

# ADOLESCENT INFLUENCE ON PARENTAL PURCHASE DECISIONS: TYPOLOGY OF INNOVATIVE PRODUCTS

## UTJECAJ ADOLESCENATA NA KUPOVNE ODLUKE RODITELJA: TIPOLOGIJA INOVATIVNIH PROIZVODA

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### Abstract

**Purpose** – There is common agreement that children's influence on parents to purchase products depends on the product category (products for a child vs. products for the family; minor everyday purchases vs. shopping goods). However, purchasing an innovative product in the presence of an adolescent, compared to the purchase of traditional products, creates a special context in which an adolescent might be considered a substantial source of expertise with diverse levels of impact on parents. The current research aims to demonstrate the magnitude of adolescents' impact on parents when purchasing innovative products, and to cluster the products based on the size of the impact and the level of the perceived innovativeness. Specific characteristics of clusters and the implications for marketers are discussed.

**Design/Methodology/Approach** – An Internet panel was used to survey parents and adolescents from Lithuania on their assessment of the level of innovativeness and the level of children's influence on the purchasing 14 product groups. Within each group, an innovative product preselected on the basis of qualitative interviews was paired with the usual product in the category.

### Sažetak

**Svrha** – Uobičajeno je mišljenje da utjecaj djece na roditelje u kupovini proizvoda ovisi o kategoriji proizvoda (proizvod za dijete u odnosu na proizvod za obitelj; manje svakodnevene u odnosu na kupovinu trajnih proizvoda). No kupovina inovativnog proizvoda u prisutnosti adolescenta, u usporedbi s kupovinom tradicionalnog proizvoda, stvara poseban kontekst gdje adolescent može biti smatran značajnim izvorom stručnosti s različitim razinama utjecaja na roditelje. Cilj istraživanja jest pokazati intenzitet adolescentskog utjecaja na roditelje pri kupovini inovativnih proizvoda i grupirati proizvode na temelju veličine utjecaja i razine percipirane inovativnosti. Razmatraju se specifične značajke grupa proizvoda i implikacije za marketinške stručnjake.

**Metodološki pristup** – Primjenom internetskog panela, ispitivani su roditelji i adolescenti iz Litve u vezi s vlastitom procjenom razine inovativnosti i utjecaja djece na kupovinu 14 grupa proizvoda. Unutar svake grupe, inovativni je proizvod prethodno odabran na temelju kvalitativnih intervjua, uparen s uobičajenim proizvodom iz iste kategorije. Potom su proizvodi grupirani prema razini inovativnosti i adolescentskog utjecaja na roditelje.

Later, the products were clustered by the level of innovativeness and the adolescents' impact on parents.

**Findings and implications** – The products were clustered to demonstrate important implications for marketers, namely, where the influence of adolescents on parental purchase decisions is stronger and where it is weaker.

**Limitations** – An examination of selected products shows the interrelationships between their perceived innovativeness and the impact of adolescents on their parents' purchase; however, the findings could be tested on a larger range of products. The innovativeness of the particular product is time and place bound.

**Originality** – To our knowledge, this is the first attempt to cluster the products based on their innovativeness and the adolescents' impact on parents in the purchasing process.

**Keywords** – Influence, purchase decision, adolescent, clustering, innovative products, socialization

**Rezultati i implikacije** – Proizvodi su grupirani kako bi se uputilo na važne implikacije za marketinške stručnjake. Naime, gdje je jači adolescentski utjecaj na odluku roditelja o kupovini, odnosno gdje je slabiji.

**Ograničenja** – Istraživanje odabranih proizvoda pokazuje međusobnu povezanost njihove percipirane inovativnosti i adolescentnog utjecaja na kupovinu roditelja. Međutim nalaze bi trebalo provjeriti na većem broju proizvoda. Inovativnost određenog proizvoda vezana je uz vrijeme i mjesto.

**Doprinos** – U skladu s našim saznanjem, ovo je prvi pokušaj grupiranja proizvoda prema njihovoj inovativnosti i adolescentskom utjecaju na roditelje tijekom procesa kupovine.

**Ključne riječi** – utjecaj, odluka o kupovini, adolescent, grupiranje, inovativni proizvodi, socijalizacija

## 1. INTRODUCTION

Although scholarly research demonstrates a high level of interest in the influence of adolescents on parents, controversial results are observed in the field. Some scholars claim that the influence of adolescents on parents can be substantial (Sharma & Saxena, 2009), while others find it irrelevant (Labrecque & Ricard, 2001). There is a level of agreement, however, that the influence depends on the product class based on the final user (products for a child vs. products for the family) (Foxman, Tansuhaj & Ekstrom, 1989) and the product type (routine purchases of non-durables vs. durable goods) (Kim, Lee & Tomiuk, 2009).

However, purchasing an innovative product in the presence of an adolescent creates a special context in which an adolescent might be seen as an expert due to his/her technological knowledge on innovations gained from the media, peer influence, and experience sharing and interest in novel propositions. To date, a specific topic of how adolescents influence the purchase of innovative products has been weakly explored. Even though major/minor product classifications are common in this field, little scholarly attention is given to product groups in an attempt to classify them by the level of innovativeness and, based on the classification obtained, to draw conclusions on the relationship of children's influence on parents.

Current research aims not only to demonstrate the magnitude of adolescents' influence on parental decisions when purchasing innovative products, but also to cluster the products based on the strength of adolescent-to-parent influence and the level of perceived product innovativeness. Specific characteristics of clusters and implications for marketers are discussed.

## 2. LITERATURE REVIEW AND HYPOTHESES

### 2.1. The sources of children's influence on parental purchase decisions

The impact of an adolescent on parental purchase decisions is well-supported through several theories. The theory of social power (French & Raven, 1959) helps to explain the types of powers that children hold and use on parents while making purchase decisions. Legitimate power, as French and Raven (1959) propose, is specific to a certain role or position. In the context of child-parent interactions, this type of power is understood as a natural advantage of children expressed through their wishes, demands, or information sharing. Many parents comply with their children's demands because of a mixture of warm personal relationships, respect for a child's personality, and the perception that certain demands are natural to the children's age and position. Reward power is understood as a positive return to people as a result of the manifestation of certain behavior (French & Raven, 1959). In a reward scenario, parents are submissive to children's influence to purchase certain products. Warm relationships, joy after the purchase, improved children's behavior, functional or emotional value of the product for a child or other final user could be seen as rewards. Coercive powers of children are typically misused as misbehavior or pestering (Nicholls & Cullen, 2004). Last but not the least, expert power correlates highly with the informational resources and other external factors of reverse socialization. It is related to the acknowledgement that a power holder has sufficient expertise to provide advice on the decision. Being continuously influenced by peers and the media (El Aoud & Neeley, 2008), children gain knowledge on particular products or aspects of their purchase or usage. Parents increasingly trust their growing children and address them for information on the products they intend to purchase.

Apart from the fact that children use their powers to influence parental purchases, it has been acknowledged that children are socialized as consumers in families (Ward, 1974). Through everyday interactions in purchase contexts, they become familiar with the steps of need recognition, information search, alternative selection, and the final decision-making process. On the one hand, parents continuously develop their children's shopping abilities; on the other hand, children themselves are observers of purchasing processes and acquire shopping/consumer skills not only from their parents, but also from the shopping environment.

Reverse socialization takes place as well (Roedder, 1999). Outside the family, children collect knowledge on a range of products, the places of their purchase, prices, and selection criteria (Singh & Nayak, 2014). Adolescents might become valuable members in the decision-making process, especially if products belong to the field of their "expertise" (fashion, electronics, games, leisure, etc.). Speaking in the resource theory terms (Blood & Wolfe, 1960), an adolescent impact grows due to the shift in the dispositions of resources. In a family context, these resources are typically understood as finances, information, services, love, or authority (status). It has been argued that, while growing, children are acknowledged to possess more resources due to their accumulated knowledge, elevated status as perceived by parents, and sometimes due to their personal income (Flurry, 2007). In this way, reverse socialization is visible not only in the transmission of information about products from children to parents, but also in the valence of this information due to the adolescents' expertise. Compared to younger children, elder adolescents (15-18 years old) are expected to be more product-knowledgeable and more entitled to make their own decisions (or impact parental decisions) in the purchasing process. However, Williams and Page (2011) argue that the age of children – as the acknowledged experts in family purchase decisions – is increasingly being lowered. Thus, the reverse socialization process in a family takes place even if chil-

dren are of a comparatively young age, to say nothing of more mature adolescents.

## 2.2. Purchase decisions on traditional and innovative products

A family decision-making process in the purchase of an innovative product compared to a known or, in particular, a routine product is more detailed and complicated (Antonides & Van Raaij, 1998). As a rule, there is lack of information or uncertainty about the product. Even if the enhanced product is known as a category representative, the number of features or advantages it holds over older products are unclear. The prices of innovative products are higher compared to traditional ones, which, combined with obscure value criteria, makes the purchase decision risky and requiring more thinking through (Claudy, Garcia & O'Driscoll, 2015). Unless the innovation is highly supreme over older alternatives, it might face individual adoption and diffusion barriers due to complexity, established confronting norms and behavioral patterns in the field, low observability, and trialability (Rogers, 2003), or consumers' fear of losing their autonomy or control over technologies (Heiskanen et al., 2007).

Taking this fact into consideration, the adolescents' role might be more profound in the decision-making process related to the purchase innovative products as young people, being not only inclined to innovation, but also more technologically advanced (Watne, Lobo & Brennan, 2011), tend to share information on novelties, especially via technologies (Generation M<sup>2</sup>; Hübner Barcelos & Alberto Vargas Rossi, 2014). On the other hand, advanced or more prestigious innovative products draw interest and admiration from consumers, thus leading to the phenomenon of vicarious innovativeness, which means that people adopt the idea of the novel product, but not necessarily the product *per se* (Im, Mason & Houston, 2007). It has been argued that adolescents are much more inclined towards vicarious innovativeness, because their dreams and imaginations are livelier, they enjoy exploratory

behavior and experiences; moreover, peer pressure might push them towards novelties (Hartman, Gehrt & Watchravesringka, 2004).

Adolescents are perceived to be trendsetters for their parents (Ekstrom, 2007; Gavish, Shoham & Ruvio, 2010); also, they transmit information gained via the internet to parents and shape their family purchases (Kaur & Medury, 2011). Not surprisingly, parents report that their perception of children's influence on the purchase of technology products is higher than that of their children (Chavda, Haley & Dunn, 2005). Bearing in mind the complexity of technological products, the advantage of adolescents' knowledge about them and general interest they have in innovative products, irrespective of product category, we expect that:

*H1: Adolescents' influence on parental decisions when purchasing innovative products will be stronger than when purchasing traditional products.*

However, some products are highly innovative and backed up by technologies, whereas others differentiate themselves by an upgraded design, new applications, production process, and as such, they are moderately innovative. Also, consumers might perceive products as innovative differently depending on their individual exposure to analogy, knowledge, or circumstantial early experience. Thus, to what extent the product is innovative (and, consequently, how other contextual factors predict behavior in relation to that innovative product) is the matter of individual perception. Following the previous proposition that adolescents exert influence on parental purchases of innovative products thanks to their advanced knowledge and interest in novelty, hereby we argue that influence is related to the extent that parents and children perceive products as innovative. Thus, the following hypothesis can be raised:

*H2: Adolescents' influence on parental purchase decisions will grow with the increasingly growing perception of product innovativeness.*

In fact, certain patterns that hold for traditional products should also hold for innovative prod-

uct purchases within the family. While children are known to exert considerable influence on parents when the product is envisaged for their personal use rather than for family use (Dikcius, Armenakyan, Urbonavicius, Jonyniene & Gineikiene, 2014; Sondhi & Basu, 2014), they are also more influential regarding minor everyday purchases (Kim et al., 2009). Moreover, some authors claim that children's influence on parental decisions differs even within a precise type of products such as food (Balcarová, Pokorná & Pilar, 2014), fast-moving consumer goods (Flurry & Veeck, 2009), home equipment (Tustin, 2009), furniture and other durables (Swinyard & Sim, 1987; Shoham & Dalakas, 2005), clothes (Shoham & Dalakas, 2005), means of transport (Shergill, Sekhon & Zhao, 2013), or services (Gram, 2007). On the basis of the information outlined above, we posit as follows:

*H3: There are four clusters of products depending on the perception of the innovativeness of a product and adolescents' influence on parental purchase decisions: innovative products for an adolescent's personal use, innovative products for a family's use, traditional products for an adolescent's personal use and traditional products for a family's use.*

### 3. RESEARCH METHODOLOGY

The research was executed in two stages. The first stage involved in-depth interviews with 10 families (including mother, father, and the eldest child in the age group from 12 to 18 years old; each family member was interviewed individually). During this stage, a range of products was presented to the respondents, who were asked to identify whether they assess the product as innovative and why. Apart from that, other mentions of innovative products as well as their associations were extracted. A list of 14 products was compiled based on the first stage of the research. These products had to cover a wide range of product types; also, they were supposed to have their "traditional" versions. Previous studies concentrated only on innovation in the field of IT products and home elec-

tronics (Fikry & Jamil, 2010; Sharma & Sonwane, 2015). However, since innovation is observed in a variety of industrial fields, products from different categories were chosen: food, other fast-moving consumer goods (FMCG), apparel, home equipment, furniture, means of transport, and services. Next, each innovative product was paired with its similar, non-innovative, traditional counterpart. Finally, a list of 28 products was developed (see Table 1).

respondents were likely to encounter problems in objectively evaluating each of the products. Moreover, the necessity to evaluate the innovativeness and the influence of adolescents on the purchase of 28 products posed a threat of triggering tiredness of the respondents. Therefore, a fractioned factorial design was applied, based on the product innovativeness and the final consumer. The first sample (153 families) had to evaluate two products from the same

TABLE 1: Classification of products under analysis

Product type/ Final user	Innovative		Traditional	
	<i>For an adolescent's individual use</i>	<i>For the whole family's use</i>	<i>For an adolescent's individual use</i>	<i>For the whole family's use</i>
Food	Functional food bars	Matured beef meat	Chocolate bars	Beef meat
FMCG	Electric toothbrushes	Laundry detergent capsules	Toothbrushes	Laundry detergent
Apparel	Trekking boots	Thermal clothes	Casual shoes	Casual clothes
Home equipment	Wireless headphones	Robot vacuum cleaners	Headphones	Vacuum cleaners
Furniture	Transformer beds	Transformer tables	Sofa beds	Coffee tables
Means of transport	One-wheel electric bikes	Electric cars	Bicycles	Cars
Services	Wind tunnels	Escape rooms	Amusement parks	Theatres

The second stage involved a cross-sectional survey, conducted by a research company using an Internet panel in Lithuania in spring 2017. The respondents were families consisting of the parents and one child from 12 to 18 years of age. Both adolescents and their parents were instructed to fill out the questionnaires independently. The parents, when responding, had to refer to the eldest child of the family within the given age range. In total, 912 respondents (304 families with three participating members) were surveyed.

Since the research included innovative and traditional products of the same category, the

category – one was on an innovative product for the whole family's use and the other a traditional product for an adolescent's individual use. Meanwhile, the respondents included in the second sample (151 families) answered the questions on innovative products for an adolescent's individual use and traditional products for the whole family's use within the range of the same category of products. The respondents included in both samples did not differ by gender, age, education, or income of the parents, or by the adolescents' gender or age (see Table 2).

TABLE 2: Demographic data of respondents in both samples

	Sample			Sample			Sample	
	A	B		A	B		A	B
Gender of parents	%	%	Gender of adolescents	%	%	Age of	Mean	Mean
Male	50	50	Boy	52.3	49.7	Adolescents	14.77	14.83
Female	50	50	Girl	47.7	50.3	Parents	42.74	42.38
Parents' education		%	%	Parents' monthly income		%	%	
College/university (incl. incomplete)	55.1	53.6	53.6	Less than EUR 300		25	25.4	
High/vocational school	44.9	46.4	46.4	EUR 301-550		47	47.7	
				More than EUR 551		28.1	26.9	

Following the literature analysis, it was expected that two variables – perceived adolescent influence on parental purchase decision and innovativeness of a product – would make a background for the clusters of products; thus, respondents had to evaluate these two variables for each of the listed products on a Likert scale. Even though we had initially split products into two groups according to their innovativeness, it was assumed that a particular product might be well-known to individual respondents, while being quite innovative to others.

To be consistent with the previous studies on perceived innovativeness and adolescent influence, we used slightly modified scales employed by scholars in the field. A scale for the measurement of perceived innovativeness was created based on the statements used by Goode, Dahl and Moreau (2013), Lowe and Alpert (2015), Fort-Rioche and Ackermann (2013). Three statements – the product is unique; the product is innovative; and the product is novel (new on the market) – were applied for the measurement of the perceived innovativeness. The Cronbach alpha coefficients varied from 0.63 (one-wheeled electric bikes) to 0.80 (casual clothes), indicating a suitable degree of reliability.

The measurement of adolescent influence on parental purchase decisions was based on

sub-decisions made during the purchase decision-making process. Following the scales used by Dong and Cao (2006), Foxman and others (1989), Kaur and Medury (2011, 2013), we developed a multi-item scale encompassing six aspects of the child's influence on parental purchase decisions – an adolescent often changes your previous opinion/decision on 1) the need for the product, 2) the features of the product (the product functions, design, and technical characteristics), 3) the brand of the product, 4) the price of the product, 5) the place of purchase, and 5) the time of purchase. On both scales, the respondents were asked to show the degree of their agreement with the statement on a 7-point Likert scale (1 – strongly disagree, 7 – strongly agree). The measure of adolescent influence on parental purchase decisions demonstrated high psychometric properties: Cronbach alpha coefficients were increasing from 0.80 for wireless headphones and electric toothbrushes to 0.92 for coffee tables and laundry detergent capsules.

#### 4. RESULTS

The initial classification of products into two categories allowed us to evaluate the influence of adolescents on parental purchase decisions. As

expected, significant differences between the influence on innovative versus traditional products were found. Adolescents' influence did not differ in one case (laundry detergent) only, while in 8 products it was higher for innovative products than for traditional ones (see Table 3). The adolescents were more influential in 5 out of 7 innovative products targeted at the whole family (matured beef  $t=3.169$ ,  $p<0.01$ ; robot vacuum cleaners  $t=7.342$ ,  $p<0.01$ ; electric cars  $t=4.252$ ,  $p<0.01$ ; transformer tables  $t=13.130$ ,  $p<0.01$ ; escape rooms  $t=16.634$ ,  $p<0.01$ ). These results support the first hypothesis. Moreover, adolescents also had a stronger influence on parental decisions to buy innovative products for their own individual use (wireless headphones  $t=6.769$ ,  $p<0.01$ ; one-wheel electric bikes  $t=2.15$ ,  $p<0.05$ ; and transformer beds  $t=5.291$ ,  $p<0.01$ ), when compared to traditional products.

compared to the innovative ones. This difference was observed in 4 products for an adolescent's individual use (chocolate bars  $t=-8.891$ ,  $p<0.01$ ; toothbrushes  $t=-3.296$ ,  $p<0.01$ ; casual shoes  $t=-8.033$ ,  $p<0.01$ ; and amusement parks  $t=-10.365$ ,  $p<0.01$ ) and in one product for the whole family's use – casual clothes  $t=-6.263$ ,  $p<0.01$ . These findings show that the innovativeness of a product can cause different adolescent influence on parental purchase decisions, and cannot serve as a predictor with a clear trend of influence *per se*. However, the importance of innovativeness might have controversial results depending on the final consumer of the product.

A predetermined classification of products according to their innovativeness could be inaccurate since a single product might be well-known to some families while appearing brand new to others. Therefore, the inquiry on individual level,

TABLE 3: Adolescents' influence on parental purchase decisions on innovative and traditional products

Product type	Mean Innovative	Mean Traditional	T-test	Sig.
For the whole family's use				
Matured beef vs Beef	2.379	2.1078	3.169	0.002
Laundry detergent capsules vs Laundry detergent	2.354	2.2785	0.831	0.406
Thermal clothes vs Casual clothes	3.6218	4.2008	-6.263	0.000
Robot vacuum cleaners vs Vacuum cleaners	3.0893	2.4202	7.342	0.000
Transformer tables vs Coffee tables	3.4709	2.2545	13.13	0.000
Electric cars vs Cars	3.4603	2.293	4.252	0.000
Escape rooms vs Theatres	4.244	2.6928	16.634	0.000
For the individual use of an adolescent				
Functional food bars vs Chocolate bars	3.3834	4.2042	-8.891	0.000
Electric toothbrushes vs Toothbrushes	2.6792	3.1587	-3.296	0.001
Trekking boots vs Casual shoes	3.8079	4.5416	-8.033	0.000
Wireless headphones vs Headphones	4.713	4.0861	6.769	0.000
One-wheel electric bikes vs Bicycles	4.2415	4.0607	2.15	0.032
Transformer beds vs Sofa beds	3.3511	2.8488	5.291	0.000
Wind tunnels vs Amusement parks	3.7417	4.6863	-10.365	0.000

Contrary to our expectations, the adolescents' influence on parental purchase decisions was higher in some cases of traditional products

to what extent the particular product was understood as unique, innovative, and novel in the market enabled us to measure the relationship



between the strength of adolescent influence and the perceived innovativeness of a product. Statistically significant positive correlation at a 0.01 level was observed for all the products except amusement parks (see Table 4). These results support the second hypothesis – the perceived innovativeness of a product is a predictor of adolescent influence on parental purchase decisions. Moreover, the strength of this relationship differs depending on product category. A rather weak correlation was recorded in the apparel for the whole family's use ( $R=0.219$ ) and in the apparel for an adolescent's individual use ( $R=0.285$ ), in food items for an adolescent's individual use ( $R=0.237$ ) and in transport means for an adolescent's individual use ( $R=0.257$ ). A stronger correlation (significance of Steiger  $Z$   $p<0.05$ ) was found in home equipment for the whole family's use ( $R=0.384$ ) and for an adolescent's individual use ( $R=0.408$ ), furniture for the whole family's use ( $R=0.626$ ) and for an adolescent's individual use ( $R=0.419$ ). Furthermore, a stronger relationship between the perceived product innovativeness and the perceived influence of adolescents was observed (significance of Steiger  $Z$   $p<0.05$ ) in products for the whole family's use: food ( $R=0.393$ ), FMCG ( $R=0.409$ ), and services ( $R=0.549$ ). These findings show adolescents' influence on parental decisions to purchase traditional products for the whole family's use to be rather weak. However, that influence increases rapidly when such products are perceived to be more innovative. Ultimately, the results prove that the family reverse socialization phenomenon is evident.

The cluster analysis reveals the emergence of general trends with a few exceptions. Thus, an assumption can be made about the existence of product groups in which similar behavior may be expected, depending on the perceived innovativeness of products and adolescent influence on parental purchase decisions. The cluster analysis leads to the separation of five clusters (see Figure 1) that differ from each other by their mean values ( $F=58.03$ ,  $p<0.001$ ;  $F=20.54$ ,  $p<0.001$ ) in terms of the perceived innovativeness of products and perceived ado-

lescent influence, accordingly. The cluster quality was indicated as good (the Silhouette measure of cohesion and separation was above 0.5). These clusters and their peculiarities are discussed below.

**Traditional products for the whole family's use**, the first cluster with the centroid of the mean value of 2.50 ( $SD=0.29$ ) for perceived product innovation and 2.51 ( $SD=0.36$ ) for perceived adolescent influence included 8 products, such as laundry detergents, beef, coffee tables, vacuum cleaners, cars, theatres. In addition, this cluster included two products for an adolescent's individual use – a toothbrush and a sofa-bed. However, all these products can be grouped under the title of "must have" and can sometimes be included on a family's purchase list. They received a very low evaluation of their perceived innovativeness (less than 3 points on a 1 to 7 scale), and the adolescents' influence on parental decisions to buy these products was weak (less than 3 points on a 1 to 7 scale). These findings support the conclusions drawn by Batounis-Ronner, Hunt and Mallalieu (2007) and Dikcius and others (2014) that the children's influence on the purchase of traditional products for the whole family's use is lower than that regarding products for an adolescent's individual use.

**Traditional products for an adolescent's individual use**, the second cluster with the centroid of the mean value of 4.68 ( $SD=0.66$ ) for perceived product innovation and 4.47 ( $SD=0.26$ ) for perceived adolescent influence consisted of four products, such as chocolate and functional food bars, headphones, bicycles, and various items of apparel (casual shoes, trekking boots, and casual clothes for the family). The perceived innovativeness of these products was higher than in the first segment and varied from low to middle. The second segment differed from the first one due to a greater adolescent influence on parental purchase decisions. These findings are consistent with the previous results obtained by scholars (Chavda et al., 2005; Laroche, Yang, Kim & Richard, 2007) who report

that teenagers have a stronger influence on traditional products for their own individual use when compared to the products for the family use.

Three other clusters were distinguished on the basis of the perceived innovativeness of products. The data observed in the third cluster refute the theoretical assumption that adolescents are likely to have a stronger impact on parental decisions to purchase innovative products, as claimed by the theory of parents' resocialization.

**Innovative FMCG for the use of the whole family**, a cluster with the centroid of the mean value of 3.89 ( $SD=0.30$ ) for perceived product innovation and 2.37 ( $SD=0.02$ ) for perceived adolescent influence presents a case when such adolescent influence is perceived to be rather weak. The innovativeness of matured beef and laundry detergent capsules was significantly weaker compared to the traditional versions of these products. Along the same lines, the adolescents' ability to influence parental decisions to buy these products was very low. Contrary to previous findings (Balcarová et al., 2014; Ramzy, Ogden, Ogden & Zakaria, 2012), we can conclude that adolescents' influence on parental decisions to buy daily products for the whole family is weak and does not depend on the innovativeness of a product.

**Innovative shopping products** is the fourth cluster with the centroid of the mean value of 5.00 ( $SD=0.48$ ) for perceived product innovation and 3.34 ( $SD=0.36$ ) for perceived adolescent influence. This cluster included seven products, perceived to be technologically highly developed products. Some of them are targeted at the whole family (such as robot vacuum cleaners, transformer tables, electric cars, thermal clothes) while others are envisaged for the adolescent's individual use (for example, electric toothbrushes, transformer beds). Meanwhile, the influence of adolescents on parental purchase decisions regarding these products varied from low to average. These findings contradict the general perception of adolescents'

knowledge and experience in the field of new technologies (Liang, 2013; Fikry & Jamil, 2010). Moreover, the influence of adolescents on parental purchase decisions was lower regarding electric toothbrushes and thermal clothes compared to their more traditional counterparts. Therefore, we can conclude that the general perception of adolescents' advanced knowledge of new technologies is not correct since it was based on an analysis of IT-related products, such as mobile phones, computers, or TV sets (Fikry & Jamil, 2010; Sharma & Sonwaney, 2015).

**Innovative products for an adolescent's individual use** is the last cluster with the centroid of the mean value of 3.10 ( $SD=0.30$ ) for perceived product innovation and 4.04 ( $SD=0.36$ ) for perceived adolescent influence. It includes seven highly innovative products, demonstrating quite a strong adolescent's ability to influence parental purchase decisions. In this case, the adolescents exerted more influence on parental decisions to buy one-wheel electric bicycles and wireless headphones than on traditional bicycles or headphones. Behavior worth noting is detected where services for an adolescent's individual use are concerned. Adolescents were highly influential when it comes to amusement parks, but their influence was considerably weaker in the case of wind tunnels, as more innovative entertainment. Even though such findings contradict the resocialization theory. Yet, in the cases involving products that are not related to children's health or security issues, the adolescents' ability to influence parental purchase decisions may be observed. The issue of children's security could explain why adolescents have a weaker influence on functional food bars, trekking boots, or even electric toothbrushes. These findings are in line with previous scholarly data (Baldassarre, Campo & Falcone, 2016; Wingert, Zachary, Fox, Gittelsohn & Surkan, 2014; Dorell, Yankey, Kennedy & Stokley, 2013) and show that, in case of the innovative product purchase, parents neither wish to rely on the information provided by their adolescents nor fulfill their wishes, and that they are not sure of the product's impact on their children's health.

TABLE 4: Correlation between perceived innovativeness and adolescents' influence on parental purchase decisions

	INF_FO_F	INF_FO_C	INF_FMCG_F	INF_FMCG_C	INF_AP_F	INF_AP_C	INF_HE_F	INF_HE_C	INF_TR_F	INF_TR_C	INF_SF	INF_SC	INF_FU_F	INF_FU_C
INO_FO_F	.393**													
INO_FO_C		.237**												
INO_FMCG_F			.409**											
INO_FMCG_C				.353**										
INO_AP_F					.219**									
INO_AP_C						.285**								
INO_HE_F							.384**							
INO_HE_C								.408**						
INO_TR_F									.328**					
INO_TR_C										.257**				
INO_SF											.549**			
INO_SC												.029		
INO_FU_F													.626**	
INO_FU_C														.419**

\*\*Correlation is significant at the 0.01 level (1-tailed)

INO – perceived innovativeness; INF – adolescents' influence on parental decisions

FO\_F – food for the whole family; FO\_C – food for an adolescent;

FMCG\_F – FMCG for the whole family; FMCG\_C – FMCG for an adolescent;

AP\_F – apparel for the whole family; AP\_C – apparel for an adolescent;

HE\_F – home equipment for the whole family; HE\_C – home equipment for an adolescent;

TR\_F – transport for the whole family; TR\_C – transport for an adolescent;

S\_F – services for the whole family; S\_C – services for an adolescent;

FU\_F – furniture for the whole family; FU\_C – furniture for an adolescent.

These five clusters reject the last hypothesis on account of the fact that there are more than four expected clusters. However, we can still conclude that the influence of adolescents on their parents' purchase decisions differs depending on the final user of the product, the category of the product in question and the perception of the product's innovativeness.

In addition, the results showing the influence on parents were checked against children's age. Since it might be expected that older children influence more technologically advance and expensive purchases, such as electric cars or vacuum cleaners, whereas younger children might be influential only in the case of minor purchases that are targeted at them, children's

FIGURE 1: Perceived innovation and perceived adolescent influence on parental purchase decisions

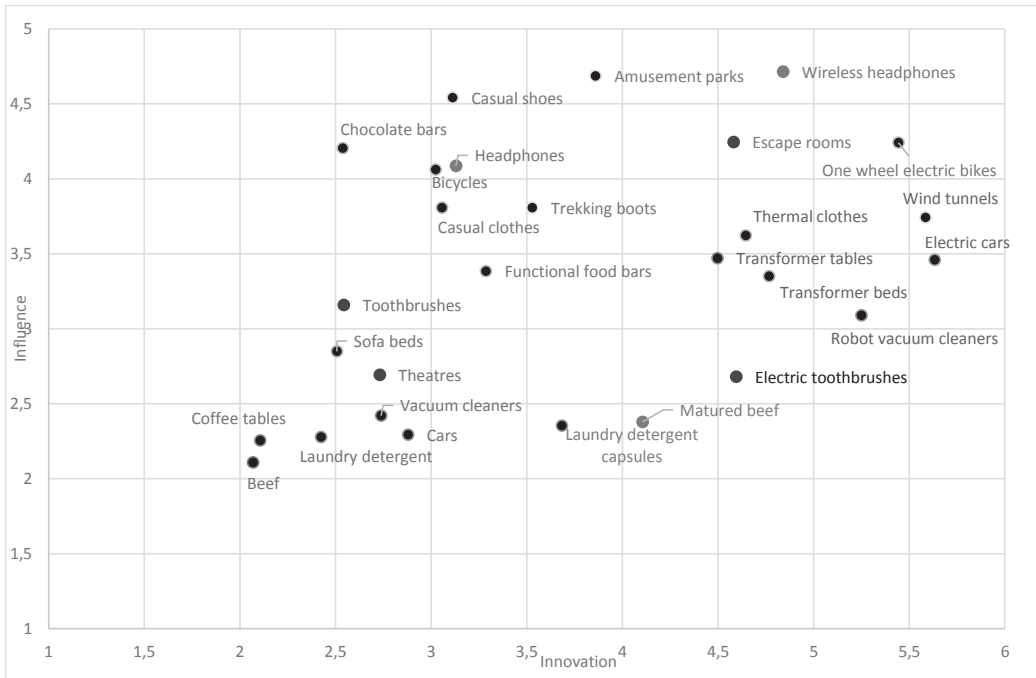


TABLE 5: Correlation of adolescents' influence on parental purchase decisions and their age across product categories (only statistically significant correlations are reported).

Product category	Product type	Pearson correlation R for the influence on parental purchase decision and adolescents' age
Apparel	Traditional	.243***
Tooth brush	Traditional	.140**
Bicycle	Traditional	.088*
Amusement park	Traditional	.080*
Headphones	Traditional	.148**
Functional food bars	Innovative	.131**
Trekking boots	Innovative	.150**

\*\*\* significant under  $p < 0.001$ ; \*\* significant under  $p < 0.01$ ; \* significant under  $p < 0.05$ .

age was correlated to the influence for all products separately. It appeared that children's age correlated to influence in just 7 product categories out of 28 ( $p < 0.05$ ); also, the strength of correlations was low to marginal (see table 5). Thus, children's age within the 12 to 18 years range is not a strong factor in children's influence on parents.

## 5. LIMITATIONS

The present research provides insights into how products cluster at the level of their innovativeness, usage patterns, and children's influence on parents to purchase them. However, due to its wide scope the study has not addressed a number of other contextual and individual patterns.

Obviously, personal characteristics of parents and children influence their interactions. For example, Dikcius and others (2017) have demonstrated that parents' optimism towards innovation (the technology readiness dimension offered by Parasuraman (2000)) enhances children's engagement in purchase decision making, whereas their own technological innovativeness (in terms of knowledge within the field) works in the opposite direction: thus, children are involved less if parents suppose that their own expertise is sufficient. In a similar manner, children's involvement was related to their parents' susceptibility to interpersonal influence. A number of other personal characteristics, such as the level of materialism, self-esteem, status consumption (since novel products are usually associated with higher prestige), and user innovativeness, could be addressed in future research.

Contextual factors include the family itself and the cultural/geographical context. Families differ by their communication patterns, such as *laissez-faire*, protective, pluralistic, and consensual (Bakir, Rose & Shoham, 2006), and that in turn affects the level to which children are involved in parental decisions. Also, families differ in their composition and socio-economical level which

might produce slightly different patterns of children's involvement. Culture determines generation- and status-related interactions, thus, also parent-child communications in relation to consumption (Chan & McNeal, 2003). Finally, products that are considered novel in one country might be well-known in another country; therefore, clusters might look slightly different. However, since we tracked for the perceived innovativeness on individual level, our results still show a general tendency: as long as a product is perceived to be innovative and belongs to a certain category by user or purchase pattern (FMCG vs. specialty), it is possible to forecast children's influence on parents and derive marketing implications on the basis of results.

## 6. CONCLUSIONS

This study provides valuable insights into how adolescents influence their parents during the purchase of innovative products. It proves previous scholarly findings that the influence of adolescents on parental purchase decisions depends on the product type. However, contrary to our expectations, we cannot argue that the influence of adolescents on the purchase of innovative products is higher than their influence on the purchase of traditional products in terms of their classification into innovative and traditional products, as predetermined by the authors. Certain categories demonstrate a higher influence of adolescents on innovative products, whereas others show the opposite trend. This situation could be explained by diverse parental perceptions of the product innovativeness concept.

Judging from the individual perceptions of product innovativeness and the reported adolescent influence, there is a correlation between the two variables: the more innovative the product is (as perceived by a family member), the higher the reported adolescent influence on its purchase. These findings support a theory of parental resocialization where adolescents become valuable sources of information in the

family's decision-making process. Thus, there is a wide range of products that could be targeted at children via media or the Internet, so that they are able to pass information on to their parents and induce their purchasing process.

It is worth noting that the strength of the correlation between the perception of product innovativeness and the influence of adolescents on parental purchase decisions differs depending on the product types. Furthermore, the cluster analysis was applied to determine certain common denominators in the cases where the adolescents' influence on parental purchasing decisions was higher or lower. The data demonstrates that products cluster in a very clear manner. Non-innovative, every day fast-moving consumer goods for the use of the whole family or the purchases of must-have durables can be characterized by a low impact of adolescents on parents. If a product is non-innovative but aimed largely at an adolescent's own use (while not being a "must-have"), the adolescent impact increases slightly. The innovative FMCGs and innovative products for the whole family cannot be characterized by a high adolescent impact on parents. Innovative shopping goods behave similarly; however, the influence of adolescents on parents increases slightly. Meanwhile, if a product is innovative and targeted at adolescents, their influence

on parents is high. The only exception is the innovative service (wind tunnels if compared to amusement parks), most likely because it is associated with certain risks. The adolescents' health or security factors might be relevant for future scholarly studies. Although the number of products for the analysis was limited, cluster-related consumer behavior has clear patterns. Thus, after determining to which group their product belongs, marketers can project the level of adolescent influence on parents in order to decide who in the family will be involved in decision-making and direct their marketing activities accordingly.

It should be acknowledged that the innovativeness of a product is time bound: a product defined as innovative and assigned to a specific cluster over the research period is not likely to be innovative several years later. However, the general trends showing the adolescent influence on purchase may have a long-standing effect; therefore, we believe that the classification described above will be valuable for both current and future marketers in selecting target audiences and running communication campaigns.

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