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PROFILES AND PREFERENCES OF ON-LINE MILLENIAL SHOPPERS IN BULGARIA

Patricia R. Loubeau *, Robert Jantzen **, Elitsa Alexander ***

ABSTRACT

This research seeks to develop a better understanding of the factors affecting on-line purchasing behavior among Generation Y (Gen Y) consumers in Bulgaria. Also called millennials and born between the mid-1970s and late 1990s, this generation is especially active on-line and will be a dominant influence shaping e-commerce. An empirical study was conducted based on a written survey of a sample consisting of 367 high school and university students in Bulgaria. The most important reason why Bulgarian young people shop on-line is the pursuit of unique products not locally available, followed by convenience and better pricing, and their favorite category of internet purchases is "Apparel and Accessories." Bulgarian millennials are using the internet to shop for trendy fashion and to obtain a variety of brands that are unavailable locally. Like other regions of the world, concern about financial transactions security is a major barrier limiting the willingness to shop on-line in Bulgaria. Unlike other markets where on-line music purchases are growing, high levels of digital piracy in Bulgaria strongly discourage Bulgarian students from purchasing music on-line. One limitation of this study arises because of its reliance on a convenience sample of students from medium sized cities in Southern Bulgaria. Further research employing stratified random sampling across Bulgaria is needed to assess whether the findings are broadly generalizable for the Gen Y population.

Keywords: on-line shopping, Generation Y, consumer behavior, Eastern Europe

JEL: D12

1. INTRODUCTION

As internet access increases, with more than 1.9 billion users worldwide today (Internet World Stats 2012), the number of on-line purchasers is expected to increase steadily, including a proportionate increase in the number of young adults buying on-line. Consumers, including millennials, are using the web to obtain information on products and to obtain better pricing (Nie and Ebring, 2000), which is propelling globalization and international trade. Nielsen (2008) notes that in the past two years the fraction of the world's internet users that shop on-line has increased from 40% to over 85%, with half of today's users making regular purchases at least once a month. Recent research shows that Western Europe leads the world in retail-e-commerce (Business Wire, 2010), with France, Germany, Italy, the Netherlands, Spain, Sweden, and the United Kingdom constituting the largest on-line markets (Forrester Research, 2010). The relative import of e-tailing differs significantly within these markets, however, with British consumers being the largest on-line spenders in Europe, tallying a third of all internet purchases (McAdam, 2010). In contrast, internet commerce only represents a small fraction of total retail volume in Italy and Spain (Von Abrams, 2010).

Even though the growth rate in internet usage and e-commerce worldwide has been dramatic, wide variation in internet

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penetration rates among countries (Internet World Stats, 2012; Eurostat, 2011) offers the opportunity for substantial future growth. Such growth is expected to particularly come from regions outside of the United States (Brashear et al., 2009).

One group of internet users that are especially wired and therefore have a significant influence in the on-line marketplace are Generation Y consumers, also called millennials. This generation, born between the mid-1970s and late 1990s, consists of demanding, highly wired and knowledgeable consumers. Their sheer numbers and spending power are expected to shape the marketplace for decades to come (Morton, 2002; Paul, 2001; Ott, 2011). Sarbu (2008) has described them as the first generation of digital natives, techno-literate and computer able since childhood, who depend on the internet for almost all facets of their daily lives. In short, millennials are the first generation to have grown up in the virtual world of the internet (Apostolov, 2008, p. 151). Since Generation Y shoppers are far more active on-line than previous generations, they are likely to be a dominant factor shaping future e-commerce trends.

According to a Pew internet research report, Gen-Y consumers comprise 35% of the internet-using population (Pew Internet and American Life Project, 2010). They also have sizable disposable incomes which they are willing to spend on-line, e.g., US millennials earned \$200 billion in 2009 from part- or full-time jobs and purchased \$190 billion worth of goods (Tapscott, 2009). They represent ideal customers, with incomes largely disposable and expenditures resilient to changing business conditions.

As teen-specific payment methods became widely available in 2001, teenaged millennials aged 13 to 19 entered the world of e-commerce (Singh, 2002). Starting with prepaid cards, innovation in payment

methods which include Splash Plastic, Smart Creds and Dubit, as well as digital wallets has further enhanced the ability of teens to buy on-line. A further payment iteration can be found in BillMyParents, which allows teenagers to select products on-line and forward the bills for parental approval (Anonymous, 2011a). Linking teens to on-line payment methods has been a potent combination fueling teen spending over the Web.

Understanding the on-line buying behavior of millennial consumers allows retailers to create initial relationships with them and to build them into lucrative long-lasting brand attachments. With these considerations in mind, this study was designed to analyze the on-line buying behavior of Generation Y consumers in Bulgaria and examine the factors that influence the decision to shop on-line as well as the type of products purchased. This research extends the work of Brashear et al. (2009), Cahk and Ersoy (2008) and others and addresses the need for a non US-centric view of internet usage by investigating an emergent market segment in Bulgaria, in Eastern Europe for which no prior work has been published. The results of this study should be of value to retailers seeking to understand buying behaviors, educators interested in consumer behavior, and consumer theorists.

2. LITERATURE REVIEW

Why do consumers use the internet for shopping? Rohm and Swaminathan (2004) have suggested that on-line shoppers can be characterized into four motivational types. *Convenience shoppers* value the ease of the on-line transaction, while *variety seekers* desire greater access to differing products and retailers. *Store-oriented buyers* are more interested in quickly obtaining products and the social interaction during purchase, while *balanced buyers* weigh all three. Harris Interactive's large scale survey (Anonymous,

2012) of US consumers in the busy 2012 Christmas season found that the most important reason for shopping on-line was to obtain better prices (71%), followed by greater convenience (53%), better ability to stay within budget (32%), and the desire to avoid crowds (31%). A similar PriceGrabber survey conducted in 2011 revealed even greater proportions (75%+) citing pricing, convenience and avoiding crowds (Anonymous, 2011b). In earlier studies of US consumers, Ahuja et al. (2003) found smaller fractions (< 25%) citing convenience, better prices and that it saves time, while Brown et al. (2003) found that consumers also shopped on-line in order to obtain greater selection and to maintain their privacy for products they would ordinarily be reluctant to buy in-store.

Demographic and personal characteristics are also important factors that influence the decision to purchase on the web. Donthu and Garcia (1999) have demonstrated that older consumers and those with higher incomes are more likely to buy on-line than their younger and modest income counterparts. Other researchers have also noted that younger students are less likely to shop on-line and to be able to use credit cards for payment, except when borrowed from an adult (Vahlberg, 2010; Von Abrams, 2010). Swinyard and Smith (2003) have also found that on-line shoppers are wealthier, better educated, and more computer literate. Similarly, Bellman et al. (1999) have shown that consumers with greater internet expertise are more likely to make internet purchases.

Some researchers, like Rodgers and Harris (2003), Brown et al. (2003), Slyke et al. (2002) and Teo (2001), have also identified a gender difference in on-line shopping preferences, with males more likely to make e-purchases. Others, however, like Ulbrich et al. (2011), Alreck and Settle (2002), Stafford et al. (2004) and Hernandez, Jimenez and Martin (2011) have failed to find a significant gender

differential. Others like Lynch and Beck (2001) and Dellner (2007) have emphasized that browsing and purchasing patterns differ between countries because of differing cultural beliefs, attitudes and perceptions. This may be particularly important for Bulgaria which, unlike well established and developed mass consumer societies such as the UK and the USA, has a more recent engagement with global consumerism. As a post-transition Eastern Bloc country, Bulgaria has a more collectivist heritage and more limited exposure to internet shopping opportunities.

Two sources of anxiety, involving the chances of receiving an unsatisfactory product or incurring an unexpected financial loss, have been found to be the major deterrents to ordering on-line. Kiran, Sharma, and Mittal (2008) have identified the former, arising from an inability to physically examine the product first hand prior to purchase, as the most important factor deterring on-line purchases. Others, including Ha and Stoel (2012), Joines et al. (2003), Kolsaker et al. (2003), Liao and Cheung (2001), Vellido et al. (2000), Basso et al. (2001), Callahan and Koenemann (2000) and Spiekermann et al. (2001), have shown that concerns with credit-card fraud and privacy are most important.

3. THE BULGARIAN INTERNET ENVIRONMENT

Half (51.0%) of Bulgaria's population has access to the internet (Internet World Stats, 2012). The EU average (73%) and the rates for other south-eastern European states are considerably higher, with the exception of Albania (49%), Montenegro (50%), Greece (53%) and Romania (44.1%). Bulgarian (and Swedish) young people, however, are among the most frequent internet users in Europe with five in six (83%) teens reporting that they use the internet every day (Livingston et al., 2010). Daily teenager time spent on-line averages three hours on weekdays, four hours

at weekends and up to five hours on days during school vacations (Bulgarian National Centre for Study of Public Opinion, 2006). Internet use by young Bulgarians has grown rapidly in recent years (from 41.7% in 2004 to 75.1% in 2009) fueled in part by the popularity of internet and computer gaming clubs (National Statistical Institute of Bulgaria, 2009).

Although internet shopping is increasing, e-commerce remains underdeveloped in Bulgaria. Bulgarians are among the lowest users of on-line shopping with estimates ranging from 3 to 5% of consumers buying products on the web (Anonymous, 2010; Temelkova, 2008). Bulgaria's bank card holders, however, are much more likely (79%) to make purchases on-line, and younger buyers between 18 and 24 account for 45% of these purchasers. Internet commerce, although still primarily done on foreign sites, is also being stimulated by the development of local e-tailers and on-line payment systems. Bulgaria, as a developing market economy, will however, continue to lag behind the USA and most of Western Europe because of their relatively low (\$12,800 in 2010) per capita income level (Central Intelligence Agency, 2011). Nevertheless, as a post-transition Eastern Bloc country now included in the EU, Bulgaria's six million potential customers, rising income levels, and increased foreign investment offer enormous e-biz potential. In addition, the speed of adoption of e-commerce services will be an important element of Bulgaria's integration into the EU community and ensuing economic development.

4. METHODOLOGY

Following Zhou et al. (2007), Pavlou (2003), Park et al. (2004), Chen et al. (2002) and Limayen et al. (2008), we posit that the willingness of Bulgarian Gen Y consumers to shop on-line is determined by *consumer demographics*, *computer knowledge*, *perceived benefits* and the *perceived risks* of internet

buying (see Figure 4.1). Reflecting the findings of prior research, our specific expectations regarding demographics are that students who are either male, older, more educated or from higher income households are more likely to make on-line purchases than those female, younger, less educated or from poorer households, respectively. We also expect that students with greater computer knowledge will be more likely to conduct on-line transactions. *Perceived benefits* include factors that measure the expected benefits of using an on-line system, such as better pricing and convenience. The final category, namely *perceived risks*, refers to consumers' assessment of incurring unexpected financial losses or being disappointed in the product after they have purchased it. The propensity to shop on-line is expected to be positively related to perceived benefits and inversely related to risks.

The specific hypotheses that the research will test are as follows:

- H1. Gender impacts on-line shopping behavior, i.e. males are more likely to shop than females.
- H2. Age is positively related to on-line shopping behavior.
- H3. Education is positively related to on-line shopping behavior.
- H4. Income is positively related to on-line shopping behavior.
- H5. Computer knowledge is positively related to on-line shopping behavior.
- H6. Perceived benefits are positively related to on-line shopping behavior.
- H7. Perceived risks are negatively related to on-line shopping behavior.

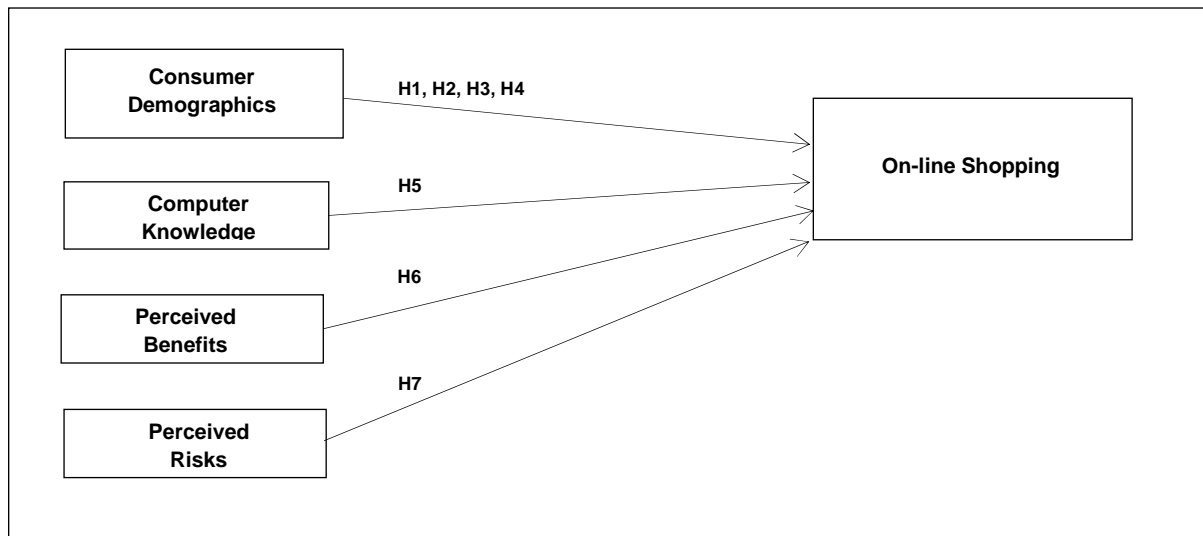


Figure 4.1. Research framework

4.1. The On-line Shopping Survey

To study the on-line shopping behavior of millennials in Bulgaria, a survey was designed and administered. Questions for the survey were selected based on the literature review, a review of other surveys, consultations with market researchers and Bulgarian academics, as well as focus groups with students in the targeted age group.

The survey included nine questions pertaining to internet use and on-line purchasing behavior. The latter included questions regarding whether the student shops on-line, what products or services are purchased and additional questions relating to the level of computer expertise and motivation for on-line shopping. The on-line shopping categories included products and services, an approach similar to that of the on-line-shopping research companies, Forrester and comScor, both leaders in measuring the digital world. The approach was also consistent with that of Ahuja et al. (2003), Cahk and Ersoy (2008) and Frasier and Henry (2007), who focused on the general on-line purchasing behavior of individual consumers and why they choose to buy or not buy on-line. To distinguish differing computer abilities, students were asked to self-report their level of computer

knowledge on a 5-point ordinal rating scale ranging from no knowledge to expert. The survey also included questions regarding age, gender, educational level, and income status. To accommodate disparities in income levels between Bulgaria and the USA/Western Europe, the income categories were defined as much worse off than colleagues, worse off than colleagues, same as colleagues, better off than colleagues, and much better off than colleagues.

4.2. Survey Participants

A total of 388 pen and paper surveys were distributed in the late spring/early summer of 2011 to a convenience sample of high school and university students from medium sized cities in Southern Bulgaria. This participant group was chosen because previous studies (including Ozok and Wei, 2010 and Lightner et al., 2002) have shown that students can serve as a representative sample of the e-commerce shopper population. Twenty one surveys were eliminated due to incomplete data, leaving a total of 367 usable surveys. Among these, women (57.8%) and university students (53.4%) slightly outnumbered men (42.2%) and high schoolers (46.6%). Most (80.1%) were between 18-22 years old, with only 15.3% younger and 4.6% older. Three in four (76.3%) reported they had incomes similar to

their colleagues, while 6.6% reported lower incomes and 13.1% higher incomes. With respect to computer expertise, two in five (42.8%) felt they had above average computer knowledge, nearly half reported (46.3%) average literacy and only a small fraction (3.3%) felt they had below average computer skills.

4.3. Statistical Method

Bivariate and multivariate analyses were utilized to test the hypotheses at the customary $p \leq 0.05^*$, $p \leq 0.01^{**}$ and $p \leq 0.005^{***}$ significance levels. The analysis included chi-square tests between pairs of categorical variables as well as regression analysis. Specifically, chi-squared analysis was used to assess whether the type of on-line purchase was related to each of the consumer demographic characteristics. Chi-squared analysis was also employed to assess whether the reasons for shopping and not shopping on-line were significantly related to the demographic traits. Because the decision to shop on-line is a binary categorical (yes/no) outcome, multivariate logit regression analysis was employed to identify the independent factors determining the willingness to shop on-line. According to Wooldridge (2009, pp. 246-250, 575-587), in large samples like ours, the logit method is superior to ordinary least squares (OLS) regression because the latter is likely to generate biased coefficients, heteroskedastic error terms, unreliable coefficient t values and nonsensical predicted probabilities. The specific functional form of the logit regression model is as follows:

$$\log\left(\frac{p_i}{1-p_i}\right) = \beta_0 + \beta_1 X_i + \varepsilon_i \quad \text{or}$$

$$p_i = \left(\frac{1}{1 + e^{-(\beta_0 + \beta_1 X_i + \varepsilon_i)}} \right)$$

where p_i is the probability of shopping on-line and X_i is the vector of explanatory variables

(including consumer demographics, computer knowledge, perceived outcome and perceived risk factors). Because the logit regression coefficients (β_1) show the marginal effects of each explainer on the log of the odds of shopping on-line, their magnitudes are not directly interpretable. Statistically significant logit coefficients do, however, indicate the direction (plus or minus) of influence of each explainer on the propensity to shop on-line.

To estimate the logit regression, the decision to shop on-line was coded as a dummy variable, with 1 for shopping and 0 for non-shopping. Among the consumer demographic explainers, gender and education status (university vs. high school student) were also coded as (1, 0) variables. Because the age and income demographics, as well as the computer knowledge variable, were ordered categorical variables, their influence was estimated relative to particular base groups using multiple 1,0 dummy variables. For example, since age was classified as either < 18 , 18-22 or > 22 , the regression included two 1,0 dummy variables for the 18-22 and > 22 categories and excluded a variable for the < 18 group, thereby making it the comparison base. This regression specification then allows the results to identify whether there were any differences in the propensity to shop on-line between 18-22 year olds and < 18 year olds or between > 22 year olds and those < 18 . Since income was similarly classified into three groups, namely worse than peers, same as peers or better than peers, the regression estimated the differences between the latter two groups relative to the worse than peers group. Lastly, the influence of computer knowledge was estimated by contrasting those with average or above average expertise with those who had less than average self-reported ability. Whether students reported that they expected to receive better pricing was also included as a 1,0 dummy variable, as were two variables measuring whether they felt either anxious about financial risk from

shopping on-line or being unable to physically examine the product prior to purchase.

5. RESULTS

5.1. Why do Gen Y consumers shop on-line?

Seven out of ten (70.6%) students surveyed reported that they had shopped on-line at least once. The majority (62.5%) of these internet shoppers were moderately active, having made one to three purchases in the previous three months. The most cited reason given by 259 Bulgarian students for shopping on-line is the ability to obtain unique products not found in stores (46.3% of the total). Our study shows that Bulgarian students are "variety seekers" using the internet to supplement their buying to obtain brand name products that are still difficult to obtain locally. Like American millennials who "shop for fashion, they shop for trend, and they shop a variety of stores and brands...", (Ott, 2011), Bulgarian millennials seem to be constantly looking for new trends. According to Hartman et al. (2006), variety seeking may also be connected to their desire to build "cool" identities by being seen using the latest products.

The next most important reasons why Bulgarian young people shop on-line are convenience (45.9%) and better pricing (44.4%), followed by the ability to save time shopping (30.9%) and to shop any time of the day (26.3%). Relatively few respondents cited on-line price comparison (13.1%), fewer hassles and crowds (10.8%) and ease of shopping (8.5%) as important factors. While previous research on UK and US young people has shown that price is the biggest draw to on-line shopping (Singh, 2002; Lueg, 2001, pp. 19, 30, 83), Bulgarian millennials seem to be somewhat less concerned with price. The relatively inelastic response for Bulgarian youth might reflect more limited opportunities for purchasing products locally, especially brand name products. In addition,

Bulgarian cultural norms provide young people with generous parental financial support. A typical comment among Bulgarian parents would be "What I did not have as a child (i.e. during socialism), my children should have now."

5.2. What do Gen Y consumers purchase on-line in Bulgaria?

For 259 students who had shopped on-line, the most frequently reported favorite category (54.4%) was "Apparel and Accessories," followed by "Books and Magazines," "Computers," "Air Travel," and "Health and Beauty" with 38.6%, 35.1%, 32.4% and 30.5% shares respectively. One in four also reported purchasing "Event Tickets," "Consumer Electronics," and "Videos," with smaller fractions reporting either "Music" or "Toy" purchases (8.2% and 2.5%, respectively). These findings about Bulgarian millennials correspond to the recent Gallup research finding that globally millennials, more than any other generational group, acutely respond to changes in fashion by shopping on-line for clothing and accessories (Ott, 2011). The Bulgarian GenYer's preference for on-line apparel can also be explained by existing price differentials. If we compare Bulgarian prices to Western-European and US prices we note an interesting fact. While consumer prices tend to be significantly higher in Western Europe and the USA compared to Bulgaria, there is one exception, i.e. prices of brand name products (e.g. the products of Levi's, Nike, Zara and H&M). One summer dress in a chain store (like Zara or H&M), for example, would cost approximately 14% less to buy from a store located in Western Europe (e.g. Germany, Spain or France) than from a store located in Bulgaria (Anonymous, 2011c). The same product would be even less expensive if bought in the USA. This may explain why Bulgarian students buy apparel and accessories on-line when looking for better

prices. Bulgarian millennials seem to be looking for the right styles at the right price.

Of interest to note is the low level of on-line music purchases. This is consistent with the fact that most audio is illegally acquired in Bulgaria. Upon the recommendation of the International Intellectual Property Alliance (IIPA), Bulgaria was added to the Special 301 Watch List in 2003 and again in 2005. The estimated level of music piracy in Bulgaria was 83% in 2002 (IIPA, 2003), and Bulgaria's anti-piracy efforts have continued to be ineffective. In 2012, after street protests by internet activists, Bulgaria became the sixth European country refusing to support the international Anti-Counterfeiting Trade Agreement (ACTA). The agreement was meant to toughen intellectual property rights enforcement and toughen the legislation against on-line audio-video piracy and has been signed by Australia, Canada, Japan, Morocco, New Zealand, Singapore, South Korea, Mexico, Morocco, the USA and 22 members of the EU. Bulgaria joins Poland, Cyprus, Estonia, Germany, Netherlands and Slovakia in not signing the convention (Reuters, 2012).

Unlike the situation in Bulgaria, legitimate digital music sales have been growing rapidly worldwide and accounted for an estimated

32% of recording company 2012 global revenues, up from 29% in 2010. In some markets more than half of company revenues arise from on-line music sales, including the USA (52%), South Korea (53%) and China (71%) (IFPI, 2012). Despite advancements that have been made on a global scale, digital piracy remains a critical barrier to on-line music sales in Bulgaria. Beken, Janssens and Vandaele (2009) have noted that legal action seems to be able to serve as a last-resort solution, while buying music on-line should be made easier (and more affordable) than stealing music on-line.

5.3. Are there significant demographic differences in what Gen Y purchases on-line?

The types of items Bulgarian Gen Y consumers purchased on-line differed significantly (p -value $< .005$) by age, gender, education and income, with the age and education differences largely mirroring one another (see Table 5.1). University students were more likely (37.8%) to purchase air travel tickets on-line than younger high students (5.8%). This would be expected as university students may require air travel to attend school whereas high school students would not. Additionally, high school students cannot use credit cards for paying on-line, except when

Table 5.1. On-line purchases by demographics

	Age:			Gender:		Education Status:		Income:			Computer Knowledge:		
	<18	18-22	>22	Male	Female	High School	University	< Peers	= Peers	> Peers	< Average	Average	> Average
Computers	26.8%	59.0%	5.6%	37.4%	15.6%	22.2%	27.0%	29.2%	25.0%	25.0%	25.0%	15.9%	33.0%
Music (CDs, MP3 etc.)	14.3%	16.4%	2.8%	10.3%	6.6%	13.5%	3.6%	12.5%	8.9%	4.2%	0.0%	8.2%	8.6%
Books & magazines	23.2%	65.6%	9.7%	19.4%	33.0%	19.3%	34.2%	16.7%	26.4%	33.3%	25.0%	24.1%	30.3%
Event tickets	8.9%	44.3%	8.3%	18.7%	17.0%	9.4%	25.0%	16.7%	15.0%	31.3%	8.3%	11.8%	23.8%
Consumer electronics	10.7%	44.3%	6.9%	27.7%	10.4%	13.5%	21.4%	16.7%	16.1%	29.2%	0.0%	11.8%	24.3%
Videos	32.1%	31.1%	6.9%	21.9%	12.7%	20.5%	13.3%	20.8%	16.4%	12.5%	16.7%	14.1%	18.9%
Air travel	1.8%	61.5%	11.1%	21.3%	24.1%	5.8%	37.8%	20.8%	20.7%	31.3%	8.3%	20.6%	25.9%
Health and beauty	28.6%	46.7%	8.3%	5.8%	33.0%	19.9%	23.0%	4.2%	21.4%	29.2%	16.7%	20.0%	23.2%
Apparel & accessories	39.3%	91.0%	11.1%	30.3%	44.3%	36.3%	40.3%	16.7%	37.5%	58.3%	8.3%	35.3%	43.2%
Toys	5.4%	4.9%	12.5%	4.5%	0.9%	2.9%	2.0%	29.2%	0.7%	0.0%	8.3%	1.8%	2.7%
Other	23.2%	31.1%	4.2%	23.9%	8.0%	17.0%	12.8%	25.0%	13.2%	18.8%	8.3%	12.9%	16.8%
p-value of chi-squared	< .005***			< .005***		< .005***		< .005***			0.52		

Note: column percentages do not add to 100% because respondents could purchase from multiple categories.

borrowed from an adult, and air tickets cannot be purchased using the Cash on Delivery (COD) method. In addition, older university students were twice as likely to buy event tickets on-line compared to younger high schoolers (25% vs. 9.4%). In contrast to American high school students who spend a considerable part of their money on entertainment (Lueg, 2001, pp. 19, 30 and 83), Bulgarian high schoolers' infrequent purchase of event tickets may arise because most events are located in the capital of Sofia, making them inaccessible to students living in provincial regions. Younger high schoolers were, however, more likely to purchase music and videos on-line than their older counterparts.

Not surprisingly, sizable gender differences existed in purchasing behavior. Women were more likely to purchase books & magazines (33% vs. 19.4%), health & beauty items (33% vs. 5.8%) and apparel (44.3% vs. 30.3%) on-line, while men were more likely to purchase computing (37.4% vs. 15.6%) and consumer electronics equipment (27.7% vs. 10.4%). In addition, rising income tended to be

associated with greater purchases of apparel, health and beauty and books and magazines, and fewer purchases of music, videos, and toys. Somewhat unexpectedly, no significant relationship was found between the type of purchases students made and their level of computer knowledge.

5.4. Why do Gen Y consumers decide not to buy on-line?

On a descriptive level, Bulgarians are most likely to cite the inability to see, feel or try on the item (55.6%) as the reason they decide not to buy on-line, followed by anxiety about the on-line transaction (30.6%) and insufficient information (17.6%). Relative to US and UK consumers, Bulgarians are less concerned about financial risk, probably as the result of a greater reliance on COD payments for on-line purchases. Most internet orders are paid COD with consumers going to the nearest post office, receiving the product and paying cash. On-line payment methods where financial fraud could be a concern (e.g. credit card payment systems, digital wallet and stored value payment systems), while growing, are still not widely

Table 5.2. Internet shopper versus non-shopper

Demographic:	Internet Shoppers		Internet Non-shoppers		Total		Chi-square test of association between On-line Shopping & Demographic (p-value)
	No.	(%)	No.	(%)	No.	(%)	
Age							
< 18	22	(39.3)	34	(60.7)	56	(100.0)	<.005***
18-22	82	(27.9)	40	(72.1)	122	(100.0)	
> 22	4	(23.5)	68	(76.5)	72	(100.0)	
Gender							
Male	115	(74.2)	40	(25.8)	155	(100.0)	.193
Female	144	(67.9)	68	(32.1)	212	(100.0)	
Educational Status							
High School Student	98	(57.3)	73	(42.7)	171	(100.0)	<.005***
University Student	161	(82.1)	35	(17.9)	196	(100.0)	
Income							
Less than colleagues	15	(62.5)	9	(37.5)	24	(100.0)	.088
Same as colleagues	193	(68.9)	87	(31.1)	280	(100.0)	
More than colleagues	40	(83.3)	8	(16.7)	48	(100.0)	
Computer Knowledge							
< Average knowledge	5	(41.7)	7	(58.3)	12	(100.0)	<.005***
Average knowledge	111	(65.3)	59	(34.7)	170	(100.0)	
> Average knowledge	143	(77.3)	42	(22.7)	185	(100.0)	
Total	259	(70.6)	108	(29.4)	367	(100.0)	

used for internet purchases in Bulgaria.

Table 5.2 details the differences between internet shoppers and non-shoppers in terms of demographics and computer knowledge. On a bivariate basis that fails to control for differences in other factors, only the differences by age, education and computer knowledge were large enough to be statistically significant at the customary 5% level. Specifically, the proportion who shopped on-line was significantly higher for the youngest millennials (39.3%) vs. those 18 or older (27.9 and 23.5%), university students (82.1%) vs. high schoolers (57.3%), and those with the greatest computer proficiency (77.3%) vs. those with lesser facility (65.3% and 41.7%).

teen-specific on-line payment methods such as prepaid cards, digital wallets, and BillMyParents, they were somewhat more likely (57%) to shop on-line than their American counterparts (48% in 2010) (Vahlberg, 2010).

The results of the logit model estimating how the decision to shop on-line is influenced by the demographic factors, perceptions of better pricing and anxieties about financial security and lack of seeing the product are contained in Table 5.3 below, with the causal pathways summarized in Figure 5.1.

The logit regression's likelihood ratio test indicates that the overall model is highly significant (p-value < .005) and the model's explanatory factors correctly predict the

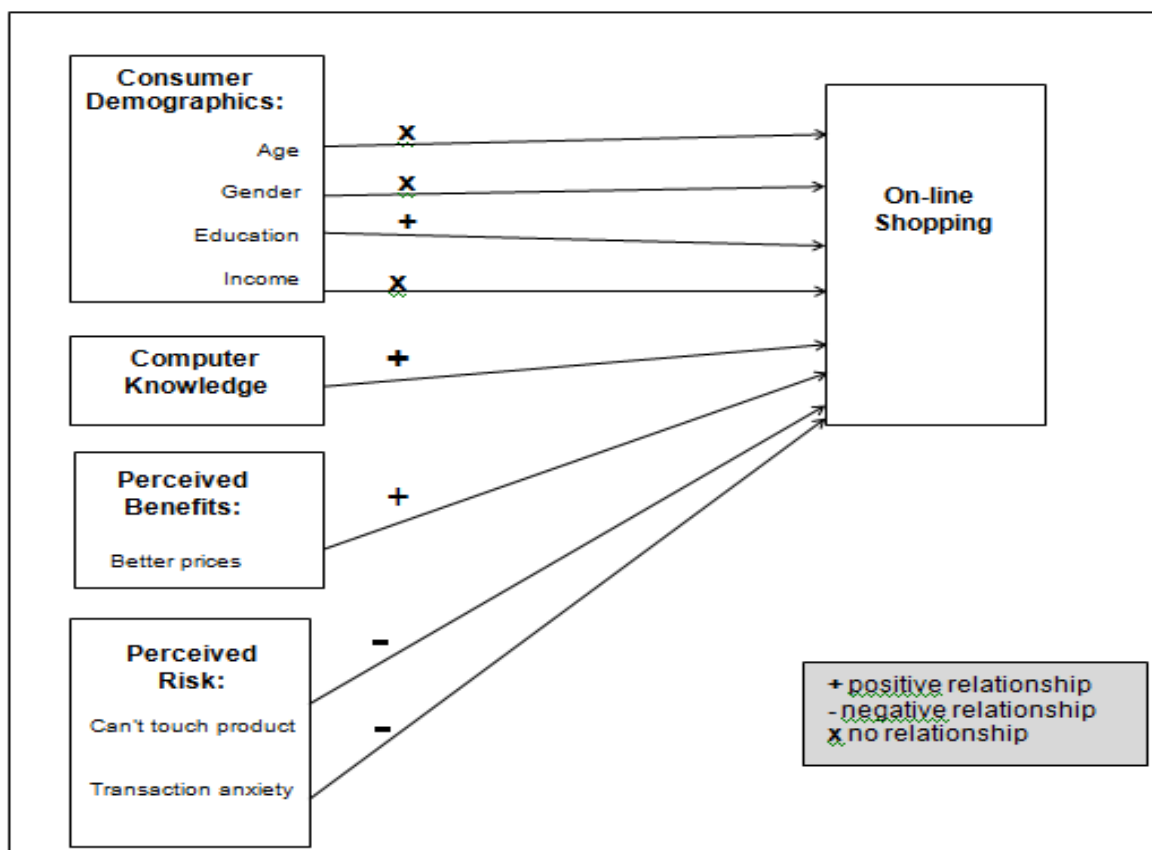


Figure 5.1. Causal pathways between consumer factors and on-line shopping

The percentage who shopped on-line did not vary significantly either by gender or income status. Interestingly, even though Bulgarian teens rely on the COD payment, as opposed to

actual on-line shopping behavior for 92.9% (327 of 352) of the surveyed students. The decision to shop on-line was significantly (p-value < .05) influenced by educational status,

computer knowledge, anxieties about financial and product risks, and perceptions of better pricing.

Using a .05 significance level, the logit regression results yield the following conclusions regarding the study's hypotheses:

- H1 is *not sustained* as there is insufficient evidence (p-value = .792) that gender influences the propensity to shop on-line (see Table 5.3).
- H2 is *not sustained* as there is insufficient evidence (p-values of .281 and .738) that age influences online shopping behavior, i.e. there were no differences between the > 22 and < 18 cohorts or the 18-22 and < 18 cohorts. Additional analysis, whereby the age and education variables were alternately excluded from the regression, revealed that the insignificant age effect was not the result of multicollinearity between the two variables.
- H3 is *sustained* as level of education has proven to have a significant positive impact on online shopping behavior (p-value of .021). Not surprisingly, Bulgarian students attending university were significantly more likely to shop on-line than those still in high school, reflecting their greater levels of discretionary income, internet usage, and freedom from direct parental supervision.
- H4 is *not sustained* as there is insufficient evidence that income differences significantly influence on-line shopping behavior. No significant differences were found between lower and median income millennials (p-value = .257) or between lower and higher income millennials (p-value = .353).

Table 5.3. Logit regression results

Explanatory factor	Coefficient	Standard error	t-value	p-value
Constant	-1.733	4.204	4.006	< 0.005***
Gender	0.128	0.485	0.264	0.792
Age: > 22	-1.107	1.026	-1.079	0.281
18-22	0.198	0.593	0.335	0.738
< 18	---	---	---	---
Educational status	1.265	0.544	2.325	< 0.05*
Income: > Peers'	1.124	0.997	1.127	0.257
Same as peers'	0.762	0.855	0.891	0.373
< Peers'	---	---	---	---
Computer knowledge:				
Above average	2.600	0.982	2.647	< 0.01**
Average	1.679	0.959	1.751	< 0.05*
Below average	---	---	---	---
Better prices	22.789	0.6344	35.918	< 0.005***
Cannot touch product	-23.924	0.338	-70.823	< 0.005***
Transaction anxiety	-24.092	0.335	-71.854	< 0.005***

On-line shopping classification table:				
McFadden R-squared	0.705	Actual Status	Predicted Status	
			Did not shop	Shopped
Likelihood Ratio chi-square test	302.8	Did not shop	81	23
p-value of chi-square test	< .005***	Shopped	2	246

- H5 is *sustained* as computer knowledge has proven to have a significant positive impact on on-line shopping behavior. Compared to those with less than an average knowledge of computers, young people reporting either an average level of knowledge (p-value = .040) or better than average computer proficiency (p-value = .004) were significantly more likely to shop on-line.
- H6 is *sustained* since the effect of perceived benefits, namely obtaining a better price, on on-line shopping behavior has proven to be significant. Like consumers elsewhere, the belief in garnering a better price is a prime motivating factor encouraging Bulgarian millennials to make on-line purchases (p-value < .005).
- H7 is *sustained* as the effects of perceived risk on internet shopping behavior have proven to be significant. Both risk factors, namely "Anxiety about on-line transaction" and "Cannot feel, touch, or try a product on-line," are highly significant explainers (p-value < .005). Concerns regarding transactions security and receiving an acceptable product when ordering on-line are serious impediments to increasing internet purchasing for students in Bulgaria, like other consumers around the world.

6. CONCLUSION

One of the crucial challenges created by global e-commerce is understanding the similarities and differences in consumer preferences and concerns that exist in different regions. Micro marketing to countries as niche markets is essential because failing to do so can cause strategies that succeed in some areas to fail in others.

This study was the first large sample study to examine the on-line shopping behavior of

Bulgarian millennials. While convenience is reported as the most important reason for using the internet to make purchases worldwide, the most important reason why Bulgarian young people shop on-line is the pursuit of unique products not locally available (46.3%), followed by convenience (45.9%) and better pricing (44.4%). Similar to their American counterparts, more than half (54.4%) reported that their favorite category of on-line purchases (54.4%) was "Apparel and Accessories." Bulgarian millennials use the internet to shop for trendy fashion and to obtain a variety of brands that are unavailable locally. This finding indicates that there seems to be a promising niche market for selling brand name products to Bulgarian youth on-line. This finding should be of value to retailers interested in buying behaviors and emerging e-commerce markets. Also noteworthy is the low level (8.2%) of Bulgarian students who report purchasing music on-line. Unlike other markets where on-line music purchases are growing and constitute a majority of recording company revenues, digital piracy remains a critical barrier to on-line music sales.

The types of items Bulgarian Gen Y consumers purchased on-line differed significantly by age, gender, education and income. Older university students were more likely to purchase air travel and event tickets than younger high school students. Women were more likely to purchase books and magazines, health and beauty items and apparel on-line, while men were more likely to purchase computing and consumer electronics equipment. In addition, students with greater family incomes tended to make more apparel purchases and fewer purchases of computers, music, videos and toys.

The logit regression results demonstrated that, holding other things constant, the most important factors determining whether a Bulgarian millennial would shop on-line are their perceptions about obtaining better

pricing, financial transaction security, and the inability to personally examine the product prior to purchase. Given similar perceptions of the former, university students and those with greater computer knowledge were more likely to use the internet for purchases than high schoolers and those with limited computer skills. The importance of financial anxiety is consistent with the high relevance of "security concerns" as a major on-line-shopping barrier on a global scale. To ensure further economic development, public policy efforts should be targeted towards improving the digital payment infrastructure. It is widely acknowledged that the lack of technology infrastructure and the lack of government initiatives are major hurdles that prevent pervasive e-commerce adoption in developing countries.

Because the present study relied on the data drawn from a convenience sample of students in Southern Bulgarian medium sized cities, further research is needed to assess whether the findings are generalizable to Bulgaria's GenY population. Additional research should also assess whether students in Bulgaria are representative of the general population of internet users and consumers who make on-line purchases. Additional research could also investigate how on-line shopping behavior changes as local product availability increases and reforms to the payment mechanism take place over time.

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