

# The effect of product perception, shopping experience, and information access on the buying intention of online customers

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Online shopping is already adopted by more than half of the EU Internet users, however Romanian Internet users are much below average in e-commerce adoption. Therefore, assessing the effects of factors influencing buying intention of online customers has theoretical and practical relevance and timeliness. We measured the effects of three online commercial features (product perception, shopping experience, and information access) of web shops on the buying intention of Romanian e-commerce users. A sample consisting of N=259 Romanian online shoppers has been gathered. We found that shopping experience had a positive, highly significant effect on the buying intention, as well as the buying intention on the actual buying behaviour. We did not find significant connections between product perception and buying intention, neither between information access and buying intention. We formulated relevant conclusions regarding our findings, and we also presented future research directions.

**Keywords:** e-commerce adoption, online commercial features, shopping experience, product perception, information access.

**JEL codes:** M31, M39, O33, L86.

## Introduction

Since the advent of e-commerce in the last decade of the 20<sup>th</sup> century, Internet technology has penetrated into every detail of our lives (Castells 2014; Gubán 2008). Moreover, with the diffusion of broadband Internet usage by rapidly decreasing costs, the World Wide Web has

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become an attractive and engaging, simple-to-use, and acceptable sales channel for customers, and for retailers, as well (Terzi 2011; Gubán 2015). Web shops are sales channels commonly used by more than 50% of the EU Internet users (Eurostat 2015), and with the rapid diffusion of social commerce, the adoption rate will accelerate in the following years (Yadav et al. 2013). Given these above mentioned facts, one can see a very sharp trend regarding the diffusion of e-commerce related Internet. Consumers will increasingly adhere to the idea of shopping online in the following years and retailers are already under pressure to implement these new technologies in their sales strategy technology (Turban et al. 2012). Therefore, assessing the effects of factors influencing buying intention of online customers has an enormous theoretical and practical relevance and timeliness.

When conducting research on the antecedents of a certain behaviour, one has to take into account several possible factors which have an influence to some degree on the behaviour in focus (King–He 2006; Yousafzai et al. 2007a). In the case of online customers this behaviour can be divided into two main elements, namely behavioural intention (in our case the intention to buy), and actual buying. Although in our previous research we have assessed the effect of other relevant factors on the buying intention of online customers (Seer 2015), in this paper we focused only on the presentation of the effects of three main exogenous factors on the intention to buy, known also as ‘online commercial features’ (Jarvenpaa–Todd 1997). These three factors were product perception, shopping experience, and information access. We opted for the assessment of the effect of product perception, shopping experience, and information access, because these are the most obvious and common antecedents with a possible influence on the online buying intention, as suggested by the literature (Herrero Crespo–Rodriguez del Bosque 2010; Yousafzai et al. 2007a).

Given the above described considerations, our purpose was to present a conclusive research assessing the effect of product perception, shopping experience, and information access on the buying intention of online customers. Within this purpose we aimed to measure the

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statistical validity and reliability of the involved constructs by assessing their indicators. After the validity and reliability assessment we aimed to look into the significance of the connections between exogenous (antecedent) variables and buying intention, as an endogenous variable.

We consider our research relevant, because Romania has some rather interesting record regarding e-commerce adoption by its Internet users. Romania has produced a stunning growth in Internet usage in the last decade (InternetWorldStats.com 2015). As for today, more than half of the population is already a regular Internet user and broadband Internet connections are also on a sharp rise compared not only to other countries in the region, but globally, as well (Eurostat 2015; Seybert 2012). Hence, it can be considered a peculiarity that even though there is a critical mass of Romanian Internet users, only a marginal part of these Internet users engage in online shopping activities. According to (Eurostat 2015) only 11% of the Romanian Internet users are also online shoppers. This low level of e-commerce adoption by the Romanian Internet user population is a concern for web shops and it is an interesting research question for specialists of the subject (Radu 2014; Seer 2015). This is why we considered conducting a research on a Romanian sample regarding factors influencing online buying intention in the first place.

### **Literature review and conceptualization**

If one endeavours into the research of Internet technology adoption, one can rapidly see, that technologies as the Internet, or technologies derived from it (such as e-commerce), are in fact, innovations. Rogers (2003. 45) defines innovation “as an idea, a practice, or object that is perceived as new by an individual or other unit of adoption”.

In the second half of the 20<sup>th</sup> century, we could witness the birth of several technological (and non-technological) innovations which had to be adopted, accepted by individuals on different levels of the society in order to become more productive, or to have a more comfortable life.

Gatignon and Robertson (1985) were among the first who modelled the diffusion and adoption of innovations from a market point of view

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(more specifically, consumer research). The other perspective was the point of view of information systems scientists. Davis (1989) developed a highly reliable model for explaining technology acceptance which is known as the Technology Acceptance Model (TAM). In the last two decades several improvements have been made to this base model by testing and refining on several situations involving technology acceptance (Chuttur 2009). The basic TAM had been adapted and further developed to increase its explanatory power in different situations and under different contexts (Venkatesh–Bala 2008; Venkatesh et al. 2003).

The most prolific period for e-commerce adoption research using the Technology Acceptance Model was 2000-2005. Before 2000 most of the research was focused on other technologies, such as e-mail, software and enterprise resource management software adoption (King–He 2006), as the first applications of TAM had been also focusing on enterprise software adoption by employees (Davis 1989). After 2005 most TAM-related research focused on the adoption of more novel technologies, such as mobile, IPTV, smartphones and so on (Laroche 2010; Nyírő 2011; Turban et al. 2012). However, we should note that in Central Europe, and especially in Romania and Bulgaria, this proliferation of e-commerce started later, beginning with 2007 (Radu et al. 2008; Seer et al. 2012). This is why most of the research conducted in the first part of the 2000's is still relevant for our research.

Behavioural decision theories were also used as roots for technology adoption modelling. Some of the most important were the Theory of Reasoned Action (Fishbein–Ajzen 1975) and the Theory of Planned Behaviour (Ajzen 1991). These theories are also used till the present day in the context of technology adoption and especially e-commerce adoption.

The above mentioned theoretical models have an important construct in common, namely the 'intention' regarding a certain behaviour, i.e. the intention to accept, to use, or to buy a certain technology, product, etc. (Chuttur 2009; King–He, 2006; Yousafzai et al. 2007a, 2007b). In the following paragraphs we present the development of the behavioural intention construct.

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***Behavioural intention / Buying intention***

The first concept related to behavioural intention was the ‘behavioural belief’, which meant an individual’s belief about the consequences of a particular behaviour. For example, when someone wants to buy from a web shop, his/her (obviously) subjective belief about this planned behaviour can be of many kinds. The concept was rooted in the subjective probability that the behaviour would produce a given outcome (Ajzen 1991; Mathieson 1991).

In this sense, behavioural beliefs are causing the attitudes toward behaviour which refer to an individual’s positive or negative evaluations of self-performance of the particular behaviours (Ajzen 1991). In our above mentioned example, an attitude towards buying from a web shop can be the user’s positive attitude about this idea: “Shopping from this web shop is a good idea”. According to Ajzen (1991) the attitude toward behaviour is the degree to which the performance of the behaviour is valued in a positive or negative way. Attitude can be determined by the total set of accessible behavioural beliefs that link the behaviour to the possible outcomes and other attributes that can have an impact (Ajzen 1991; Mathieson 1991).

In the TAM model of Davis (1989) however, the construct of attitude was not included because it has been found that behavioural intention was a better predictor of actual usage than attitude (Chuttur 2009). Behavioural intention (or BI) measures one’s relative strength of intention to perform certain behaviour (Fishbein–Ajzen 1975). The relativity of strength is given by the subjective likelihood of performing or not performing a certain behaviour (Smith–Mackie 2004). The beliefs of important others, weighted by the importance one is attributing to each of their opinions, will influence one’s behavioural intention to shop online, which will lead to the behaviour to shop or not to shop online (George 2004).

***Actual buying behaviour***

Actual buying behaviour (or actual usage) is virtually omnipresent in almost every e-commerce adoption-related research (Yousafzai et al. 2007a). Actual buying behaviour is the dependent variable of

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behavioural intention which means, that the connection between the two constructs is largely attributed to the strong intention to act (to use e-commerce as a channel, or to buy) (Pavlou–Fyngenson 2006). Actual buying behaviour is a consequent factor, since it refers to the consequences of technology acceptance, or in our case, the consequences of the buying intention.

### ***Antecedents of buying intention***

Another important question regarding the intention to accept/use/buy is to know its antecedents which have an influence on it. For example, in market research some typical answers for the antecedents of web shop usage in Romania include: the trust in the vendor, data security, honouring the order, good usability of the web shop interface, advantageous prices and so on (Radu et al. 2011). These all are linked to previous research. After a detailed scan of the literature we found several types of antecedents which can have significant influence on behavioural intention (see especially the meta-analysis of Yousafzai et al. (2007a).

The external variables (constructs) which enjoyed the most attention were: perceived risk (Pavlou 2003), trust (Benbasat et al. 2010; Koufaris–Hampton-Sosa 2002; Pavlou 2003), technology anxiety (Hwang–Kim 2007), self-efficacy (Pavlou–Fyngenson 2006; Vijayasarathy 2004), privacy and security (Vijayasarathy 2004), shopping enjoyment (Childers et al. 2001), and commercial features of the Internet (Jarvenpaa–Todd 1996, 1997).

Another group of antecedents are the commercial features of web shops (Jarvenpaa–Todd 1996, 1997). These refer to those features which are related to the Internet (web shop), and not to the inner qualities of the users/customers (Herrero Crespo–Rodriguez del Bosque 2010). In our research we focus on the effect of these online commercial features on the buying intention of online customers.

### ***Product perception***

Product perception has been used in several contexts in the field of e-commerce acceptance and usage, mostly rooted in the work of Jarvenpaa and Todd (1996, 1997), who identified eleven factors that

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precondition the e-commerce adoption by Internet users. These factors were classified into three categories: (1) product perceptions, (2) shopping experience and (3) customer services.

Product perception was measured by Jarvenpaa and Todd (1996, 1997) in terms of three dimensions, namely (a) price, (b) variety of the offer, and (c) product quality.

The ‘price’ construct means that the Internet provides competitively priced merchandise and attractive promotions and deals (Heijden et al. 2001; Herrero Crespo–Rodriguez del Bosque 2010; Jarvenpaa–Todd 1996).

The ‘variety’ construct means that the Internet provides a wide range of goods and services including those that consumers are not able to get elsewhere (Herrero Crespo–Rodriguez del Bosque 2010; Jarvenpaa–Todd 1997; Jarvenpaa et al. 2000).

The construct named ‘product quality’ means that the Internet is a source of high-quality goods and services that meet consumer expectations (Heijden et al. 2001; Jarvenpaa–Todd 1997; Herrero Crespo–Rodriguez del Bosque 2010).

These three variables form together the variable named ‘product perception’ which can have a negative or positive effect on online shopping intention. Vijayasathy and Jones (2000) confirmed that positive product perception has a beneficial effect on behaviour intention (using e-commerce for shopping). In a more recent study Herrero Crespo and Rodriguez del Bosque (2010) also confirmed the positive effect of product perceptions on e-commerce adoption.

### ***Shopping experience***

Shopping experience is also a tridimensional construct, which consists of (a) effort/convenience, (b) compatibility, and (c) enjoyment/playfulness. These three dimensions were present among the original dimensions of Jarvenpaa and Todd (1996, 1997) that were hypothesized to have a positive effect on e-commerce adoption.

‘Effort’ can be defined as the Internet saves time and makes shopping easy for the customer. ‘Compatibility’ can be defined as the Internet fits consumer lifestyles and the way they like to shop.

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'Enjoyment/playfulness' can be defined as shopping on the Internet allows the consumer to have fun (Herrero Crespo–Rodriguez del Bosque 2010; Jarvenpaa–Todd 1996, 1997).

Vijayasarathy and Jones (2000) also confirmed the beneficial effect of shopping experience on behaviour intention (using e-commerce for shopping). In a more recent study Herrero Crespo and Rodriguez del Bosque (2010) confirmed the positive effect of shopping experience on e-commerce adoption, as well.

### ***Information access***

As the third category from the original research of Jarvenpaa and Todd (1996, 1997), namely 'customer services' could not be confirmed as being a relevant precursor of the e-commerce adoption, it has been considered as these cannot provide a solid support for the effects of the e-commerce adoption (Vijayasarathy–Jones 2000). On the other hand 'information access', part of the original variables enumerated by Jarvenpaa and Todd (1996, 1997), has been confirmed several times as having a positive significant effect on the e-commerce adoption (Ahn et al. 2007; To et al. 2007). Information access can be defined as the degree to which consumers perceive that it is easy to get information about products on the Internet (Herrero Crespo–Rodriguez del Bosque 2010).

### **Research question**

Marketing research theory tells us, that for a testable conceptual model we need an adequate theoretical framework (Malhotra et al. 2012; Plăiaș et al. 2008; Pop 2004).

In the above subchapter we have conceptualized the main constructs. In this section we will present the main connections between the three online commercial features assumed by the literature and the intention to buy, and then we will present our research question.

In Table 1 we present the main connections between the above presented concepts. The primary sources of these connections are the literature, but in some cases, where literature references did not provide the necessary data, we based the possible connections on our findings from a previous qualitative research (Seer 2015).

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**Table 1. The main connections between the independent and dependent variables**

Independent variable	Dependent variable	Connection	References	Notes
Product Perceptions (PP)	Buying Intention (BI)	Product Perceptions have a positive effect on Buying Intention	Herrero Crespo–Rodriguez del Bosque 2010; Radu et al. 2011; Seer 2015	In the study of Herrero Crespo and Rodriguez del Bosque (2010) the connection was tested between PP and ‘attitude’.
Shopping Experience (SE)	Buying Intention (BI)	Shopping experience has a positive effect on Buying Intention	Herrero Crespo–Rodriguez del Bosque 2010; Radu et al. 2011	In the study of Herrero Crespo and Rodriguez del Bosque (2010) the connection was tested between SE and ‘attitude’.
Information Access (IA)	Buying Intention (BI)	Information Access has a positive effect on Buying Intention	Herrero Crespo–Rodriguez del Bosque 2010; Radu et al. 2011; Seer 2015	In the study of Herrero Crespo and Rodriguez del Bosque (2010) the connection was tested between IA and ‘attitude’.
Buying Intention (BI)	Actual Buying Behaviour (ABB)	Buying Intention has a positive effect on Actual Buying Behaviour	Ajzen 1991; Bagozzi et al. 1992; Davis 1989; Turner et al. 2010; Venkatesh et al. 2003; Seer 2015	This connection is part of the classical Technology Acceptance Model, as well.

*Source: authors own design*

Product Perception (PP), Shopping Experience (SE), and Information Access (IA) – as described by the literature mostly based on Jarvenpaa and Todd (1996, 1997) – were tested for the connection with attitude to accept/use e-commerce and not directly to Behavioural Intention (BI) (for example in Herrero Crespo–Rodriguez del Bosque 2010). However other studies based on the TAM model do not use Attitude at all (Venkatesh–Bala 2008). Market research studies conducted in Romania (Radu et al. 2011) and qualitative research (Seer 2015) regarding this subject enable us to assume a direct relationship between these so called online commercial features and Buying Intention.

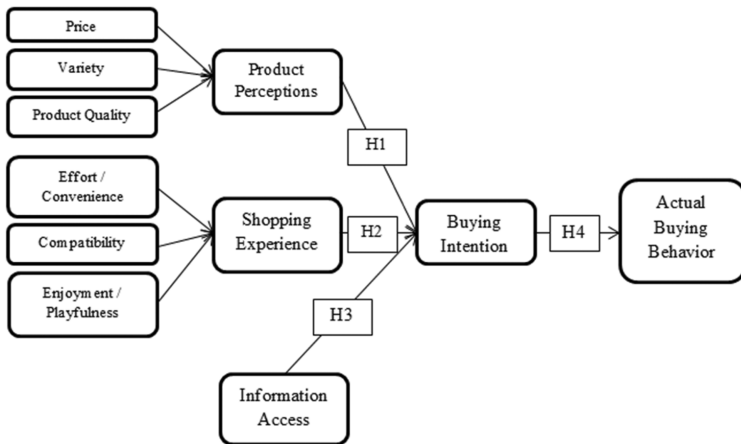
The connection between Buying Intention (BI) and Actual Buying Behaviour is a core connection tested several times in the past, mostly in TAM studies (King–He 2006). We included this connection in our conceptual model only to see the strength of the connection.

Concluding these above presented connections we can formulate our main research question: what are the effects of the relevant ‘online commercial features’ of web shops on the Buying Intention of Internet users?

**Conceptual model and hypotheses**

Based on the above presented constructs and connections we have built our conceptual model which includes the picked online commercial features (Product Perceptions, Shopping Experience, and Information Access) as exogenous constructs, and Buying Intention as the endogenous construct. Actual Buying Behaviour was drawn as the consequence of Buying Intention. Since Product Perceptions and Shopping Experience are multi-dimensional constructs, their dimensions are not part of the main conceptual model.

In this way the effect of the dimensions of Product Perceptions, namely Price, Variety, and Product Quality manifest their effect within the construct of Product Perceptions, and in the case of Shopping Experience, the dimensions of Effort/Convenience, Compatibility, and Enjoyment/Playfulness also manifest their effect within the construct in which these are included.



*Source: authors' own design*

**Figure 1. The conceptual model of the research**

Based on our conceptual model we have formulated four hypotheses:

H1(+): Product Perceptions of Internet users have a positive effect on their Buying Intention.

H2(+): Shopping Experience of Internet users has a positive effect on their Buying Intention.

H3(+): Information Access of Internet users has a positive effect on their Buying Intention.

H4(+): Buying Intention of Internet users has a positive effect on their Actual Buying Behaviour.

We tested these hypotheses based on our data collected from N=259 Romanian Internet users.

## **Research methodology**

### ***Development of the measurement instrument***

After the hypotheses have been formulated we elaborated the measuring instrument by which we collected data about all the constructs involved in our research.

We found in the literature the exact items for all constructs being measured. Because the items were originally in English, we translated these to Romanian with the help of native Romanian speakers. After that, the items were semantically tested by two other native Romanian speakers in order to be completely sure about the consistence of meaning between the English and Romanian item versions. After this phase, we made a pilot study by applying the questionnaire on a small convenience sample to correct possible mismatches in meanings and other errors (the questionnaire items related to our study can be seen in the Appendix). Finally, we built an online version for the questionnaire.

### ***Sampling process***

The sampling process of our research consisted of the following steps based on Fricker (2008) and Malhotra et al. (2012). Our target population consisted of Internet users from Romania. We opted for the ‘non-list-based random sampling’ on the Internet which is the online version of the ‘random digit dialling’ (RDD) of the classical surveys.

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This sampling method does not need a previous list of all Internet users (or IP addresses) in order to choose the elements in a random way (Fricker 2008). We opted for the non-list-based random sampling via the Internet with the application of random Internet Ads via Google AdWords, Google AdSense, and Facebook Ads, and providing incentive for filling up the questionnaire.

In total N=259 people filled up the questionnaire, however 520 Internet users clicked on one of the ads displayed in the above mentioned advertising platforms and the ads were seen by 6821 Romanian Internet users.

### ***Assessing the reliability and validity of indicators***

In cases when there are more variables but a low number sample, the Partial Least Squares (PLS) methods have the advantage over Covariance Based Methods (CBM) because they require fewer data points to accurately estimate loadings (Gaskin 2010; Jöreskog–Sörbom 1982). Therefore, we opted for the PLS method in assessing the reliability and validity of indicators and for hypothesis testing. For statistical calculations we used the Smart PLS 2.0 software (Ringle et al. 2005).

Reliability within a construct is also referred to as internal consistency, and it is assessed by the metric known as Cronbach's Alpha. In a reflective measurement mode, the loadings are equivalent to the correlations of one construct's indicators. Consequently, high values of the Cronbach's Alpha metric mean high correlations between indicators. High correlations are preferable for good indicator reliability. Literature sets the value of 0.7 as the limit for a high correlation (Peterson 1994), Cronbach's Alpha values above 0.7 mean good indicator reliability. Values below 0.7 mean poor indicator reliability. Others argue, that in the case of latent variables which have only 2-3 indicators, a Cronbach's Alpha value of 0.4 is acceptable (Ebert 2009).

The Cronbach's Alpha calculated was sufficiently high for all except one of our indicators. The underperforming indicator – the Actual Buying Behaviour construct (0.6) – was eliminated. Table 2 presents the average Cronbach's Alpha loadings of all the constructs.

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**Table 2. Validity and reliability metrics of indicators**

Construct	Cronbach's Alpha	Composite reliability	AVE	R Square
Buying Intention	0.944353	0.957352	0.817916	0.544001
Product Perception	0.925858	0.938937	0.632732	0.999931
<i>Price</i>	<i>0.859435</i>	<i>0.913778</i>	<i>0.779676</i>	
<i>Variety</i>	<i>0.875361</i>	<i>0.923298</i>	<i>0.800636</i>	
<i>Quality</i>	<i>0.858905</i>	<i>0.914089</i>	<i>0.780155</i>	
Shopping Experience	0.94576	0.954352	0.699901	0.999995
<i>Enjoyment / Playfulness</i>	<i>0.91873</i>	<i>0.94868</i>	<i>0.860426</i>	
<i>Compatibility</i>	<i>0.939466</i>	<i>0.961229</i>	<i>0.892064</i>	
<i>Effort / Convenience</i>	<i>0.911907</i>	<i>0.944622</i>	<i>0.850488</i>	
Information Access	0.921019	0.950005	0.863681	
Actual Buying Behaviour	0.778126	0.870292	0.691095	0.201628

*Source: authors' own calculations*

The composite reliability is much above 0.6 for each variable, which means that the strength of all indicators' correlations with their constructs is unequivocal (Bagozzi–Yi 1988).

The convergent validity of the constructs is based on the Average Variance Extracted (AVE) that has to take values above 0.5 for each variable (Baumgartner–Homburg 1996). In consequence, we can state that each latent variable from the model has the necessary level of convergent validity.

Discriminant validity between the constructs can be assessed using the Fornell-Larcker criterion. The Fornell-Larcker criterion and the cross-loadings comparisons enable us to check for discriminant validity. According to the Fornell-Larcker criterion, the AVE of each latent construct should be higher than the construct's highest squared correlation with any other latent construct. This notion is identical to comparing the square root of the AVE with the correlations between the latent constructs (Fornell–Larcker 1981). By checking the Fornell-Larcker criterion according to the above described procedure, we found that all the constructs have a fair and acceptable level of discriminant validity.

The R-Square values are listed only in the case of endogenous variables (see Table 2). Hence, R-Square values describe the percent of

the explained variance, and we can observe, that there are rather different numbers. Exogenous (independent) variables explain 54.40% of the variance in the case of Behavioural Intention, but only 20.16% in the case of Actual Buying Behaviour, which means that there are probably several other factors affecting actual buying from the Internet, which are not assessed by our model. Our multidimensional factors in our model (Product Perception and Shopping Enjoyment) are well explained by their dimensions, as their R-Square metric is almost 100%.

In conclusion we can state that all our variables have the necessary clearances in terms of validity and reliability to be used for hypothesis testing with the help of our statistical model.

### **Results**

After we assessed the validity and reliability of our data, we tested the connections for causality between the variables in our inner model. For testing the significance of the relations between constructs we ran the bootstrapping algorithm in Smart PLS software according to the literature (Ringle et al. 2005). Using the Partial Least Squares (PLS) method, significance was assessed with the t-values generated between constructs in the model. Significant t-values (two-tailed), according to the literature are the following: 1.65 for 10% significance level, 1.96 for 5% significance level, 2.58 for 1% significance level (Baumgartner–Homburg 1996; Gaskin 2010; Malhotra et al. 2012).

Table 3 presents the principal connections between the latent variables included in our model. In the last column we also presented the generated t-values for all examined connections. The values marked with one star (\*) are significant on the 1% level. Values marked with no star are not significant.

We found high significance between our multidimensional constructs and our dimensions (in each case the t value was higher than 20), therefore we can assume an extremely robust relationship between the dimensions and their constructs.

As we can see, in the process of causality testing some of our variables did not achieve significance, therefore we could not suppose causality between them.

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**Table 3. Connections between variables**

Causality between variables	Sample Mean	Standard Deviation	Standard Error	t-statistics
Product Perception -> Buying Intention	0.0922	0.0795	0.0795	1.1956
Shopping Experience -> Buying Intention	0.6750	0.0711	0.0711	9.4937*
Information Access -> Buying Intention	-0.0144	0.0672	0.0672	0.2521
Buying Intention -> Actual Buying Behaviour	0.4525	0.0508	0.0508	8.8364*

*Source: authors' own calculations*

In the case of our first hypothesis H1(+) in which we assumed a positive causal relationship between Product Perception of Internet users and their Buying Intention, the t value was not significant (t=1.1956).

In the case of our second hypothesis H2(+) in which we also assumed a positive causal relationship between Shopping Experience of Internet users and their Buying Intention, the t value (t=9.4937) was significant on a p=0.01 level, therefore we can accept H2.

In the case of our third hypothesis H3(+) in which we assumed a positive casual relationship between the Information Access of Internet users and their Buying Intention, we did not find significance (t=0.2521).

In the case of our fourth hypothesis H4(+) in which we assumed a positive casual relationship between the Buying Intention of Internet users and their Actual Buying Behaviour, we found a significant connection (t=8.8364) on the p=0.01 level.

## **Discussion**

In the process of elaborating the conceptual model we found several possible arguments for testing the online commercial features of the web shops in connection with the intention of customers to buy from web shops. As we have already pointed out in the theoretical

section, the online commercial features of web shops have been tested mostly in relation to the attitude for buying from a web shop (Herrero Crespo–Rodríguez del Bosque 2010), or as an antecedent of the TAM model (Jarvenpaa–Todd 1996), for example by assuming an effect on the Perceived Usefulness of web shops (Seer 2015). Starting from this input we wanted to look into the direct effect of these online commercial features on the customers' intention to buy.

For our first hypothesis H1(+) in which we assumed a positive causal relationship between Product Perception of Internet users and their Buying Intention, we didn't find any significance. Since the validity and reliability metrics for the dimensions of Product Perception were ideal, we can assume that the manifest variables did not contradict each other in predicting the latent variable. Therefore, we can assume that the perception of customers about products was not that important to have a significant impact on Buying Intention. The good price, the quality, and wide variety of products in a web shop were not significant predictors of an increased Buying Intention in the case of our sample. This either means that there have to be other factors related to Product Perception which trigger the growth of the Buying Intention, or it also can mean that between Product Perception and Buying Intention has to be at least another link, such as a mediating variable or a moderating one.

In the case of our second hypothesis H2(+) in which we also assumed a positive causal relationship between Shopping Experience of Internet users and their Buying Intention, the t value ( $t=9.4937$ ) has been significant on a  $p=0.01$  level, therefore our hypothesis was true. This means that Shopping Experience, in general, and its dimensions have a positive impact on the Buying Intention of online buyers. The enjoyment or playfulness of a web shop, the compatibility between the interface and other functional items and between the user, and the relatively low level of effort associated with a higher level of convenience is definitely playing an important role in forming an intention to buy from a web shop. Comparing these results with the results of our first hypothesis, we can see a contrast between product information-based and experience-based buying.

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In the case of our third hypothesis H3(+) in which we assumed a positive casual relationship between the Information Access of Internet users and their Buying Intention, we did not find a significant connection. We defined Information Access as the degree to which consumers perceive that it was easy to get information about products on the Internet. Our data suggests that those users who are helped by the Internet on gathering information regarding products and services, do not necessarily develop a higher degree of Buying Intention. In fact, the connection between Information Access and Buying Intention is so weak that probably we can suspect other explanations for the link between accessing information on the Internet and the intention to buy from the Internet. One explanation would be that however the manifest variables refer to information search and access in a general sense, but the manifest variables of Buying Intention are more specific. One can perceive the Internet as a very helpful tool in gathering information about products and services, but Buying Intention can be very different from one web shop to another. This effect could alter the data and produce a non-significant linkage. Another explanation would be the effect of mediator variables which are not represented in our model.

In the case of our fourth hypothesis H4(+) in which we assumed a positive casual relationship between the Buying Intention of Internet users and their Actual Buying Behaviour, we found a significant connection which cannot be considered a surprise. Several studies tackled the connection between the intention to buy and the act of actual buying. Given our result, a highly significant connection between intention and actual buying, we can state that our model has a consistency in measuring antecedences and consequences of Buying Intention. However, we have to note, that our model is far from being perfect since there is a visible problem regarding unexplained variance in the case of Buying Intention ( $R^2=0.544$ ) and especially in the case of Actual Buying Behaviour ( $R^2=0.202$ ). More than half of the variance of Buying Intention is explained by the three online commercial feature constructs, which is already plausible from a scientific point of view,

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but in the case of the Actual Buying Behaviour only 20.2% of its variance is explained by the Buying Intention. Therefore, Actual Buying Behaviour has to have other factors which affect its outcomes.

### **Conclusions**

We believe that our research deepened the understanding of the way online commercial features of web shops affect the buying intention of the Romanian Internet users. Based on our findings, the three dimensions of product perception (price, variety, quality) enhance the knowledge of Internet users about specific products. We also believe that it might help them to make buying decisions in offline situations. Further research is needed to assess the possible existence of mediating variables between product perception and buying intention, which could be culture specific, as well.

The significant relationship between shopping enjoyment and buying intention can also be a good starting point for further research in the topics of search goods and experience goods in an online environment. Further studies should address the importance of enjoyment compared to the importance of utility in the process of buying online.

Contrary to the literature we did not find information access to be a significant antecedent of buying intention. Despite our result, we want to emphasize that further research should look into the relationship between the information accessibility regarding a specific product, and its effect on the buying intention of the Internet users.

One limitation of our research was the sample size and the level of explained variance in the case of the Buying Intention, and especially of the Actual Buying construct. Further research should be carried out in search for possible variables which mediate and moderate these relationships.

Our research can be used by practitioners in two main ways: to use our conceptual model as guidance for planning an e-commerce system and to make use of the results, especially those regarding the linkages between shopping enjoyment and buying intention.

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**Annex**  
**Construct measurement scales**

No	Construct	Code	Item	Scale type	Source
1	Behavioural Intention	BI1	I think it would be very good to use the Internet for my shopping activities in addition to traditional methods.	Likert 1 - 7	Klopping-McKinney 2004
2		BI2	In my opinion it would be very desirable to use the Internet for shopping activities in addition to traditional methods.	Likert 1 - 7	
3		BI3	It would be much better for me to use the Internet for my shopping activities in addition to traditional methods.	Likert 1 - 7	
4		BI4	Using the Internet for my shopping activities is a good idea.	Likert 1 - 7	
5		BI5	Overall, I like using the Internet for my shopping activities.	Likert 1 - 7	

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6	Actual use	USE1	I use the Internet for my shopping activities very frequently (many times per day)	Likert 1 - 7	Klopping-McKinney 2004
7		USE2	On average, how many different online shopping places do you visit in a given month? (Choose only one)	none, 1-2, 3-5, 6-20, over 20	
8		USE3	In general, much time do you spend doing online shopping activities per week? (Choose only one)	0-5, 6-15, 16-60, over 60 minutes	
9		USE4	On average, how frequently do you use the Internet for your shopping activities? (Choose only one)	once a year, two or three times a year, monthly, daily	
10	Product perception – (price – variety – quality)	PPP1	Using the Internet to purchase ... makes it possible to save money	Likert 1-7	Herrero Crespo-Rodriguez del Bosque 2010
11		PPP2	... makes it possible to find cheaper products than those available from traditional retailers	Likert 1-7	
12		PPP3	... makes it easier to find interesting discounts on product prices	Likert 1-7	
13		PPVAR1	... makes it possible to choose from many brands	Likert 1-7	
14		PPVAR2	... makes it possible to find any kind of products	Likert 1-7	
15		PPVAR3	... makes it possible to choose from a wide variety of products	Likert 1-7	
16		PPPQ1	... makes it easier to find products with a good price-quality relationship	Likert 1-7	
17		PPPQ2	... makes it possible to buy products difficult to find in traditional shops	Likert 1-7	
18		PPPQ3	... makes it possible to find the most recent products that appear on the market	Likert 1-7	

19	Shopping experience – (effort/ convenience – compatibility – enjoyment)	SEEC1	... allows me to shop at the most convenient time for me	Likert 1-7	Herrero Crespo-Rodriguez del Bosque 2010
20		SEEC2	... makes it possible to save time during the purchasing process	Likert 1-7	
21		SEEC3	... makes it possible to purchase with no need to leave home	Likert 1-7	
22		SECOMP1	... will fit in well with the way I like to shop	Likert 1-7	
23		SECOMP2	... will be compatible with the way I like to do things	Likert 1-7	
24		SECOMP3	... will be coherent with my previous habits	Likert 1-7	
25	Information Access	SEENJ1	... is more exciting than buying in traditional shops	Likert 1-7	Herrero Crespo-Rodriguez del Bosque 2010
26		SEENJ2	... is an activity that I enjoy	Likert 1-7	
27		SEENJ3	... is a fun way to purchase	Likert 1-7	
28		IACC1	Using the Internet to purchase ... makes it possible to obtain more information about products	Likert 1-7	
29	IACC2	... makes it easier to compare different alternatives	Likert 1-7		
30	IACC3	... makes it easier to look for information during the purchasing process	Likert 1-7		