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## **Benefits from using mobile applications by Millennials – a gender and economic status comparative analysis**

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# **Benefits from using mobile applications by Millennials – a gender and economic status comparative analysis**

## **Abstract**

The aim of the paper is to identify relations between the perceived benefits of using (purchase supporting) mobile applications by young customers (Millennials) and the frequency of the application usage to assess the impact of gender and economic status on this relationship. The Millennials generation was selected as the object of research due to the fact, that this group uses mobile devices and applications almost every day. Although the overall list of motives and benefits is recognized in other research papers, we do not have the knowledge of which factors may influence its perceptions-for example gender or economic status. The consideration are located in theory of motivation.

To answer those research questions the marketing research was conducted. On the basis of 411 collected questionnaires it was possible to conclude that both gender and economic status have impact on the relationship between the perceived benefits of using mobile application and the use of mobile application. It was also established that gender and economic status have a moderating influence on the above mentioned relation. The research showed that this relationship is justified only with reference to men and, to a higher degree, to persons with a lower economic status. The results show, that managers should be more concern about other features of target group not necessary demographic criteria.

**Key words:** m-commerce, mobile applications, motives and benefits, Millennials

## **Introduction**

The perceived benefits from mobile applications may be treated as a motivating factor for installing and using them by customers. Companies' knowledge of those perceived benefits which play the role of the motivating factors for young consumers who make their purchasing decisions is a particularly interesting object of research. It allows for both adapting the offer to the customers' expectations and a better communication with consumers. The perceived benefits may vary in relation to the consumers' individual features. Theoretically, belonging to the segment of Millennials means a similarity of behavior and attitudes towards shopping. However, in the context of mobile applications it should not be taken for granted, as the fact of using mobile applications means a possibility of advanced personalization of the message, as well as adapting the actual offer to the needs of an individual user, with a view to maximizing the benefits for the consumer.

## **Young customers as a target group**

Young consumers are referred to as the generation of Millennials. These are people born between 1984 and 1996. The age range is rather arbitrary – one definition of this generation uses the term millennials for those who were born from approximately 1980 through 2000 (Howe & Strauss, 2003; Sutherland & Thompson, 2001). In practice it refers to persons who in 2016 are 18-32 years old (or maximum 36). This age range covers people who are employed and have their own income, those at the stage of gaining financial independence, but also those

who are still at the phase of education and do not yet function on the labour market. This means that Millennials' attitudes and buying behaviour may differ and that their motivation for using mobile applications and the perception of benefits from the use of these application are also far from homogeneous. In their description we may find, that they are technologically advanced, close to their parents, self-confident, impatient, materialistic, and self-centered, and they "covet the most recent, quickest, flashiest, and smallest form of technology" (Worley 2011, p. 33). The authors, Howe and Strauss (1991; 2000) describe Millennials as: optimistic, cooperative team players, rule followers, and racially and ethnically diverse. This generation is "possessed of rational minds, a positive attitude, and selfless team virtue". They are also characterized as being protected, by both their parents and society, and because they are driven to improve the world around them, by their virtue. But at the same time Millennials are also under strong pressure, because this generation must perceive that everything its representatives want in life is critically dependent upon their own performance" (Howe and Strauss, 2000, p. 184). What's more, the Millennials generation has a high regard for adults, especially their own parents.

In spite of the general features of the segment which are shared by all its representatives, it is worthwhile to note the following two facts. Firstly, purchasing behaviour of the representatives of this sector differs from that of the earlier generations. The widespread access to information and the opportunity of verifying and comparing offers of high-street and virtual shops by means of mobile applications are the reasons why young consumers spend more time studying the offer outside shops than their parents do. Secondly, the segment of Millennials combines a variety of attitudes, due to, e.g. demographic factors, such as the country of origin or age, or psychographic, e.g. the perceived benefits from using mobile applications, the motivation for using them, or the previous experience of using the Internet, as well as the attitude to shopping in brick-and-mortar stores.

### **Motives to use mobile applications**

Mobile applications are understood as electronic transactions and communications conducted by means of mobile devices, such as laptops, PDAs and mobile phones, typically with a wireless connection (Chaffey 2002, p.7). These applications are the reason why the access to all sorts of information, entertainment, or services has become easier and quicker and the knowledge acquired in this way is up-to-date and related to the actual situation. The physical involvement of buyers in the phases preceding the purchasing decision is reduced to the minimum, which allows them for saving time and money and gives them a chance to spend both of them in another way. The authors assume that the benefits seen with the use of mobile applications are a motivating factor to download applications.

In the literature you can find many examples of different sources of needs, which motivate consumers to satisfy need, to avoid negative experiences, or to confirm or shape attitude, e.g. Maslow's hierarchy of needs, Freudian theory (Antonides and Fred van Raaij 2003; Solomon, Bamossy, Askegaard and Hogg, 2006) or Herzberg classification (1966) and other. It also indicates the two sources of motives - internal and external: the needs and values (goals to which customers want to achieve), which inspire customers to act. Action taken by the consumer must be preceded by three conditions: a statement by him or her that a particular

need is not satisfied, also there is a way to meet this need and the consumer has the ability to satisfy it (e.g. financial resources or skill set).

Mobile applications are involved in the process of creating needs and also they provide solutions in the way of satisfying the need. Users meet the needs by them because they solve the problem which results from not satisfied need in other way – they offer fast, efficient access to information, a comparison of the ways of satisfaction the needs, reduce costs to meet the needs etc., thanks to the benefits that become an impulse to take action. They may come from the internal needs of the consumer or appear under the influence of external factors. They could be satisfy by using PC, tablet or smartphones, but the mobile devices in comparison with computer with Internet-enabled differs in few points. Mobile devices are used typically by one person, are fully mobile, the give access all day and night to communicate or to entertain, are easy to use, help to locate user, and what's more – many applications are available for mobile devices and simplify process of research or buying (Gracz 2016, Bilińska-Reformat 2014). Mobile applications satisfy users on different levels of pyramid of needs – owing to them users can feel safe (owing to for example location applications), sense of belonging (participating in communication with groups by social media apps), also respect (by developing own skills and knowledge) or self-realization (for example training apps or apps connected with health). One may say that mobile applications satisfy both individual and social needs and this makes them very attractive for users. In the paper the authors concentrated on the perceived benefits which are connected with satisfying internal needs connected with satisfaction from shopping online.

### **Objective and structure of the research**

The main objective of the article is to define the influence of two variables, i.e. gender and economic status on shaping the relationship between the perceived benefits from using mobile applications and downloading applications. Downloading applications is the basic dependent variable. The perceived benefits from using the applications are an independent variable. The gender and the economic status are treated as moderator variables. The perceived benefits from using mobile applications are related to attitudes, whereas using applications to a larger degree refers to behaviour. It means that the relationship analyzed here is associated with the impact of attitudes on consumer behaviour. In this study, instead of defining the number of downloaded applications supporting shopping, the overall number of downloaded applications was specified. This decision resulted from the awareness that in practice it is difficult to draw a clear-cut borderline between these two categories of applications. It was assumed that if someone appreciates the benefits from using shopping applications, it will be reflected in the overall number of downloaded applications.

Based on the relationship described above the hypothesis 1 was created:

**Hypothesis 1:** The level of using smartphones (measured by number of downloaded apps) depends from perceived benefits resulting from mobile applications which support shopping.

This general relationship may be changed due to a number of variables. However, this research focuses on two of them, i.e. gender and the self-assessed economic status.

## **Gender vs. mobile technologies**

Scientific literature provides numerous examples of differences between gender in terms of the use of the Internet-related technologies, such as attitudes towards computers and modern technologies (Li and Kirkup, 2007), the intensity of using the Internet (Gefena and Strauba, 1997), preferred Internet applications, or the manner of using these applications on mobile devices (Economides and Grousopoulou, 2008) shopping online orientation (Seock and Bailey 2008). For instance, Koenigstorfer's and Groeppel-Klein's (2012) study shows that men are more innovative, which affects the choice of a smartphone, although it does not hold true in relation to the level of using mobile technologies. In another research conducted on a group of Greek students it was observed that in comparison to men, women more often use phones for communication, i.e. for telephone calls, sending and receiving text messages. Moreover, it was established that women more frequently take photos, record more sound files, as well as spend more time listening to music on the Internet radio (Economides and Grousopoulou, 2008). These observations are aligned with the general rule that men tend to use the Internet for entertainment (mainly understood as computer games) and collecting information, whereas women typically use it for interpersonal communication (Shaw and Grant, 2002).

Similar observations apply to the sphere of the modern Internet technologies as a whole. For example, Young (2000), on the basis of a survey conducted 462 university and high-school students, detected gender differences in attitudes towards the acceptance of computer technologies. Representatives of the male gender considered computers a male domain. They also displayed a higher level of trust to this technology. Houtz and Gupta (2001) obtained similar results. In their research men generally displayed more interest in information technologies than women. These findings are convergent with research conducted in various ethnic groups. For instance, a survey carried out in China and Great Britain showed that men more often use e-mail, play computer games and have more confidence in their own computer skills (Li and Kirkup, 2007).

When considering the issue of differences between men and women in the area of attitudes and behaviour related to modern technologies, it must be kept in mind that the differences between attitudes do not always correspond to those in behaviour. The research findings presented above referred to differences in attitudes. However, they are not automatically related to the gender differences in the actual use of technologies. Gefen's and Straub's (1997) study proves this fact, by showing different perception of e-mail (i.e. their content and the purposes for which it is used), but not the use of e-mail in practice. Venkatesh and Morris (2000) noticed that men, compared to women, display a stronger tendency for emphasizing the usefulness of information technology. Women, in turn, stressed the user-friendliness of this technology, as its main quality. This research takes into account the potential group of moderator variables influencing the differences between genders, such as: level of education, income, occupation, or the earlier experience with computers. Nevertheless, the occurrence of these additional variables did not affect the significance of gender as a factor determining perception of technologies.

Wilska (2003) points to the differences between genders in the attitudes to the use of mobile phones. Research conducted on a group of young people (age 16-20) showed that there is a relationship between the use of a mobile phone and the general consumption style. More positive attitude to mobile phones was associated with such consumption style, as: "being up-

to-date”, or “impulsiveness” and, to a larger degree, referred to women. Men displayed a higher enthusiasm towards technology. The different manners of using the Internet and mobile technology may indicate that there may be differences in the range of using smartphones for shopping. Due to the fact that men more readily accept technological novelties (Koenigstorfera and Groeppel-Klein 2012; Li and Kirkup, 2007) and more intensively seek information on the Internet (Shaw and Grant, 2002), the following hypothesis can be formulated:

**Hypothesis 2:** The degree of using the Internet (measured by the number of downloaded applications) for shopping is higher among men than women, in relation to the perceived benefits from shopping applications.

### **Economic status vs. mobile applications**

Another factor which may influence the way a smartphone is used for shopping is a person’s economic status. It may be assumed that more people with higher income will own smartphones, therefore they will more often use them for shopping. This has been confirmed by some research – e.g. that conducted by Jiao and cooperators (2015), who observed the general relationship between the socioeconomic development of a country and the scale of the use of smartphones. Citizens of countries at a lower level of development used smartphones less frequently those from better developed countries or regions (Jiao et al. 2015).

Other research by Punj (2012) refers to the influence of level of income and the perceived “time costs” and “money saved” relations to online shopping. The research indicates that higher-income consumers are attracted by the time-savings features of web-based shopping environments to a greater extent than the money-savings aspects attract lower-income consumers. Also higher-income consumers exhibit a greater tendency toward saving time as an online purchase goal, the relationship between income level and saving money is less certain (Punj 2012).

Nevertheless, the correlation between the economic status and the use of smartphones for shopping is not that straightforward. There are two facts which contradict this line of reasoning. Firstly, due to the widespread of smartphones, not only well-off people use them, but also those with medium and low income. In the generation of Millennials it can be stated that a smartphone is a commonly used device, more frequently than in other age groups (Millennials 2010, p. 25). They are widely used among teenager, 78% of which own a mobile phone and 47% of the phone owners possess smartphones (Teens and Technology 2013). The data refer to the US market, but even in countries with a low income level and in agricultural regions mobile phones (including smartphones) are becoming commonly used devices (Sylvester 2016). The high level of saturation of the group of Millennials with smartphones is the reason why using smartphones for shopping – related merely to the fact of owning them – may be independent of the income level.

Secondly, well-off persons have a lower motivation for seeking cheap products on the Internet than those with lower income. Since online shopping is considered cost-saving, due to the fact that Internet shops offer less expensive products than traditional retailers (Brynjolfsson and Smith 2000), people with lower income have a higher motivation for looking for information about cheaper products than better-off persons. Research conducted in Poland has shown that lower prices are indicated by 69% respondents as an incentive for a purchase and, along with

time-saving and convenience, are the most important decisive factor for online shopping (Gracz and Ostrowska 2014 p. 129). Although it may mean that economic status can be the decisive factor for shopping on the Internet, it should be pointed out that the economic aspect motivates for using shopping applications and is not related to the mere fact of owning a smartphone. Thus, smartphone-owners of a lower economic status may use more shopping applications than persons with a higher status. In this context it is justified to formulate the following hypothesis concerning the relationship between the economic status and the use of a smartphone for online shopping:

**Hypothesis 3:** The degree of using smartphones (measured by the number of downloaded applications) for shopping is higher among people with a lower economic status than among persons with a higher status, due to the perceived benefits from using mobile applications for the purpose of shopping.

### Research procedure

The research was conducted in the period from December 2015 to May 2016. Students of three economic universities participated in it – the University of Economics in Poznan, Krakow and Katowice. The survey also covered students who visited Poland within the international exchange program Erasmus. Table 1 shows the structure of respondents. The nonprobability sampling was applied, where the criteria were: belonging to the segment of Millennials and using smartphones.

In the further part of the study the respondents who do not use smartphones were excluded from the analysis.

**Table 1. Characteristics of respondents**

	Number of responses	Percentage share
<b>Country of origin</b>		
Poland	161	39.3
Germany	59	14.4
France	38	9.3
Spain	21	5.1
Ukraine	19	4.6
Portugal	11	2.7
Mexico	5	1.2
Other countries	96	23.3
No response	1	0.2
Total	411	100
<b>Cycle of studies</b>		
bachelor	248	60
master	163	40
<b>Respondent's gender</b>		
Male	174	42
Female	237	58
<b>Respondent's age (in years)</b>		
Up to 20	100	25
21-22	132	32
23-24	117	29
25 and over	59	14
<b>Use of a smartphone</b>		
Yes	393	96
No	15	4

Source: Own elaboration based on survey

The procedure of the data analysis was as follows:

- Defining the major factors motivating for the use of shopping applications, on the basis of the principal component factor analysis;
- Defining the impact of the factors motivating for the use of shopping applications on the number of downloaded applications, on the basis of the hierarchical multiple regression analysis;
- Defining the significance of gender and economic status for the relationship between the factors motivating for the use of shopping applications and the number of downloaded applications.

### **Motivation for using mobile applications**

The identification of the primary motivating factors for using mobile shopping applications was based on the set of items presented in table 2. These items were taken from a questionnaire developed by a team of researchers from Croatia (Knežević, Delić and Knego 2015).

**Table 2. Motives of using mobile applications**

<b>Motives</b>	<b>Mean</b>	<b>Stand. dev.</b>
Availability of products/services which are not available at traditional stores	5,48	1,40
Saving time	5,30	1,48
Shop 24/7	5,28	1,67
Comparing prices and product information	5,26	1,55
Simplicity of finding interesting products/services	5,21	1,44
Favorable offers	5,11	1,40
Checking product reviews via mobile applications	4,94	1,55
Finding working hours of traditional stores via mobile applications	4,77	1,56
Checking product availability in the traditional store via mobile applications	4,75	1,62
Shopping abroad without traveling costs	4,71	1,71
Lack of pressure from salesperson	4,68	1,62
Ability to locate physical stores via app	4,47	1,48
Simplicity and less affordable process of purchasing than via mobile web browsers	4,45	1,46
Using mobile coupons for discounts when shopping in the traditional stores	4,39	1,77

Source: own elaboration based on survey

Analysis of the responses allows for an observation that the factors most frequently indicated by respondents are: the accessibility of products and services which are not available in traditional stores, as well as saving time and a possibility of shopping around the clock. An opportunity of comparing prices and the simplicity of finding interesting products are also significant. The least important factors turn out to be: a possibility of using mobile coupons and a smaller effort involved in finding a given product.

The items presented in table 2 were used for the factor analysis with Varimax rotation. The process of the reduction of variables led to establishing the basic parameters which confirm the legitimacy of the applied methods, in accordance with the rule that the value of the Alpha Cronbach's coefficient of homogeneity (reliability) of scale should reach the value 0.6, which indicates that the achieved results are satisfactory. The Barlett's sphericity test shows, in turn, if the zero hypothesis, which says that the matrix of the correlation of scales is a unitary matrix, needs to be rejected, which leads to the conclusion that the data is eligible for the factor analysis.



Similarly, the Kaiser-Mayer-Olkin (KMO) statistics (which takes the values from the <0;1> range and should aim at 1) indicates the justifiability conducting factor analysis. This analysis allowed for the extraction of three factors, which jointly account for 56.8% of variances in the variables as a whole. The KMO coefficient had the value 0.870 for the conducted analysis. Particular factors accounted for different ranges of the variances, however the first factor had definitely the biggest share, reaching 37.4%. The second factor allows for the explanation of 11.2% of the variances of variables, whereas the third one – for 8.2%. The results of the factor analysis, including factor loadings for particular variables are shown in table 3.

**Table 3. Results of the factor analysis covering the benefits from the use of mobile shopping applications**

Items	Factor 1	Factor 2	Factor 3
Availability of products/services which are not available at traditional stores	0,767		
Shop 24/7	0,717		
Saving time	0,716		
Favorable offers	0,705		
Simplicity of finding interesting products/services	0,691		
Comparing prices and product information	0,516		
Lack of pressure from salesperson	0,477		
Checking product availability in the traditional store via mobile applications		0,825	
Finding working hours of traditional stores via mobile applications		0,786	
Checking product reviews via mobile applications		0,654	
Ability to locate physical stores via app		0,522	
Shopping abroad without traveling costs			0,753
Using mobile coupons for discounts when shopping in the traditional stores			0,587
Simplicity and less affordable process of purchasing than via mobile web browsers			0,665

Source: own elaboration based on survey

The first factor was named “general benefits”. It accounts for by far the biggest share of variances of variables – 37.4%. This factor encompasses variables related to a number of various issues associated with all the elements of the marketing mix. Therefore, it can be stated that it has a very general nature and virtually results from the overall attitude to the use of mobile applications and doing shopping on the Internet. The high value of this factor will suggest a positive attitude to shopping online.

The second factor is called “fostering traditional retail”. It accounts for 11.2% of the variances of the variables as a whole. Its essence is the use of a smartphone as an auxiliary tool for shopping in traditional stores. The secondary role of a smartphone is limited to merely seeking information about products or shops. As in the case of the first factor there is a strong relation with online trade, a high value of the second one may rather indicate an attachment to the traditional forms of retail trade.

The third factor can be referred to as „international simplicity of shopping”. This factor accounts for the smallest proportion of variances, at the level of 8.2%. It is related to the opportunity and the simplicity of buying products from abroad. Similarly to the first factor, but unlike the second one, its high values may suggest a high interest in online shopping.

## **The influence of factors motivating for the use of mobile shopping applications on the number of downloaded applications**

The objective of the second stage of the analysis was to define the influence of the factors motivating for the use of mobile shopping applications on the number of downloaded applications.

In the second stage of the analysis the stepwise regression was applied. It is the most commonly used method of the selection of independent variables (Aczel 2000, p. 608). At each stage of the calculation the significance of each variable is revised. It allows for minimizing the risk of leaving a significant variable outside the model, or retaining an insignificant one inside (Aczel 2000, p. 609). A combination of the regression analysis with the factor analysis brings the advantage of avoiding the problem of multicollinearity, which frequently occurs in the multiple regression analysis.

The factors obtained in the factor analysis as independent variables were used in the regression analysis. The dependent variable was the number of applications downloaded in 2015. The analysis results are presented in table 4.

**Table 4. Regression analysis for the number of downloaded applications as the dependent variable**

Model	R	R-square	Corrected R-square	Standard error of estimate	Statistics of change				
					Change in R-square	F of change	df1	df2	Significance of F of change
1	0.249 <sup>a</sup>	0.062	0.059	26.872	0.062	24.839	1	376	0.000
2	0.270 <sup>b</sup>	0.073	0.068	26.751	0.011	4.411	1	375	0.036
3	0.423 <sup>c</sup>	0.179	0.172	25.209	0.106	48.268	1	374	0.000

Source: own elaboration based on survey

At the first stage three more variables were included. The first one of them was referred to as “general benefits”. It appears to have had a significant impact on the dependent variable. The second variable added to model was the one designated as “support for traditional retail trade”. The increment of the explained variance was only 1%. However, this variable was statistically significant. The third included variable was defined as “the international simplicity of shopping”. Like the other two, it was statistically significant. Its inclusion allowed for the explanation of an extra 10% of variables variances.

To sum up, it can be stated that all the three factors turned out to have a significant influence on the number of applications downloaded to smartphones, which corroborates hypothesis 1.

## **The significance of gender and economic status for the relationship of the influence of the factors motivating for the use of mobile shopping applications on the number of downloaded applications**

With a view to defining the role of gender, two separate regression analyses were conducted, one for each gender. The procedure was the same as for the regression analysis performed for the group of respondents as a whole, presented in stage 2.

**Table 5. Regression analysis for the number of downloaded application a dependent variable for each gender separately**

Model:							
Men	R	Corrected R-square	Change in R-square	F of change	df1	df2	Significance of F of change
1	0.347 <sup>b</sup>	0.115	0.121	22.101	1	161	0.000
2	0.378 <sup>c</sup>	0.132	0.022	4.182	1	160	0.042
3	0.599 <sup>d</sup>	0.347	0.216	53.674	1	159	0.000
Women							
1	0.092 <sup>b</sup>	0.004	0.008	1.818	1	213	0.179
2	0.111 <sup>c</sup>	0.003	0.004	0.830	1	212	0.363
3	0.172 <sup>d</sup>	0.016	0.017	3.759	1	211	0.054

Source: own elaboration based on survey

The findings presented in table 5 indicate that only in the male group a statistically significant impact of all the three variables on the number of downloaded applications can be observed. In the case of women none of the variables affected the number of downloaded applications. It confirms the findings of earlier research which pointed out that women are less interested in internet applications than men. It also means that hypothesis 2 cannot be refuted.

### Discussion of results

The conclusions from this part of the analysis are counter-intuitive. It is commonly believed that women are more interested in shopping than men are and, as a result, they are likely to possess a bigger number of shopping applications. Since the findings of the above presented analysis contradict this belief, it seems justify to ask a question about the degree to which they correspond to reality. There are two possible explanations of this divergence. Firstly, the presented findings do not refer to the level of using the applications, but only to the relationship between the perceived benefits and the downloaded applications. Even a small number of applications can be used frequently and intensively. Secondly, it should be remembered that the dependent variable was the number of applications in general and not of shopping applications, which may imply that the number of downloaded applications does not have a strong relationship to the number of shopping applications.

### Economic status as a moderator variable

The economic status was measured by means of self-assessment. Their perceived economic status was placed by respondents on a 5-degree scale (from very good to very bad). Due to the fact that some of the groups obtained in this manner were limited in size, (cf. table 6), the data were regrouped into two groups of a similar size. The first one included persons who evaluated their economic situation as from bad to average, whereas the other one – those who assessed their economic status as good or very good. As a result, the group with a lower status consisted of 206 respondents and the one of a higher status – 205 respondents.

In order to define the role of the economic status, two separate regression analyses were performed, one for each of the separated groups. The procedure was the same as in the case of

the regression analysis for the group of respondents as a whole, presented at stage 2. The results of the regression analysis for both groups are shown in table 7.

**Table 6. Economic status of respondents (self-assessment)**

	Frequency	Percentage
Very bad	2	0.5
Bad	14	3.4
Average	190	46.2
Good	173	42.1
Very good	32	7.8
Total	411	100,0

Source: own elaboration based on survey

**Table 7. Regression analysis for the number of downloaded applications as a dependent variable for groups with different economic status**

Lower economic status							
Model	R	Corrected R-square	Change in R-square	F of change	df1	df2	Significance of F of change
1	0.310	0.091	0.096	19.612	1	185	0.000
2	0.345	0.109	0.023	4.787	1	184	0.030
3	0.596	0.345	0.237	67.203	1	183	0.000
Higher economic status							
1	0.187	0.030	0.035	6.829	1	189	0.010
2	0.192	0.027	0.002	0.378	1	188	0.539
3	0.204	0.026	0.005	0.976	1	187	0.325

Source: own elaboration based on survey

The analysis findings indicate substantial differences between these two groups in the area of using mobile shopping applications. In the case of respondents evaluating their status as average or worse, all the three factors had a statistically significant influence on the number of downloaded applications. It is worthwhile to point out that the third factor, included as the last one, could explain ca. 23% of the variances of variables, which underlines the importance of its role.

For persons evaluating their economic status as good or very good only the first factor affected the number of downloaded applications. These results corroborate hypothesis 3.

Due to the fact that both gender and economic status displayed statistically significant relations only in one of the surveyed groups, the existence a correlation between these two groups can be suspected. If – hypothetically speaking – women were characterized by a higher economic status, it would account for the lack of interest in the use of smartphones for shopping by both persons with a higher status and women. However, in practice it would mean that only the economic status would be of significance, whereas the gender as a variable would not play an important role in the explanation of the described relations.

In order to establish if there is a relationship between gender and economic status, Chi-square test was conducted. The test results are presented in table 8. The data presented in table 8 show that there is no relationship between gender and economic status (Pearson's Chi-square equals 1.3336;  $p > 0.1$ ). It means that the low interest in the mobile shopping applications cannot be

explained by the higher economic status of women. All in all, both gender and economic status can be deemed significant factors, influencing the preferences in the use of smartphones for shopping.

**Table 8. Relationships between gender and economic status**

		Economic status		Total
		Lower	Higher	
Men	Number	93	81	174
	% Gender	53.4%	46.6%	100.0%
	% Economic status	45.1%	39.5%	42.3%
Women	Number	113	124	237
	% Gender	47.7%	52.3%	100.0%
	% Economic status	54.9%	60.5%	57.7%
Total	Number	206	205	411
	% Gender	50.1%	49.9%	100.0%
	% Economic status	100.0%	100.0%	100.0%

Source: own elaboration

### **Conclusion and managerial implications**

The conducted research allows for the conclusion that the perceived benefits from the use of mobile shopping applications are related to the number of downloaded applications. All factors included into the regression models confirmed the fact, that perceived benefits, fostering traditional retail and international simplicity of shopping which can be interpreted as ubiquity of the offer influence using mobile application. It shows, that customers experiences in online shopping, also omnichannel strategy conducted by retailers support process of shopping decision making.

Additionally, it was established that gender and economic status have a moderating influence on the above mentioned relation. The research showed that this relationship is justified only with reference to men and, to a higher degree, to persons with a lower economic status. Our research shows that women are less interested in internet applications than men. But we may assume that it depends on the type of applications and context of using smartphones – for communication and social purposes or for entertainment or any other purposes. This shows the direction of the research for the future. The results show, that managers should be more concern about features of target group, not necessary demographic criteria, and better recognize needs of Millennials by using different criteria of segmentation, especially connected with psychographic and shopping behavior.. The opportunities created by online contact with customers, 24 hours a day, and individualization of the offer owing to data about customers may support companies to better satisfy customer needs.

### **Limitations and future research**

As with all research, where the sample is not randomly selected, the results can't be referred to all Millennials. Future research could be made on a randomly selected sample of online young shoppers to have possibility of generalization for the whole population. Also the future research could include the attitude of young customers in relations with category of products or services which are bought by mobile applications. What's more, there is always a possibility of influence of country of origin factor.

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