Despite the practical significance of customer's price knowledge and the growing volume of research in this area, most of the existing research has focused purely on manufactured goods (Olavarrieta et al., 2012). Published studies of price knowledge in services are far less frequently available and little is known about the level of price knowledge for services in general, and financial services in particular. Consequently, the extent of understanding of consumer knowledge of financial service prices is generally limited. Too little is known about the determinants of price knowledge of financial services because only one study (Estelami, 2005) addresses this issue. Measuring only perceived price knowledge, Estelami (2005) shows that price-quality cue and price advertising exposure increases price knowledge. Estelami (2005) also demonstrates systematic differences in consumer price knowledge between financial services and non-financial services.

Understanding of customer's price knowledge in the Chilean personal loans industry requires taking of various individual customer-related and bank-related characteristics into account. Empirical evidence suggests the existence of ample variance in terms of price knowledge across customers and firms (Estelami et al., 2001). Consequently, it is

questionable whether it is valid to treat customers and banks as homogenous groups when in practice it is likely that they will vary in important respects, which may have implications for customer's price knowledge. If customer-related and bank-related characteristics influences price processing, managers and regulators need to understand those differences in order to create and to regulate pricing strategies.

The purpose of this study is to identify the proportion of customers who do not know the total cost paid and reasons for it in the Chilean personal loans industry. In order to achieve these research objectives, an empirical study utilizing a survey administered through personal in-home interviews is carried out. The study uses this data to measure price knowledge - the dependent variable - and to estimate a model with customer-related and bank-related characteristics as the explanatory variables. This approach is consistent with earlier studies on customer's price knowledge (e.g., Conover, 1986; Dickson and Sawyer, 1990; Estelami and De Maeyer, 2004; Le Boutillier et al., 1994; Olavarrieta et al., 2012; Vanhuele and Dréze, 2002). This study investigates the determinants of actual price knowledge, that is, what customers actually know, as well as perceived price knowledge, that is, what customers think they know about prices in the context of the Chilean personal loans industry. Both knowledge constructs were included in the study since past research has shown that what consumers think they know is not always a good indicator of their actual knowledge (Mägi and Julander, 2005).

The present study contributes to the existing literature in the following ways. First, while Estelami (2005) measured perceived price knowledge, the present study additionally examines actual price knowledge. Second, while Estelami (2005) examined price-quality cue and price advertising exposure, the present study additionally examines other eleven determinants (e.g., financial literacy, internet use, product satisfaction), which are relevant for managers and regulators. Finally, the present study shows that perceived price knowledge and actual price knowledge are driven by different customer-related and bank-related characteristics. This study show how these differences produce different market segments.

## **2. Conceptual framework**

Two categories of antecedents of customer's price knowledge emerge from literature: customer-related and firm-related characteristics. The review of the literature and the hypothesis development follows the structure of the framework shown in Figure 1. The framework summarizes the customer-related and bank-related characteristics that influence knowledge of personal loan's total cost. This section reviews the literature to derive hypotheses about the effects of the customer-related and bank-related characteristics on customer's price knowledge in the Chilean personal loans industry.

<< Figure 1 here >>

## **2.1. Customer-related characteristics and knowledge of personal loan's total cost**

Previous studies define price consciousness as the degree to which the customer focuses exclusively on paying a low price (Alford and Biswas, 2002; Jung et al., 2014). Price-conscious customers typically attempt to minimize the total cost paid. Studies on grocery shopping indicate that some individuals are inherently more motivated to comparison shop (Mägi, 2003). Highly price-conscious individuals typically face lower individual search costs due to enhanced psychological (e.g., enjoyment) and economic benefits from conducting price search than less price-conscious individuals, and therefore engage in higher levels of search (Alford and Biswas, 2002; Kukar-Kinney et al., 2007). Consequently, they process more price information (Le Boutillier et al., 1994; Gauri et al., 2008). They will regularly beat the market, by knowing when and where to buy, which is derived from an accurate knowledge of prices. Hence:

**H1.** Price consciousness is positively associated with (a) actual and (b) perceived knowledge of personal loan's total cost.

Estelami (2005) show that price-quality cue has a positive effect on perceived price knowledge. Price plays two distinct roles in customers' evaluations of product alternatives: as a measure of sacrifice (i.e., amount of money customer must sacrifice) and as an informational cue (i.e. quality and status inference) (Völckner, 2008). Price may lead to an evaluation of the price image of the financial service and the provider. Research in pricing has established that when product quality is unclear, price is used by individuals as more than a simple measure of monetary sacrifice, and is often used as a proxy for product quality (Dodds et al., 1991). The complexity of the service experience and its associated components in a personal loan further complicate the notion of product quality (e.g., prepayment penalties, speedy service, loan protection coverage, quality service, rate discount for having direct deposit), thereby increasing reliance on simpler quality cues, such as price. For product categories in which this association is strong, high prices infer high levels of perceived quality (Sivakumar and Raj, 1997). Although the association between price and quality may be a true reflection of objective quality variations, it is also often a result of the inability of the customer to objectively determine product quality using any source of information other than price itself (Monroe, 2003). In such circumstances, customers' use of price as an indicator of product quality would imply that price information might be of considerably higher diagnostic value than simply a determinant of monetary outlays. This increases the information value of price and promotes additional incentives for customers to develop a working memory for prices. Therefore, one might expect a positive relationship between customers' use of the price-quality cue and customer's price knowledge (Estelami and De Maeyer, 2004). Hence:

**H2.** Use of the price-quality cue is positively associated with (a) actual and (b) perceived knowledge of personal loan's total cost.

Internet has become an important resource for consumers to search for products and prices (Bodur et al., 2015). Many Internet users named the Internet as their most trusted source of information. The Internet makes a large amount of information accessible at any time in any location. In addition, the Internet enables individuals and firms to interact with each other regarding price information (Kim and Ratchford, 2012). This should improve the price knowledge of Internet users. Hence:

**H3.** Internet use is positively associated with (a) actual and (b) perceived knowledge of personal loan's total cost.

Financial illiteracy has implications for customer's price knowledge. Bernheim (1995) was the first to point out not only that most individuals cannot perform very simple calculations and lack basic financial knowledge but also that the saving behavior of many customers is dominated by crude rules of thumb. Stango and Zinman (2009) shows that those who are not able to correctly calculate interest rates out of a stream of payments end up borrowing more and accumulating lower amounts of wealth. Banks and Oldfield (2007) find that financial literacy is strongly correlated with measures of understanding of pension arrangements. Therefore, one might expect a positive relationship between financial literacy and price knowledge. Hence:

**H4.** Financial literacy is positively associated with (a) actual and (b) perceived knowledge of personal loan's total cost.

The benefits and costs of customer's price knowledge suggest three demographic characteristics: education, age, and gender. These customer-related characteristics are major segmentation variables used in marketing (Castilla and Haab, 2013; Hidalgo et al., 2008; Olavarrieta et al., 2012).

Education links to thinking costs (Narasimhan 1984; Raju 1980; Urbany et al., 1996). Ability to process domain-relevant information should also be an important predictor of price knowledge. Regarding customers' ability to acquire price knowledge, it is reasonable to suggest that it would increase with the level of formal education. Hence:

**H5.** Education level is positively associated with (a) actual and (b) perceived knowledge of personal loan's total cost.

Age links to exploration and search costs (Martínez and Montaner, 2006; Urbany et al., 1996). Cole and Balasubramanian (1993) found that older consumers searched less intensely and less accurately than did younger consumers. Consequently, older individuals could be less involved in price information for financial services than younger individuals, on average, contributing to age differences in price knowledge. Hence:

**H6.** Age is negatively associated with (a) actual and (b) perceived knowledge of personal loan's total cost.

Gender links to thinking, exploration and search costs (Darley and Smith, 1995; Milner and Higgs, 2004). Additionally, in cognitive studies, it is widely accepted that women excel in verbal skills, whereas men show superiority in mathematical ability (Kim et al., 2007). Men could be more involved in price information for financial services than women, on average, contributing to gender differences in price knowledge. Hence:

**H7.** Males have higher (a) actual and (b) perceived knowledge of personal loan's total cost.

## **2.2. Bank-related characteristics and knowledge of personal loan's total cost**

Estelami (2005) show that price advertising exposure has a positive effect on perceived price knowledge. The presentation of price information in advertisements is likely to contribute to customers' knowledge of prices. Increased advertising exposure therefore further facilitates elaboration of price information and may result in the development of more precise knowledge of prices (Jacoby and Olson, 1977; Sawyer, 1975). According to adaptation level theory (Helson, 1964), exposure to market information through mechanisms such as advertising can help produce a category-level database of information in customers' implicit memory. These memory traces are then utilized in evaluating product offers (Winer, 1986). Increasing the level of customer exposure to advertising is therefore likely to help produce higher price knowledge. The multiple-store theory of human memory (Lindsay and Norman, 1972) also suggests that increased exposure to advertising material is associated with a higher likelihood of the customer elaborating on the presented information. The result of this is the strengthening of memory traces through the movement of information from short-term to long-term customer memory, leading to higher levels of price knowledge. Hence:

**H8.** Price advertising exposure is positively associated with (a) actual and (b) perceived knowledge of personal loan's total cost.

Brand credibility refers to the degree to which the customer trusts the information offered by the brand (Erdem and Swait, 1998; Fariás, 2015). Erdem et al. (2002) propose that brand credibility represents the cumulative effect of the credibility of all previous marketing actions taken by that brand. If individuals believe in the brand, they will have confidence in the price information offered by the brand, increasing the customer knowledge of prices. Hence:

**H9.** Brand credibility is positively associated with (a) actual and (b) perceived knowledge of personal loan's total cost.

Customers satisfied with the current financial service in the product category have functional connections with the brands in the product category and are personally connected to these brands (Story and Hess, 2006). Then, customers will have confidence in the price information offered by the brands in the product category, increasing the customer knowledge of prices in the product category. Hence:

**H10.** Product satisfaction is positively associated with (a) actual and (b) perceived knowledge of personal loan's total cost.

Recent customers in the product category have more recent exposition to prices in the product category (Olavarrieta et al., 2012). Conversely, the more often a product is purchased, the higher could be the price knowledge. However, infrequent customers (vs. frequent customers) in the product category have longer (time-consuming, arduous, laborious) exposition to prices in the product category. Consequently, recent and infrequent customers should have a superior current knowledge of prices in the product category. Hence:

**H11.** Old purchases are negatively associated with (a) actual and (b) perceived knowledge of personal loan's total cost.

**H12.** Frequent purchases are negatively associated with (a) actual and (b) perceived knowledge of personal loan's total cost.

Park et al. (1994) show that product experience in terms of usage affects knowledge. Most experiences (e.g., mail, website, branch services) provide brand customers with an opportunity to acquire price information. This increased exposure consolidates the storage of price information in memory (Lichtenstein et al., 1988; Manzur et al., 2012; Reichheld and Sasser, 1990). Existing brand customers have higher exposition to product prices, reflecting their superior current knowledge of prices. Hence:

**H13.** Brand customers have higher (a) actual and (b) perceived knowledge of personal loan's total cost.

### **3. Research design**

#### **3.1. Sample**

In order to identify the proportion of customers who do not know the personal loan's total cost paid and reasons for it in the Chilean personal loans industry, an empirical study utilizing a survey administered through personal in-home interviews is carried out. Recognizing that various parts of the country may have differences regarding customer-related and bank-related characteristics in the Chilean personal loans industry and due to practical limitations, the survey will include only participants in Santiago of Chile. The target population are prospects (i.e., who plans to acquire this financial service within next three months) and current customers of this financial service aged 18 years and over in a household in Santiago of Chile. The sampling method is stratified (commune), randomized in each of its three stages (block, household, interviewed). The final sample size is 392 personal in-home interviews. Because it is expected to find different types of participants at different times of the day and the week, the interviews were organized such that the sample covered each relevant time slot (morning, midday, evening; beginning of the week, normal weekday, and weekend).

#### **3.2. Measures**

The survey instrument is a questionnaire based on the literature review. The interviewer points to a university label and says: "Excuse me, I am from \_\_\_\_\_ University. May I ask you questions about financial services?" Filter questions were used to establish whether a respondent is customer of the product category. If the respondent is not customer of the product category, an additional filter question was used to establish whether the respondent plans to acquire the financial service in that product category within next three months.

A complete list of items appears in the Appendix. Existing scales were used for item generation. All materials were translated into Spanish using a double translation procedure, which is proven to be one of the best ways to provide validity to this process (McGorry, 2000). This paper distinguishes between two kinds of customer's price knowledge: actual and perceived knowledge of personal loan's total cost. Participants reported actual price knowledge for two brands (Banco de Chile and Banco Falabella) in the Chilean personal loans industry (Valenzuela et al., 2014). Consequently, a total of 784 (392x2) observations were collected to measure actual price knowledge. The study uses this data to measure actual price knowledge (accuracy of price knowledge within 10% variation of the actual price; e.g., Vanhuele and Dréze, 2002; Olavarrieta et al., 2012) - the dependent variable - and to estimate a logit regression with customer-related and bank-related characteristics as the explanatory variables. This approach is consistent with earlier studies on customer's price knowledge (e.g., Conover, 1986; Dickson and Sawyer, 1990; Estelami and De Maeyer, 2004; Le Boutillier et al., 1994; Olavarrieta et

al., 2012; Vanhuele and Dréze, 2002). Additionally, perceived price knowledge is measured with three items (e.g., “I’m good at guessing personal loan’s total costs”) (Estelami, 2005). Consequently, a total of 392 observations were collected to measure perceived price knowledge. The study uses this data to estimate a linear regression with customer-related and bank-related characteristics as the explanatory variables.

#### **4. Results**

The average age of the sample was 45 and the sample was 47 per cent female. These demographic characteristics reveal a sample that closely resembles the underlying population from which it is drawn. The average age of customers in the Chilean personal loans industry is 44 and the population is 51 per cent female (Fariás, 2014; Matus et al., 2010). The multi-item Likert scales exhibit high reliability levels, indicated by coefficient alphas which all exceed 0.7. The multi-item Likert scale values for each of the constructs were determined by computing the mean of the individual items on that scale. The resulting Likert multi-item scale measures therefore range from a low of 1 to a high of 7. The variance inflation factors (VIFs) for each regression coefficient range from a low of 1.068 to a high of 1.481, suggesting that the VIFs are at acceptable levels (Hair et al., 2006). Since no particularly strong collinearity among the independent variables was found, all of them were included in the final model.

##### **4.1. Determinants of actual knowledge of personal loan’s total cost**

About 21.9% of the responses in the sample show an accuracy of price knowledge within 10% variation of the actual price. These data clearly indicate that the Chilean customers paid low attention to total cost paid in the Chilean personal loans industry. Following previous studies (e.g., Vanhuele and Dréze, 2002; Olavarrieta et al., 2012), in order to test the hypotheses the study design considers estimating a logit regression on a binary dependent variable measuring whether responses are correct regarding a price (21.9%) or not (78.1%) with the price knowledge antecedents as independent variables (See Table 1). The overall fit statistic (p-value for the Chi-square test = .019) indicates an acceptable level of fit between the hypothesized model and the data. Of the thirteen hypothesized relationships, three are in the predicted direction and significant ( $ps < .05$ ). Effectively, H10a, H11a and H12a are supported. These findings indicate that product satisfaction positively affect customer’s actual knowledge of personal loan’s total cost (H10a). Additionally, the results suggest that old and frequent purchases negatively affect customer’s actual knowledge of personal loan’s total cost (H11a and H12a). The other estimates are not statistically significant, suggesting that bank-related characteristics (product satisfaction, old and frequent purchases) tend to be the major antecedents of customer’s actual knowledge of personal loan’s total cost. These results are robust across alternative models and sample specifications.

<< Table 1 here >>

#### **4.2. Determinants of perceived knowledge of personal loan's total cost**

In order to determine the relationship between the customer-related and bank-related characteristics and perceived price knowledge, a linear regression analysis was conducted. This is shown in Table 2. As can be seen, the regression analysis is statistically significant at the  $p < .01$  level (Adjusted  $R^2 = .236$ ). There was not heteroscedasticity according to the White (1980) test. The individual analysis of the independent variables is consistent with the relationships postulated in the hypotheses. Use of the price-quality cue (H2b), male gender (H7b), price advertising exposure (H8b), product satisfaction (H10b) and existing brand customers (H13b) are found positively to affect customer's perceived knowledge of personal loan's total cost. Additionally, old purchases (H11b) are found negatively to affect customer's perceived knowledge of personal loan's total cost. The other estimates are not statistically significant; suggesting that customer-related and bank-related characteristics are antecedents of customer's perceived knowledge of personal loan's total cost. Consistent with Estelami (2005), this study show that price-quality cue and price advertising exposure have a positive effect on perceived knowledge of personal loan's total cost. These results are robust across alternative models and sample specifications.

<< Table 2 here >>

#### **4.3. Segmentation analysis**

It seems reasonable to assume that individuals with good (poor) actual knowledge would also perceive themselves as more (less) knowledgeable. However, the results suggest that individuals are in general poorly calibrated in their assessments of their own knowledge of prices. The previous analysis shows that perceived price knowledge and actual price knowledge are driven by different customer-related and bank-related characteristics. In this section, this study determines how these differences produce different market segments. The four market segments in the sample are described in Table 3. The first and second market segments, comprising 78.1% of the sample, represent market segments with low actual price knowledge. The third and fourth market segments represent market segments with high actual price knowledge. The second market segment, comprising 37.2% of the sample, represents vulnerable customers with high perceived price knowledge but low actual price knowledge. This suggests that many customers with low levels of actual price knowledge (37.2% of the sample) still feel confident that they are knowledgeable about prices. Table 3 shows that this market segment has a high use of price-quality cue.

<< Table 3 here >>

## **5. Discussion**

Past price knowledge studies (e.g., Dickson and Sawyer, 1990; Olavarrieta et al., 2012; Vanhuele and Dréze, 2002) suggest that less than half of the customers know the price of products they purchased. Consistent with previous research and price knowledge surveys for manufactured goods, customers do have heterogeneous price knowledge levels in the Chilean personal loans industry. In this study, only 21.9% of the sample shows an accuracy of price knowledge within 10% variation of the actual price. Before driving any public policy and managerial implications, regulators and managers will need to test and check customer's price knowledge and the antecedents that may influence it. Some insights from this study may help this search.

Results show that actual knowledge of personal loan's total cost is positively associated with product satisfaction and is negatively associated with old and frequent purchases in this product category. Additionally, results show that perceived knowledge of personal loan's total cost is positively associated with use of the price-quality cue, male gender, price advertising exposure, product satisfaction and existing brand customers, and is negatively associated with old purchases. Finally, this study shows that a big market segment, comprising 37.2% of the sample, represents vulnerable customers with high perceived knowledge but low actual knowledge of personal loan's total cost. This study shows that this market segment has a high use of price-quality cue.

This study can be very useful for both designing adequate and ethical marketing strategies, but also for designing choice environments that are fair and more adequate for social well-being. Users of the price-quality cue represent public policy target segments. Additionally, promoting and improving product satisfaction, recent and infrequent purchases may definitely improve customer's actual knowledge of personal loan's total cost. From a manager's perspective, these results confirm that price perceptions are fairly malleable and affected to a substantial degree by customer-related and bank-related characteristics. This suggests that price perceptions are difficult to manage and that merely changing price levels is not likely to be an effective measure for obtaining a change in a firm's price image and sales.

The current research shows the importance of investigating price knowledge and offers some interesting explanations for why some customers are more knowledgeable than others. The results should aid both regulators and managers to understand better price-related customer behavior. Given that previous research on this topic is very limited, there are several avenues for future research, such as looking at other possible explanatory factors of the knowledge dimensions and comparing customer's price knowledge across financial services and countries.

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#### **Appendix.** Description of measures

##### *Actual knowledge of personal loan's total cost* (Dickson and Sawyer, 1990)

The stated total cost is measured by, "What is the total cost for this personal loan?"

The stated total cost and the actual total cost of the personal loan were recorded. The error between the latter two measures provides an estimate of the contestant's knowledge of personal loan's total cost. When the error is close to zero, it signifies an accurate estimate, close to the actual total cost, and hence an accurate level of knowledge of personal loan's total cost. In contrast, when the error is large, customer's knowledge of personal loan's total cost is likely to be poor (Dickson and Sawyer, 1990).

##### *Perceived knowledge of personal loan's total cost* (Estelami, 2005)

To what extent do you agree with the following statements? (Rated on a seven-point Likert scale, anchored by 1 = "strongly disagree" and 7 = "strongly agree").

My knowledge of personal loan's total costs is quite good  
I'm good at guessing personal loan's total costs  
I'm very confident in my estimates of personal loan's total costs

##### *Price consciousness* (adapted from Batra and Sinha, 2000)

To what extent do you agree with the following statements? (Rated on a seven-point Likert scale, anchored by 1 = "strongly disagree" and 7 = "strongly agree").

Total cost paid is the most important factor when I am choosing a brand of personal loans.

##### *Use of the price-quality cue* (Estelami and De Maeyer, 2004)

To what extent do you agree with the following statements? (Rated on a seven-point Likert scale, anchored by 1 = "strongly disagree" and 7 = "strongly agree").

The higher the personal loan's total cost, the higher the quality

##### *Internet use* (Ellison et al., 2007)

How many hours per day do you use Internet?

##### *Financial literacy* (adapted from Van Rooij et al., 2011)

Questions measure the ability to perform simple calculations (in the first question), the understanding of how compound interest works (second question), and the effect of inflation (third question). Financial literacy is measured as the number of correct answers.

1. Suppose you had 100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow? (More than 102, Exactly 102, Less than 102, do not know, Refusal)

2. Suppose you had 100 in a savings account and the interest rate is 20% per year and you never withdraw money or interest payments. After 5 years, how much would you have on this account in total? (More than 200, Exactly 200, Less than 200, do not know, Refusal).

3. Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account? (More than today, exactly the same, less than today, do not know, Refusal).

##### *Education level* (adapted from Manzur et al., 2011)

What is your education level? (1 = without education, 2 = some primary school, 3 = primary school, 4 = some high school, 5 = high school graduate, 6 = some technical school, 7 = technical school graduate, 8 = some college, 9 = college graduate, 10 = post-graduate or more)

##### *Age* (Olavarrieta et al., 2012)

What year were you born?"

*Male*

Gender (0 = Female, 1 = Male)

*Price advertising exposure* (Estelami and De Maeyer, 2004)

To what extent do you agree with the following statements? (Rated on a seven-point Likert scale, anchored by 1 = "strongly disagree" and 7 = "strongly agree").

Prices for products like this are often advertised

*Brand credibility* (adapted from Kau and Loh, 2006)

To what extent do you agree with the following statements? (Rated on a seven-point Likert scale, anchored by 1 = "strongly disagree" and 7 = "strongly agree").

I believe that \_\_\_\_\_ (Brand of financial service) is trustworthy

*Product satisfaction* (Tse and Wilton, 1988)

On scale from 1 to 7, how satisfied are you with your last purchased in this product category?

*Old purchases* (adapted from Pitegoff and Smith, 2003)

In what year did you last purchase a financial service in this product category? (Old purchases = observation year minus year of last purchase a financial service in this product category)

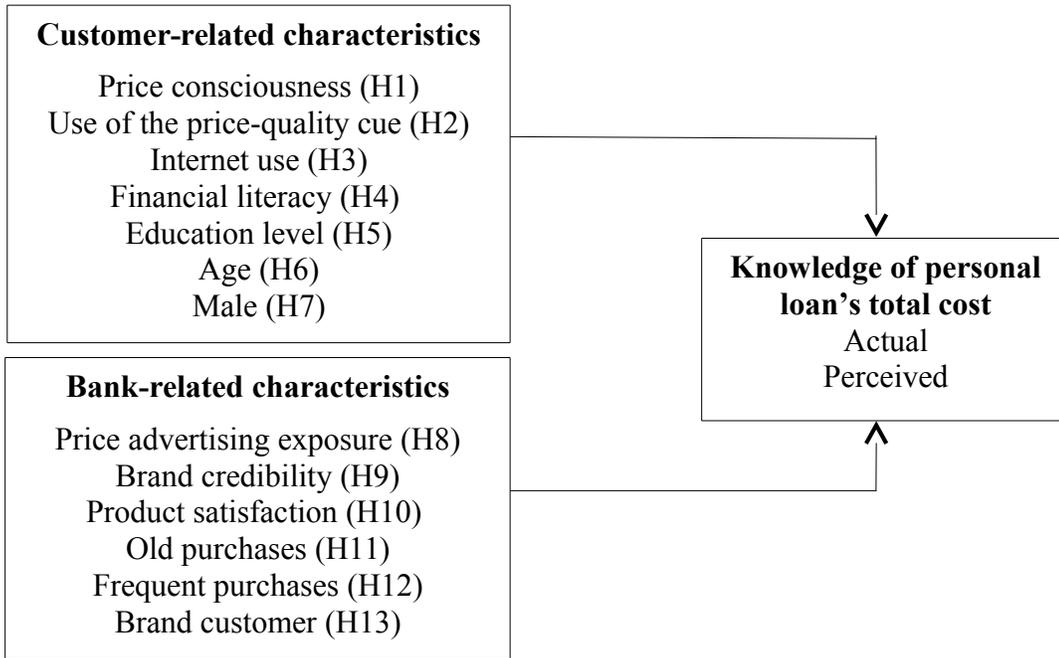
*Frequent purchases* (adapted from Olavarrieta et al., 2012)

How many times have you purchased a financial service in this product category?

*Brand customer* (Olavarrieta et al., 2012)

Current customer of the financial service provided by the brand (0 = No, 1 = Yes)

**Figure 1.** Conceptual framework



**Table 1.** Logit regression of antecedents of actual knowledge of personal loan's total cost

Variable	Estimate	Odds Ratio	p-value
Intercept	-2.187*		.029
Price consciousness (H1a: +)	.135	1.144	.194
Use of the price-quality cue (H2a: +)	-.042	.958	.449
Internet use (H3a: +)	-.037	.964	.292
Financial literacy (H4a: +)	-.028	.973	.832
Education level (H5a: +)	-.014	.986	.805
Age (H6a: -)	-.006	.994	.509
Male (H7a: +)	.295	1.343	.146
Price advertising exposure (H8a: +)	-.019	.981	.748
Brand credibility (H9a: +)	.025	1.025	.664
Product satisfaction (H10a: +)	.219**	1.245	.008
Old purchases (H11a: -)	-.067*	.935	.038
Frequent purchases (H12a: -)	-.054*	.947	.033
Brand customer (H13a: +)	-.024	.976	.917
p-value for the Chi-square test	.019		
Pseudo R <sup>2</sup> Nagelkerke	.066		
N	784		

Notes. \*Significant at p = .05, \*\* Significant at p = .01.

Participants reported actual knowledge for two brands. Then, N = 392 x 2 = 784

**Table 2.** Regression of antecedents of perceived knowledge of personal loan's total cost

Variable	Estimate	p-value
Intercept	.499	.566
Price consciousness (H1b: +)	.142	.124
Use of the price-quality cue (H2b: +)	.135*	.014
Internet use (H3b: +)	-.022	.497
Financial literacy (H4b: +)	-.086	.489
Education level (H5b: +)	.037	.496
Age (H6b: -)	-.003	.697
Male (H7b: +)	.416*	.034
Price advertising exposure (H8b: +)	.366**	.000
Brand credibility (H9b: +)	-.046	.415
Product satisfaction (H10b: +)	.153*	.030
Old purchases (H11b: -)	-.049*	.021
Frequent purchases (H12b: -)	.012	.515
Brand customer (H13b: +)	.634**	.003

Adjusted R<sup>2</sup>

.236

N

392

\*Significant at p = .05, \*\* Significant at p = .01

**Table 3.** Segment profiles

Variable	Knowledge of personal loan's total cost			
	(perceived – actual)			
	Low-Low	High-Low	Low-High	High-High
N	320	292	70	102
(%)	(40.8%)	(37.2%)	(5.8%)	(17.5%)
Actual knowledge	.00 <sup>b</sup>	.00 <sup>b</sup>	1.00 <sup>a</sup>	1.00 <sup>a</sup>
Perceived knowledge	2.93 <sup>b</sup>	5.98 <sup>a</sup>	2.89 <sup>b</sup>	6.01 <sup>a</sup>
Price consciousness	6.09 <sup>b</sup>	6.41 <sup>a</sup>	6.34 <sup>a,b</sup>	6.53 <sup>a</sup>
Use of the price-quality cue	3.65 <sup>b</sup>	4.10 <sup>a</sup>	3.38 <sup>b</sup>	3.82 <sup>a,b</sup>
Internet use	3.50 <sup>a</sup>	3.52 <sup>a</sup>	3.68 <sup>a</sup>	2.97 <sup>a</sup>
Financial literacy	1.79 <sup>b</sup>	1.99 <sup>a</sup>	1.80 <sup>a,b</sup>	1.98 <sup>a</sup>
Education level	6.62 <sup>b</sup>	7.21 <sup>a,b</sup>	6.74 <sup>b</sup>	7.39 <sup>a</sup>
Age	46.34 <sup>a</sup>	44.09 <sup>b</sup>	44.4 <sup>b</sup>	45.5 <sup>b</sup>
Male	.43 <sup>b</sup>	.60 <sup>a</sup>	.59 <sup>a</sup>	.60 <sup>a</sup>
Price advertising exposure	4.21 <sup>b</sup>	5.61 <sup>a</sup>	4.29 <sup>b</sup>	5.39 <sup>a</sup>
Brand credibility	4.44 <sup>b</sup>	5.01 <sup>a</sup>	4.93 <sup>a</sup>	4.66 <sup>a,b</sup>
Product satisfaction	5.39 <sup>c</sup>	5.68 <sup>b</sup>	5.64 <sup>b,c</sup>	6.17 <sup>a</sup>
Old purchases	4.64 <sup>a</sup>	3.19 <sup>b,c</sup>	3.90 <sup>a,b</sup>	2.26 <sup>c</sup>
Frequent purchases	4.96 <sup>a</sup>	5.28 <sup>a</sup>	3.25 <sup>b</sup>	4.81 <sup>a,b</sup>
Brand customer	.19 <sup>b</sup>	.30 <sup>a</sup>	.20 <sup>b</sup>	.30 <sup>a</sup>

Notes: Comparing across columns, means with different superscript differ at p &lt; 5% (Tukey's HSD).