Mother's Perception of the Adolescent's Influence in the Purchase Decisions of Mobile Phone and Computer in the Family

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Abstract: *The adolescent is considered as an active element in family purchases, especially in the purchasing decision phase. However, several researchers have focused their attention on purchases for use by adolescents, but neglecting technological products. Therefore, the main objective of this research is the study of the relative influence of the adolescent in the decisions of purchase of mobile phone and computer in the family. In the empirical phase, several high-schools were contacted in the districts of Lisbon, Setúbal, Portimão and Beja, considering a convenience sample. During this stage, 3,150 questionnaires were delivered by teachers in the classroom during May 2015. The adolescents were instructed to submit the questionnaires to their mothers and to return them, fully completed, later. This decision stems from the fact that the mother is pointed out in many studies as the most reliable informant in determining the adolescent´s influence. 916 validated questionnaires were returned. The results of the logistic regression analysis point to the age of the adolescent and the product knowledge as the relevant explanatory variables in the purchases considered. The results also point to the relevance of considering the product category as a moderating variable. The present research offers a contribution to the companies by providing evidence of the adolescent´s influence in the purchases of mobile phone for own use and of computer for family use. Given the adolescents relevance within family decisions, it is important that marketers focus their efforts on adolescent satisfaction, adopting strategies adjusted to the families.*

Keywords: Consumer behaviour, Family decision making, Adolescent, Influence, Technologic products

1. Introduction

Until the past century, research rarely perceived adolescents as decision making influencers within family (Mau et al., 2016; John, 1999). With the increased significance of mobile media as well as changed social and cultural perspectives, this picture has changed: adolescents have increasingly become the focus of both research and companies (Ashraf & Khan, 2016; Mau et al., 2016, 2014; Goswami & Khan, 2015; Srivastava, 2015). Marketers have long acknowledged the family as the most important decision-making and consumption unit (Sondhi & Basu, 2014; Kaur & Medury; 2013; Commuri & Gentry, 2000). The efforts made by adolescents in family purchases have increased in present times (Sondhi & Basu, 2014; Singh &Nayak, 2014; Chitakunye, 2012).

The adolescent market is substantial and growing which necessitates marketers to understand the adolescent purchase behavior for current sales and future brand loyalty (Niemczyk, 2015; Srivastava, 2015; Shahrokh et al., 2014; Yang et al, 2014). There is a good stream of research which has shown that adolescents play an important role in family purchase decisions varying by product, decision stage, adolescent, parental, and family characteristics (Ishaque & Tufail, 2014; Shergill et al, 2013; Commuri & Gentry, 2000). Researchers have been continuously analyzing the process of decision making within a family. In families, members who are small in size but enjoys great influence when it comes to the purchase decisions, and these members are adolescents (Aleti et al., 2015; Ishaque and Tufail, 2014; Sharma & Sonwaney, 2014, 2013). Marketers have long acknowledged the family as the most important decision-making and consumption unit (Sondhi & Basu, 2014; Commuri & Gentry, 2000).

This study examines the adolescent's influence in family purchase decision, considering two categories of technological products: mobile phone for adolescent use and personal computer for family use, whose interest is based in the literature (Barber, 2013; Akinyele, 2010; Neulinger & Zsoter, 2014; Kaur & Singh, 2006; Commuri& Gentry, 2000). Little is known about purchasing behavior or the patterns of consumption of technological products in households (Kaur & Singh, 2006; Chavda et al, 2005; Neely, 2005). The research problem essentially involves a theoretical dimension which relates to the answer to the following questions: What are the dimensions of the adolescent's relative influence in the decisions to buy personal computers and mobile phones in the family? What is the perception of the mother about the adolescent's influence? Does this perception vary by product category?

The article begins by reviewing the literature and defining the research hypotheses. Then the methodology used in the present investigation will be characterized. Then the main results of the study will be presented and the main conclusions will be discussed, as well as the limitations and indications for future research.

2. Literature review and hypotheses

The family has been considered as the most relevant consumer and decision-making unit in the area of consumer behavior (Aleti et al, 2015; Sondhi, & Basu, 2014; Shergill et al, 2013; Shoham & Dalakas, 2005, Commuri and Gentry, 2000). The study of family consumption behavior has become increasingly important in the literature in this area of knowledge, in particular the process through which the family structures its decisions. In this context, academics and marketers consider the continuing study the relative influence of the adolescent on family buying decisions (Aleti et al, 2015; Shahrokh et

al., 2014; Chaudhary & Gupta, 2012, Kaur & Singh, 2006, Beatty & Talpade, 1994). One theoretical approach has played leading role in studying. The social power theory regards parents and adolescents as partners in an interdependent relationship. Adolescents possess relatively small degree of power over their parents (Shahrokh et al, 2014).

1.1. Family purchase decisions

Ashraf & Khan (2016), and Kaur e Singh (2006) and Shoham & Dalakas (2003) pointed to higher levels of adolescent influence in the products purchase for own use in traditional families. In addition, other results indicate that adolescents influence the purchases that they consider most important (Kim & Lee, 1997). However, several researchers have pointed out that the adolescent's relative influence on family buying decisions is not adequately explained (Aleti et al, 2015, Shergill et al, 2013; Chaudhary & Gupta, 2012, Kaur & Singh, 2006; Beatty & Talpade, 1994).

1.2. The Adolescent as an Influencer

The existing literature has identified three roles of adolescents related to consumption: (1) buyers who have their own money to spend, (2) direct or indirect influencers of the purchase of a large amount of household items, and (3) a future market of a larger variety of products and services (Aleti et al., 2015; Srivastava, 2015; Shahrokh et al., 2014).

In some purchase situations, adolescents have the independence to make a decision, especially in those products/services where they are the primary users or consumers, such as breakfast cereals, clothes, music (Ishaque &Tufail, 2014; Kaur and Singh, 2006; Beatty and Talpade, 1994), or in certain products/services for family consumption, such as the decision to eat out, travel, or grocery products (Ashraf & Khan, 2016; Chikweche et al., 2012; Chitakunye, 2012).

Foxman and Tansuhaj (1988) were among the first researchers to consider technological products in the study on the influence of the adolescent in the family. For that category of product, the results indicated some influence of the adolescent in the purchase decision. The computer was pointed out as the product for family use where the level of adolescent's influence is higher in the decision stage. The studies of Foxman et al. (1989a, b) confirmed the above results with the mothers and classified the adolescent as having influenced the decision of those products (Lee and Collins 2000).

Beatty and Talpade (1994) included the following factors as explanatory of the influence of the adolescent in the family purchase decisions: the characteristics of the adolescent and the financial characteristics of the household (Kushwaha, 2017; Watne et al., 2014; Kaur & Medury; 2013; Shergill et al, 2013). Lee and Beatty (2002) and Sharma & Sonwaney (2014, 2013) added the mother's occupational status.

Several authors have considered age as one of the main explanatory factors for adolescent influence on family buying decisions (Shergill et al, 2013; Gentina et al., 2013; Kaur & Singh, 2006; Shoham & Dalakas, 2005). Those researchers concluded that older adolescents produce higher levels of influence on family purchases than younger adolescents. Thus, the first hypothesis is:

H1: The adolescents influence on purchases of products for family use will be greater if they are older than if they are younger.

The product knowledge should lead to greater influence attempts, once the other members recognize the know-how about a given product (Chitakunye, 2012; Shah & Mittal, 1997; Beatty &Talpade, 1994). Chitakunye (2012) argued that parents are motivating the adolescent "to use its cognitive abilities in consumer situations". Shah & Mittal (1997) suggested that adolescents should exercise greater levels of influence in computers purchase because they have more knowledge about this product. Thus, it is expected that:

H2: The influence of adolescents on purchases of products for family use will be higher if they have greater product knowledge than if they have minor.

According to Isin & Alkibay (2011), Lee & Beatty (2002), the mother's occupational status has a significant effect on the adolescent's influence in family, with a greater influence of the adolescent when the mothers work outside. For Sharma & Sonwaney (2014, 2013), mother's absence has increased the number of decisions taken by adolescents and has increased their influence on purchase making decisions. This variable has produced relevant results in the study on the influence of the adolescent on family decisions (Lee and Beatty, 2002, Ahuja and Stinson, 1993, Allen and Schaninger, 1989). Ahuja and Stinson (1993) concluded, in their study, that the mother's occupational status is a variable that explains the influence of the adolescent in the family buying decision process. Therefore, it is expected that:

H3: Adolescents living in households where mothers have a higher occupational status will have more influence on purchases than adolescents with mothers with a lower occupational status.

The household income appears very often as explanatory variable of adolescent's influence in family purchases decisions, with the adolescents to present higher levels of influence in the purchases in families of higher income (Ashraf & Khan, 2016; Kaur & Medury; 2013; Shergill et al, 2013; Isin & Alkibay, 2011; Lee & Collins, 2000; Beatty & Talpade, 1994). In families with higher levels of income, adolescents should have more opportunities to intervene in purchasing decisions, and they should be allowed to participate in decisions (Isin & Alkibay, 2011; Lee & Collins, 2000; Beatty & Talpade, 1994). Therefore, adolescents are expected to have consistent influence in families with higher income:

H4: Adolescents living in higher income households will have more influence on purchases than adolescents in lower income households.

3. Methodology

The present research is exploratory, aiming to identify the dimensions that contribute to the influence of the adolescent in the decisions of purchase of technological products in the family, according to the mother's perception and to see if this influence varies according to the product considered.

The universe considered is formed Portuguese families, with at least one adolescent (between 12 and 19 years). There is no knowledge of studies about the influence of the adolescent in the purchase of technological products in Portugal, so this research offers a contribution in the study of families in the area of consumer behavior.

The generality of the researchers revealed a great difficulty in the selection of probabilistic samples when it comes to studying the households, generally using data collection from convenience samples (Aleti et al., 2015; Srivastava, 2015; Kim & Lee, 1997). In the present study, there was the same difficulty, due to the lack of information provided by official organisms, it was necessary to resort to a non-probabilistic sample. The collected sample was focused on households with at least one adolescent child between the ages of 12 and 19, which is consistent with previous studies (Aleti et al., 2015, Srivastava, 2015, Kim & Lee, 1997, Beatty & Talpade, 1994). Furthermore, there was a concern to collect a sample consistent with the studies carried out in this area in order to reduce the risks inherent in collecting data from a reduced sample.

In the literature on adolescent influence on purchasing decisions, several authors pointed out that the study of product categories should be divided into: products for adolescent use and products for family use (Kim & Lee, 1997; Beatty & Talpade, 1994). Based on this classification, in the present investigation two product categories will be studied. The selection of the product categories to be studied derives from the literature review,

with the decision on the product categories relinquished on the mobile phone for use by the adolescent and the computer for the family. The products selected have in common the fact that they are technological products and of great importance to their users (Kim & Lee, 1997, Foxman et al., 1989a, b Foxman & Tansuhaj, 1988). Furthermore, with the literature scarce and absent in relation to the purchase of mobile phones, little is known about the influence of the adolescent in this category of product within the families. Ekstrom et al. (1987) argue that the adolescent transmits knowledge to the parents, influencing the behavior of the adolescents, and that in certain purchase situations adolescents have greater product knowledge, namely in technological products (Shah & Mittal, 1997).

The questionnaire survey was the method of data collection chosen for this study (Aleti et al., 2015, Srivastava, 2015). In general, studies on the adolescent's influence on family buying decisions in family households used the questionnaire survey as the main method for collecting empirical data (Aleti et al., 2015, Srivastava, 2015; Shoham & Dalakas, 2005, 2003). In the same line as the previous investigation, the self-completed questionnaire survey will be applied in the quantitative phase of the present study.

The choice of a suitable structure for the questionnaire sought to articulate two essential aspects, namely the objectives of the present research and the past research on the adolescent's influence in family decisions. The main objective of the data collection instrument is to pursue the research objectives outlined. A pre-test was carried out that led to small changes in what would come to be the final structure of the questionnaire. The suggestions presented by the 25 respondents in the pre-test phase of the questionnaire were in the sense of some difficulty in the perception of certain expressions used in the initial version, as well as to make the layout more appealing.

The measurement scales used were adapted from reference studies in the research on this field (see Table 1), which is in line with most previous studies (Isin & Alkibay, 2011; Shoham & Dalakas, 2005).

Table 1: Linking the Model to the Questionnaire

Variables in study	Adapted from...
Variable Explained	
Adolescent's Influence in Family Purchase Decisions	Shoham and Dalakas (2003); Beatty e Talpade (1994)
Explanatory Variables	
• Adolescent's age	Lee and Beatty (2002); Kim e Lee (1997);
• Adolescent's Product Knowledge	Beatty and Talpade (1994);
• Mother's Occupational Status	Lee e Beatty (2002); Allen and Schaninger (1989)
• Income	Ahuja e Walker (1994).

Explained Variable

Many authors have used a likert scale to measure the adolescent's relative influence in decision making process

in which parents and adolescents are considered in the decision (Shahrokh, 2014; Mangleburg, 1999, Kim & Lee 1997, Foxman et al., 1989a, b).

For the explained variable, a measurement scale was used according to the proposal presented by Beatty &Talpade (1994), replicated by other researchers (Shoham & Dalakas, 2003). The perception of the mother may vary between 1 and 7 (where 1 = I had no influence, and 7 = I had all influence).

The variables product categories (adolescent use/family use) use the measurement scale according to several authors' proposals (Mangleburg et al., 1999; Holdert and Antonides, 1997).

Explanatory Variables

The adolescent's age and the product knowledge. The variable "age" is a ordinal variable, so it can assume values between 12 and 19 years, according to the proposal of Lee & Beatty (2002). The variable "product knowledge" will be measured according to the proposal presented by Beatty & Talpade (1994), representing the subjective knowledge. A seven-point Likert scale is used, ranked completely disagree (1) to fully agree (7). The item to be measured will be translated by the phrase: "before buying this product I would describe myself as being very familiar with this product category." The variable "occupational status" uses the scale of measurement according to the proposal presented by Lee and Beatty (2002), divided into three categories: nonworking mothers, mothers with low occupational status (eg. secretaries, sales clerks) and mothers of high occupational status (eg. lawyers, managers). Finally, the household income used the scale of measurement according to the proposal presented by Ahuja & Walker (1994), adapted to monthly values.

Data Collection Procedures and sample

The research was conducted in May 2015. In order to carry out the data collection, 11 high-schools were contacted, involving Lisbon, Setúbal, Portimão and Beja districts. With regard to the sampling process, data were collected from the districts referred to above by those with demographic data similar to the average for Portugal, in particular as regards the average size of the household. Thus, letters were sent to the Executive Councils of several schools in those cities, and all the schools contacted agreed to participate in the study. Then, after the Executive Councils approval, each school level form teachers were contacted, and for each school year instructed the teachers in each class to provide the students with a questionnaire and a letter to the mother requesting her participation in the study. During this phase, 3.150 questionnaires were delivered by the teachers in the classrooms during May 2015. Students, aged 12 to 19 years, were instructed to deliver the questionnaires to their mothers and to return them, fully completed, a few days later. Finally, the questionnaires were collected from the high-schools during June 2015. This resulted in a total of 916 questionnaires fully answered by mothers, which meant a response rate of 29, 1%. At the end of the data collection, which represents a higher number than those values presented by previous studies (Kaur & Medury; 2013; Shergill et al., 2013).

Statistical techniques used

The research objectives determine and determine the method to be used in data analysis. In the past research, several authors have used linear regression to study the adolescent's influence in family buying decisions (Mangleburg et al., 1999; Beatty & Talpade, 1994). However, there is no knowledge of the use of logistic regression in the study of adolescent's influence on family purchasing decisions. The reasons for choosing the logistic regression analysis are essentially: the variables level of measurement and the explained variable characteristics.

Variables Measurement

Logistic regression does not impose any restrictions on the types of explanatory variables considered (Hutcheson &Sofroniou, 1999). The explanatory variables considered in the present investigation involve three types of scales: categorical, ordinal and interval. The adolescent's product knowledge is an interval variable, classified in the present investigation in a Likert scale with seven points: from completely disagree (1), completely agree (7). The mother's occupational status corresponds to an ordinal variable, classified in the present investigation with three categories: high, low and domestic.

The Explained Variable

In the present study, the explained variable, measured through a seven-point range scale, was transformed into a dichotomous variable. Thus, this scale allows us to consider, by default, for values from 1 to 4, that the mother perceives the adolescent as having influence in that purchase decision. On the other hand, mother ratings in the range of 5 to 7 means that the mother perceives no influence from the adolescent in that purchase. According to several authors, the intermediate point of the scale, which corresponds to the value 4, classifies both the members with a shared influence in the decision of purchase (Shahrokh, 2014; Beatty & Talpade, 1994). Therefore, the values that are in the range of 5 to 7, will correspond to 0 = does not influence; and values from 1 to 4 will correspond to the value 1 = influence.

Variables Selecting Method for the Logistic Regression Model

In the present investigation, being the adolescent relative influence in purchasing decisions, a binary choice model, the main concern was the parameters' estimation. From the proposed conceptual theoretical model, two logistic regression models proposed were considered, according to the product categories studied. According to Hutcheson & Sofroniou (1999), the ordinal or interval data can be transformed into dichotomous data, allowing its analysis for example in logistic regression models. The Forward LR method of inclusion of variables will be used in the study of the two logistic regression models in study.

4. Data analysis and findings

Internal Consistency

Cronbach's α ranks highly in most researchers' preferences among the several available methods to estimate internal consistency. The reliability of a measure refers to its ability to be consistent. If a measuring instrument always gives the same results (data) when applied to structurally equal targets, we can trust the meaning of the measure and say that the measure is reliable (Maroco and Garcia-Marques 2006). Regarding the internal consistency presented, the Cronbach's α coefficient presents a value of .784, which is a good value for reliability.

Respondent's profile

Table 2: Respondents Profile (percentage)

Demographics		Valid percent	Cumulative percentage
Adolescent's age range			
12 to 15		51.5	51.5
16 to 19		48.5	100
Adolescent's gender			
Male		46	46
Female		54	100
Mother's age range			
25 to 34		8.7	8.7
35 to 49		76.5	85.2
50 to 64		14.5	99.7
More than 64		0.3	100
Mother's educational level			
No Schooling		0.2	0.2
Basic education		24.7	24.9
High school		44.3	69.3
Bachelor's Degree		6.7	76
Universitary graduation		20.3	96.3
Masters or PhD		3.7	100
Mother's professional category			
Housewife		17.6	18.4
Low-qualified or Unskilled Workers		6.1	24.8
Plant and Machine Operators and Assembly Workers		2.9	27.9
Workers, Builders and Similar Workers		6.6	34.8
Farmers and Skilled Workers in Agriculture and Fisheries		1	35.9
Service and Sales Personnel		15	51.6
Administrative and Similar Personnel		15.5	67.9
Technicians and Professionals of Intermediate Level		10.9	79.3
Specialists of the Intellectual and Scientific Professions		8.7	88.4
Senior Management and Directors		11.1	100
Mother's occupational status			
Nonworking		17.6	18.4
Low occupational status		47.2	67.9
High occupational status		30.6	100
Family income			
Less than 500 euros		11.3	11.3
From 500 to 1,000 euros		32.3	43.6
From 1,001 to 1,500 euros		25.1	68.6
From 1,501 to 2,500 euros		21	89.6
More than 2,500 euros		10.4	100

As can be seen from Table 2, the age group from 12 to 15 years old represents 51.5% of the total sample collected, which means there is an equal distribution of the two groups of adolescents under study: younger (12 to 15) and older (16 to 19).

According to the data reported by the mothers, the results point to a distribution of 54% female adolescents and 46% male adolescents within the households studied.

Regarding the interviewed mother's age, the most frequently reported interval is the age group from 35 to 49 years, with a rate of 76.5% of the total of respondents. The second largest age group is 50 to 64 years with 14.5% of the sample population.

In the present investigation, in relation to mother's educational level, as can be seen from Table 2, the most frequent category corresponds to high school education, with a rate of 44.3% of the total respondents. The second most frequent category corresponds to basic or the third cycle education, with a rate of 24.7% of the total. Only 20.3% of the mothers tested a university graduation.

Darley and Lim (1986) reported that only 34% of mothers had completed secondary education. Mangleburg et al. (1999) did not reveal results on mothers' literacy, but nevertheless reported that 82% of respondents belong to the middle-low class. Some studies did not reveal the results on mothers' literacy (Ahuja et al., 1998; Ahuja and Stinson, 1993).

Regarding the mother's age interviewed, the most frequent interval is the age group from 35 to 49 years, with a rate of 76.5% of the total of respondents. The second most frequent age group is 50 to 64 years, with a rate of 14.5%. Those results are consistent with previous research (Mangleburg et al., 1999, Ahuja & Walker 1994).

As for the monthly post-tax income of the households under study, the most frequent interval is the income range between 500 and 1,000 euros, with 32.3% of the total. The second most frequent monthly income range among respondents is 1,001 to 1,500 euros, with 25.1% of the total. These values are lower than other studies (Shergill et al., 2013; Kaur & Medury; 2013).

Concerning the mother's professional category, in this study, the most frequent category corresponds to housewife, with 17% of the total. The second most frequent category corresponds to the administrative personnel, with 15.5% rate. It should be noted that only 11.1% of all mothers are in the senior management category.

Explanatory Variables

Next, the behavior of each of the explanatory variables will be analyzed, considering the influence of the adolescent for the purchase of mobile phones for his own use and of computer for the family.

Adolescent's Age

As can be seen from Tables 2 and 3, the adolescent's age adds explanatory capacity to the adolescent influence model in the decision to buy mobile phone for his own use, and personal computer form family use. Thus, H1 is verified, so that older adolescents have a greater influence on the purchase of mobile phones for their own use, and personal computer form family use, than younger adolescents.

Product Knowledge

Tables 2 and 3 point out that product knowledge adds explanatory capacity to the adolescent influence model in the decision to buy a mobile phone for the adolescent and in the purchase of a personal computer for family use. Thus, it is considered that H2 is verified, reason why the adolescents with greater knowledge of the product exert more influence in the purchase of mobile phone for own use and computer for the family than the adolescents with less product knowledge.

Table 2: Logistic regression for mobile phone for adolescent use (variables in equation)

	variables	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 1a	Product Knowledge	0,687	0,076	82,875	1	0	1,988	1,715	2,306
	Constant	-0,872	0,356	6,006	1	0,014	0,418		
Step 2b	Adolescent's age	0,158	0,072	4,889	1	0,027	1,171	1,018	1,348
	Product Knowledge	0,644	0,078	68,638	1	0	1,903	1,634	2,216
	Constant	-1,258	0,398	9,979	1	0,002	0,284		

Table 3: Logistic regression for personal computer for family use (variables in equation)

	variables	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 1a	Product Knowledge	0,925	0,066	194,157	1	0	2,522	2,214	2,872
	Constant	-2,657	0,292	82,692	1	0	0,07		
Step 2b	Adolescent's age	0,135	0,053	6,373	1	0,012	1,145	1,031	1,271
	Product Knowledge	0,901	0,067	182,623	1	0	2,461	2,16	2,805
	Constant	-3,089	0,346	79,784	1	0	0,046		

Mother's occupational status

As can be seen from Tables 4 and 5, mother's occupational status does not add explanatory capacity to the model of adolescent's influence in the decisions to buy a mobile phone for the adolescent and personal computer for the family. Thus, it is considered that H3 is not verified, so adolescents living in households with higher occupational status mothers have no more influence in mobile phones for their own use and computer for the family purchases.

Family income

Tables 4 and 5 show us that family income does not add explanatory capacity to the model of influence of the adolescent in the decision to buy mobile phone for the adolescent and in the purchase of personal computer for the family. Thus, it is considered that H4 is not verified, so adolescents from households with higher income have no more influence in mobile phone purchase for their own use and computer for family use.

Table 4: Logistic regression for mobile phone for adolescent use (variables not in equation)

	variables	Score	df	Sig.
Step 1	Mother's ocupacional status	1,788	1	0,181
	Adolescent's age	4,979	1	0,026
	Family income	3,201	1	0,074
	Overall Statistics	8,74	5	0,12
Step 2	Mother's ocupacional status	2,003	1	0,157
	Family income	3,151	1	0,076
	Overall Statistics	3,863	4	0,425

Table 5: Logistic regression for personal computer for family use (variables not in equation)

	variables	Score	df	Sig.
Step 1	Mother's ocupacional status	1,677	1	0,195
	Adolescent's gender	0,166	1	0,684
	Family income	1,611	1	0,204
	Overall Statistics	9,611	5	0,087
Step 2	Mother's ocupacional status	1,688	1	0,194
	Family income	1,526	1	0,217
	Overall Statistics	3,26	4	0,515

The results point to the relevance of considering the product category as a moderating variable, since the effect of the adolescent's age on the purchase of a mobile phone for personal use is slightly lower than the effect that variable has on the purchase of a computer for family use.

Explanatory Variables and Moderator Variable Interpretation

Regarding the study of the adolescent's influence in the decision to buy mobile phones for own use, the analysis of -2LL allows us to conclude that the exogenous variables contribute to explain the adolescent's influence in that purchase. This aspect is reinforced by the Chi-square, when pointing out that there is a large part of the explained variance of the model when considering the variables adolescent's age and product knowledge.

Regarding the importance of the moderating variable, the results point to the importance of considering the moderation of the product category, depending on whether it is used for adolescents or for family use, as a factor that attenuates the effect of product knowledge by part of the adolescent in his influence on the decisions of purchase in the family, according to the perception of the mother. As the moderator variable is a multidimensional variable, using the alpha Cronbach test, the product type present a correlation coefficient of 56.24%, above 50%. Having verified the quality of the measurement scale, the moderation of the category of product was studied, whose discussion refers us to compare the models for the seven products considered.

5. Conclusions

Facing these results, it is possible to conclude that: There is influence of the adolescent in the purchase of technological products in families. Age and product knowledge are explanatory variables of the adolescent's influence in the purchasing decisions. The adolescent influences the purchase of products for his own use and those for family use in which his product knowledge is higher.

6. Limitations and Recommendations

As the main objective of the present research, in the theoretical-conceptual framework of defined research, to provide a response to the explanatory factors of the mother's perception of the adolescent's influence in the family buying decisions on technological products, the results provided an important answer in terms of contribution, but does not entirely explain the phenomenon, and concluded that the adolescent's influence in purchasing decisions is a function of the product knowledge, with the effect of moderation of the category of product. Thus, other variables should have been considered in the present investigation in order to provide a more complete explanation, providing a higher quality of adjustment of those models. Furthermore, in this study, it was necessary to collect data from a convenience sample, although this procedure is consistent with most studies on households (Aleti et al, 2015; Yang et al., 2014; Chaudhary & Gupta, 2012).

Another limitation relates to inquiring mothers who, while appearing as the most reliable family member in perceiving the influence of the adolescent (Isin & Alkibay, 2011), several authors have chosen to inquire one parent and the adolescent (Al -Zu'bi, 2016, Ashraf & Khan, 2016, Mau et al., 2016, 2014, Goswami & Khan, 2015; Sondhi & Basu, 2014).

Research Contributions

The present research provides several contributions to this area of knowledge. In the first place, the main contribution of the present research is the suggestion of a theoretical-conceptual framework that provides explanatory capacity of the phenomenon of the adolescent's influence in the decisions of purchase in the families, according to the perception of the mother and it reinforces the importance of including the adolescent in the final decision, which is innovative in the literature. The interest of the results is reinforced by the fact that a category of product for family use has been studied, and the adolescent's influence is verified. More, the research indicated the adolescent's influence in the purchase of mobile phones, which is also an innovative result in traditional families. The results of the logistic regression analysis point to the adolescent's age and his product knowledge as the relevant explanatory variables in the purchases considered. These results are innovative in the study of family purchases.

Secondly, the results point to the relevance of including the variables age of the adolescent and product knowledge as explanatory variables of the adolescent's influence in technological products purchases.

Finally, the results point to the relevance of considering the product category as a moderating variable, since the effect of the adolescent's age on the purchase of a mobile phone for personal use is slightly lower than the effect that variable has on the purchase of a computer for family use.

Business Implications

The study offers a contribution to the companies by providing evidence of the adolescent´s influence on the purchases of mobile phone for own use and computer for family use. Given the adolescents relevance within family decisions, it is important that marketers focus their efforts on adolescent satisfaction, adopting strategies adjusted to the families. Should those professionals direct the marketing messages to the older and more knowledgeable adolescents when it comes to buying mobile phones for the adolescent and family computer.

If a decision is considered to be largely influenced by the adolescent, then the messages should be addressed and this member of the family. In the present investigation it was concluded that adolescents represent an active influential market in the family for the purchase of mobile phones and computers, so that marketers should adopt strategies that reflect the adolescent's relative importance in those buying decisions, as well as the characteristics of this type of households. On the other hand, marketers should focus their efforts not only on adolescent satisfaction in products for their personal use, but also on categories of products for family use.

7. Suggestions for Future Research

Some authors suggest that the categories of products/services used or consumed in families are of great interest to marketers. Travel, eating out more frequently, and changes of residence indicate interesting patterns of consumption (Ashraf & Khan, 2016; Chikweche et al., 2012; Chitakunye, 2012).

In addition to the products/services that may be more associated with certain patterns of consumption characteristic of families, it is important to point out as research opportunity the study on the adolescent's influence in the purchasing decisions in those households for several other products/services. Application of the model to new technological products, such as iPad.

On the other hand, the products of perceived adolescent's influence are not properly exhausted. Research in this area should focus on the influence of adolescents in the choice of products that are shared by the family versus those used by the parents (Yang et al., 2014; Ashraf & Khan, 2016; Chikweche et al., 2012; Chitakunye, 2012); researchers are also encouraged to explore the decision making mechanisms between boys and girls across this age range (Chitakunye, 2012). Another research opportunity will be single-parent families (Sharma & Sonwaney, 2014, 2013; Commuri & Gentry, 2000).

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