

CONTROLLABLE FACTORS IMPACT ON CONSUMER ONLINE BEHAVIOUR

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Abstract

The adoption and diffusion of Information and Communication Technologies (further: ICT) between an enterprise and consumers continues to grow. ICT brings new opportunities for enterprises, particularly enabling them to enter the virtual global market as well as develop sales activities in this market. Growing ICT adoption intensifies competition between companies giving wider choice for online consumers. In this context enterprises strive to understand online consumer behaviour in order to better satisfy consumer needs and stay ahead of competition. The paper aims to develop conceptual framework of key controllable factors of consumer behaviour and empirically identify the main ones.

Considering the works of various scholars the conceptual model is developed basing on Intention, Adoption, and Continuance model proposed by Limayem, Cheung and Chan (2005). The proposed model consists of 2 stages – intention and adoption as in this paper consumer behaviour is analyzed. The continuance stage refers to repeating purchase, so this stage is excluded from the proposed model. Most of the researchers consider controllable and uncontrollable factors. From the point of the company controllable factors attract most of the attention as these factors can be influenced.

The proposed conceptual model is based on the “Intention – Adoption” approach rather than on the traditional buying decision model. The value of the paper is reflected through the identification of key factors affecting online purchase behaviour in Lithuania. These factors should be carefully considered by online traders as they impact consumer decision to purchase online.

The type of the article: Empirical study.

Keywords: online consumer behaviour, intention, adoption, controllable factors.

JEL Classification: M31, M39.

1. Introduction

There are two environments existing next to each other that are interrelated, fundamentally similar and at the same time different. The same methods of certain processes do not work the same way in traditional and virtual environments. The Internet has changed the way of communication and the way of making purchase decisions (Fauser, Wiedenhofer & Lorenz, 2011). According to Constantinides (2004), more than 20 per cent of Internet users in various countries buy products and services, while more than 50 per cent of internet users in the USA are regular online buyers.

Sales in the virtual environment significantly differ from sales in the traditional environment. In order to successfully pursue trade in the virtual environment it is necessary to know the aspects of consumer behaviour and to assess the potential impact of new technologies on traditional theories and models of consumer behaviour.

As in traditional consumer behaviour, most of researchers pay the greatest attention to the identification of the main factors impacting consumer's decision to purchase online. Despite the fact that researchers analysing online consumer behaviour have made progress, research is still fragmented in this area. A few researchers (Kwong, Cheung, Zhu, Limayem & Viehland, 2002; Li & Zhang, 2002) attempted to classify and systematise previous studies of online consumer behaviour and their results, but there is still lacking a clear understanding of factors impacting

online consumer behaviour. (Limayem, Cheung & Chan, 2003) Constantinides (2004) states that most of researchers have tried to model online consumer buying processes (Miles, *et al.*, 2000; Liu & Arnett, 2000; Cockburn & McKenzie, 2001; Liao & Cheung, 2001; McKnight, *et al.*, 2002; Joines, *et al.*, 2003; O’Cass & Fenech, 2003) and also some researchers state that there are no fundamental differences; meanwhile others disagree and claim that in online consumer behaviour more factors should be considered (Lee, 2002; Liebermann & Stashevsky, 2002; McKnight, *et al.*, 2002; Suh & Han, 2002; Liang & Lai, 2002; Hasslinger, Hodzic & Obazo, 2007).

Thus, it is very important to assess operation of theories (defined in the traditional environment) in virtual environment. According to scientific literature, researchers still do not share a unanimous understanding of factors impacting online consumer behaviour and are trying to identify them and create a model that would clearly explain online consumer behaviour.

Factors impacting the buying process in traditional and virtual environments

The analysis of the buying process helps to identify factors impacting consumer’s decision to purchase a product or service and consumer’s engagement to the buying process. According to Constantinides (2004), Kotler & Keller (2007), Wang (2012), in both environments: traditional and virtual, the buying process consists of 5 stages: problem identification, information search, alternatives evaluation, purchasing decision and post-purchase behaviour. This model of the buying process is the most common and simple because there is not a lot of attention paid for each element of every stage of the model. Another model, the buying process model of Howard – Sheth, is more complicated because of a more detailed decomposition of elements, including such factors as consumer satisfaction and satisfaction of physiological needs. Howard-Sheth model is a great example that the buying process consists of controllable and uncontrollable factors.

It is necessary to assess that each buying process is different because different factors of environment and personality affect it. Consumer’s behaviour is influenced by internal and external factors (Mowen, 1987; Berkowitz, Kerin & Rudelius, 1992; Kanuk & Schiffman, 1997; Urbanskienė, Clotey & Jakštys, 2000; Kotler & Armstrong, 2003; Gaižutis, 2004). Moreover, consumers are influenced by the environment, where they live, surrounding people, lifestyle and other factors. Environmental factors impacting consumer behaviour could be psychological, cultural, social, situational, personal and marketing.

All of previously mentioned factors encompass the surrounding environment and influences consumer’s decisions. According to Banyte and Palaima (2006), the knowledge of consumer behaviour and identification and research of factors impacting consumer behaviour have become one of the major obstacles for enterprises that are trying to gain a competitive advantage in local and global markets.

As in traditional consumer behaviour, many researchers pay the greatest attention to the identification of key factors impacting consumers’ decision to purchase in virtual environment. Also they seek to model the processes of Internet user’s decision to buy and act (purchase).

In the traditional buying process controllable factors, such as the atmosphere of the shopping place, delivery and assortment of products, professional staff, quality of product or service, price etc. are important. Similar factors exist in virtual environment. Previous studies of online consumer behaviour have established two categories of attributes – intrinsic and extrinsic – that both are important in customers’ decision making process: extrinsic attributes include such features as: a wide selection of products; competitive pricing; easy access to information; and low search costs; intrinsic attributes are related to such features as design and color (Koo & Lee, 2008). According to Wang (2012), the major differences lay in the search and evaluation processes because websites might contain some mistakes and consumers have to take risk in the payment process or risk related to product and information security. It is known that an average internet user could spend less than a second at a web site and the average time spent at a website could be less than a minute. (Constantinides & Geurts, 2005). Therefore, the first impression of a website (e-shop) becomes very important factor which could be created by controllable elements of website. Mazaheri, Richard &

Laroche (2011), Wang (2012) emphasizes the fact that website feature is one of the important things that can influence consumers to buy online. Limayem, Cheung and Chan (2003) systemized studies of other researchers and identified controllable factors impacting online consumer behaviour (see Table 1). Table was complemented with a few insights of other authors (Zhou, Dai & Zhang, 2007; Hasslinger, Hodzic & Obazo, 2007; Wang, 2012).

Table 1. Factors that impact online consumer behaviour

| Author | Identified factors |
|--|--|
| Athiyaman, 2002 | Social norms; perceived control of behaviour |
| Triandis, 1979 | Perceived consequences; Habits |
| Davis, 1989 | Perceived simplicity of use; perceived benefits |
| Grazioli & Jarvenpaa, 2000; Zhou, Dai & Zhang, 2007 | Perceived risk |
| George, 2002; Goldsmith & Goldsmith, 2002; Hoffman <i>et al.</i> , 1999; Zhou, Dai & Zhang, 2007 | Experience |
| Limayem <i>et al.</i> , 2000 | Innovation |
| Limayem, Cheung & Chan, 2003; Zhou, Dai & Zhang, 2007 | Age; Education; Gender; Income |
| Teo, 2001 | Satisfaction |
| Citrin <i>et al.</i> , 2000; Goldsmith, 2002 | Usage of internet |
| Cheung & Lee, 2001; Hasslinger, Hodzic & Obazo, 2007 | Trust |
| Zhou, Dai & Zhang, 2007; Hasslinger, Hodzic & Obazo, 2007; Wang, 2012 | Convenience; Information; Cost & time efficiency |

Source: adapted by the authors with reference to Limayem, Cheung & Chan (2003), Zhou, Dai & Zhang (2007), Hasslinger, Hodzic & Obazo (2007), Wang (2012).

Limayem, Cheung and Chan (2003) have conducted an important study of online consumer behaviour – Meta analysis. This study is based on Theory of Reasoned Action (TRA) and its family theories that identify main factors impacting online consumer behaviour. According to TRA, behaviour depends on the intention to perform the action; therefore the intention is impacted by the individual approach and subjective norms (social influence).

Researchers (Athiyaman, 2002; Chen, Gillenson & Sherrell, 2002; Limayem, Cheung & Chan, 2003) identified the variables that are impacted by factors presented in Table 1:

- Approach to online buying – the approach is an assessment of individual's potential behaviour;
- Intention to buy online – the probability that consumer will buy online;
- Buying online – purchasing products or services in virtual environment.

After thorough analysis of factors impacting consumer behaviour in traditional and virtual environments it is important to analyze models of consumer behaviour.

Theoretical background for development of the conceptual model of controllable factors impacting on online consumer behaviour

Cheung, Chan and Limayem (2005) summarized the results of 335 studies and improved their model for further study of online consumer behaviour that was proposed in 2003. The main advantages of this model are:

- Lots of factors (more than by other authors) impacting online consumer behaviour were identified;
- The model is based on comprehensive analysis of various research;
- The model covers the factors that were identified in other scientific studies.

The suggested model combines buying stages and factors affecting these stages. Identified groups of factors (uncontrollable factors: consumer characteristics and environmental influences; controllable factors: product/service characteristics, medium characteristics, process characteristics) impacts whole buying process, for example, consumer’s experience could motivate the intention to buy, purchase (adoption) and re-purchase decision (continuance).

According to Cheung, Chan and Limayem (2005) online consumer behaviour model, intentions are strongly impacted by trust perceived risk factors. In terms of product/service characteristics, the key criteria are the product type, price and reputation of brand. In the stage of adoption, the main factors are the consumer characteristics and medium characteristics. The continuance stage is the least researched area and mostly impacted by trust, satisfactions, medium and process characteristics factors.

The level of investigation and scientific basis are the main reasons why further analysis of online consumer behaviour is based on Cheung, Chan and Limayem (2005) model. The conceptual model proposed in this paper is based on the following assumptions. The majority of research that analyzed factors influencing online consumer behaviour identify two types of factors: controllable and uncontrollable. From the point of the company, it is natural to focus attention on controllable factors because controllable factors attract most of the attention as these factors can be influenced and used to impact consumer behaviour and seek for the consumer to take a desirable decision. Therefore, these aspects will be taken into consideration in the modeling of the conceptual model.

In the model of Cheung, Chan and Limayem (2005) 5 groups of factors influences 3 stages of consumer behaviour – intention, adoption and continuance (decision to repeat purchase). The continuance stage refers to repeating purchase, so this stage is excluded from the proposed model. According to the above mentioned assumptions, the model of Cheung, Chan and Limayem (2005) is adapted and presented in Figure 1.

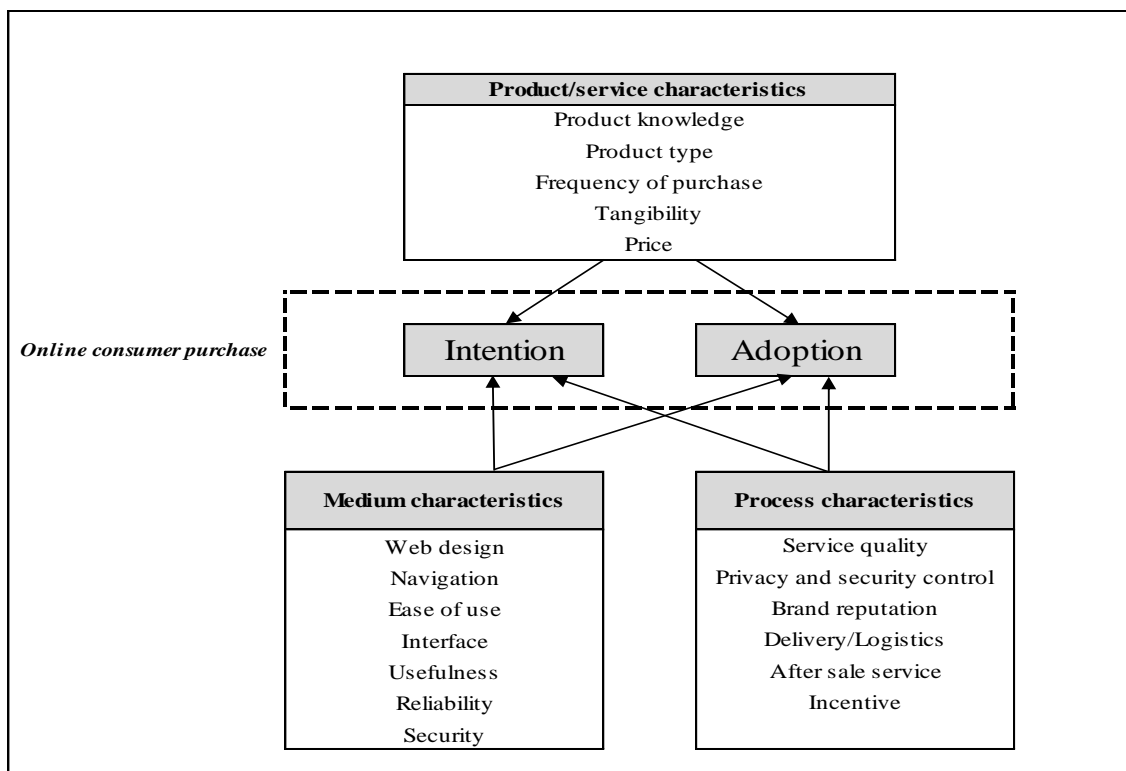


Figure 1. Conceptual model of online consumer behaviour

Source: adapted by the authors with reference to Cheung, Chan and Limayem (2005)

The conceptual model consists of the medium characteristics factors (such as website design, ease of use, etc.), product/services characteristics (product knowledge, price, etc.) and process

characteristic factors (service quality, after sale service, etc.) All three groups of controllable factors impacts two stages of online consumer behaviour – intention and adoption.

The theoretical model is based on various research previous work scientific and comparative analyses. Analysis consider Peppard (1998), Parson (2002), Lee, Park and Ahn (2003), Constantinides and Geurts (2005), Limayem, Cheung and Chan (2003, 2005), Dennis, Merrilees, Jayawardhena and Wright (2009) research in online consumer behaviour area. To summarize, the identified controllable factors were analyzed by research with different methods, therefore, basing on earlier research the conceptual model of controllable factors affecting online consumer behaviour is developed. It is important to empirically test the conceptual model of online consumer behaviour that have been adapted by authors of this paper and to identify the main factors impacting online consumer behaviour.

2. Method

Based on the model provided in the introduction part, an empirical research was performed in order to test the conceptual model and identify key controllable factors impacting online consumer behaviour. The conceptual model was empirically validated in Lithuania. A methodology of research is based on Wright (2006) five stages technique. This exploratory research is an empirical test of analysis of the academic and managerial articles dealing with analysis of factors impacting online consumer behaviour. The main aim of the research was to empirically test the conceptual model of key factors identifying online consumer behaviour that impact the decision to purchase in virtual environment. For that purpose the quantitative online survey was performed in April of 2011. The survey was based on the questionnaire consisting of 38 questions. The respondents were asked to express their opinion whether they agree or disagree with provided statements.

A total of 108 respondents answered the survey. The sample for the study was drawn from a population that consists of internet users and is familiar with the online environment. Table 2 describes the socio-demographic profile of the respondents.

Table 2. Socio-demographic profile of the respondents

| | Category | Percentage (%) |
|---------------------------|-----------------------|----------------|
| Age | 18-25 years | 63,9 |
| | 26-35 years | 24,1 |
| | 36-45 years | 11,1 |
| | Greater than 46 years | 0,9 |
| Average incomes per month | Less than 800 LTL | 27,78 |
| | 801-1200 LTL | 14,81 |
| | 1201-1800 LTL | 25 |
| | 1801-3000 LTL | 15,74 |
| | More than 3001 LTL | 16,67 |
| Number of online purchase | None | 17,6 |
| | 1 purchase | 13 |
| | 2-5 purchases | 38 |
| | More than 6 purchases | 31,5 |

To find out whether the questionnaire is reliable or not we measured the internal reliability, which is the most popular methods of estimating reliability. Cronbach's alpha test was used (see Table 3).

Table 3. Cronbach's alpha test results

| Intention | Cronbach's Alpha | Adoption | Cronbach's Alpha |
|---------------------------------|------------------|---------------------------------|------------------|
| Medium characteristics | ,880 | Medium characteristics | ,911 |
| Process characteristics | ,795 | Process characteristics | ,813 |
| Product/service characteristics | ,555 | Product/service characteristics | ,649 |

Pukėnas (2009) and Karim (2011) suggested that minimum alpha of 0,6 sufficed for research. As the Cronbach's alpha in this study were all higher than 0,6, the constructs were assessed as adequately reliable. The data of research was analyzed using MS Excel 2010 and Statistical Package for the Social Science (SPSS).

3. Results

Results of factorial and correlation analysis. First of all, in order to verify groups of factors impacting online consumer's behaviour, factorial analysis was performed. The result of analysis proved that all groups of factors and factors reflect the same phenomenon being measured. Therefore, further analysis of collected data was continued.

Table 4 presents the results of the correlation analysis which was used to describe the strength and significance of the linear relationship among groups of factors impacting online consumer's behaviour. The relations identified during the correlation analysis could not be interpreted as causality but as a measure of association or relation. To perform the correlation analysis Spearman's ordinal correlation coefficient is used, also criteria p (Approx. Sig) that identify if correlation is statistically significant (correlation significant if $p < \alpha$, not significant if $p \geq \alpha$ (here α – level of significance) (Pukėnas, 2005).

Table 4. Results of correlation analysis

| | | | Intention. Medium characteristics | Intention. Process characteristics | Adoption. Medium characteristics | Adoption. Process characteristics | Adoption. Product/service characteristics |
|-----------------------|--|--|--|---|---|--|--|
| Spearman's rho | Intention. Medium characteristics | Correlation Coefficient Sig. (2-tailed) | | ,469 ,000 | ,849 ,000 | ,361 ,000 | ,399 ,000 |
| | Intention. Process characteristics | Correlation Coefficient Sig. (2-tailed) | | | ,464 ,000 | ,846 ,000 | ,516 ,000 |
| | Adoption. Medium characteristics | Correlation Coefficient Sig. (2-tailed) | | | | ,488 ,000 | ,458 ,000 |
| | Adoption. Process characteristics | Correlation Coefficient Sig. (2-tailed) | | | | | ,617 ,000 |
| | Adoption. Product/service characteristics | Correlation Coefficient Sig. (2-tailed) | | | | | |

** - Correlation significant when $p < 0,01$

The results of the correlation analysis reveal that all correlations are statistically significant ($p=0,000$). The strongest relation was identified among medium characteristics in the intention and adoption stages – 0,849. It means that the medium characteristics factors are equally related to both stages. Almost identical relations were identified among the process characteristics and both stages (0,846).

The weakest relation was identified among the medium characteristics in the intention's stage (0,364) and process and product/service characteristics in the adoption stage (0,399). Thus, the medium characteristics factors impacts intentions and the process and product/service characteristics factors impact adoption slightly.

Identification of key controllable factors. Based on the respondents' answers the impact of

factor groups on the intention to purchase and choice (adoption) is evaluated. In order to evaluate the impact, averages of factor groups were calculated – respondents were asked to express their opinion and to scale the influence from 1 to 5 (where 1 - very weak impact, 5 - very strong impact). Systemized results are presented in Figure 2.

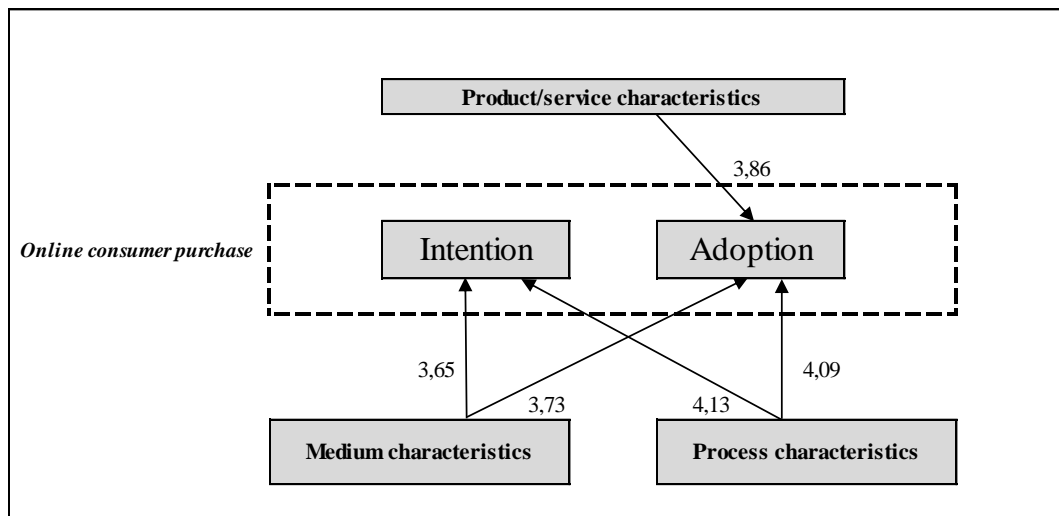


Figure 2. Impact of factor groups on intention and adoption stages

Source: authors

Analysis of the impact of factor groups to intention and adoption in virtual environment exposed that the process characteristics impact consumers' intentions (4,13) and decision to buy (adoption) (4,09) the most. Moreover, it is expedient to identify key factors (not only groups of factors) impacting decision to buy online the most, too. The key factors impacting consumers intentions to buy online are: reliability of website (4,29), security (4,32), service quality (4,36), privacy and security control (4,27) and delivery (4,29). The key factors impacting purchase (adoption) online are: reliability of website (4,3) and security (4,33), service quality (4,44), privacy and security control (4,31), delivery (4,29), price (4,43) and product knowledge (4,11).

4. Discussion

The purpose of this study was to investigate online consumer behaviour and to develop the conceptual framework of key controllable consumer behaviour factors; empirically identify main of them. The overall results indicate that sales in a virtual environment significantly differ from sales in traditional environment and it depends on various environmental factors impacting consumer behaviour (psychological, cultural, social, situational, personal or marketing). Most of the research considers controllable and uncontrollable factors. From the point of the company controllable factors attract most of the attention as these factors could be impacted.

The conceptual model of online consumer behavior provided in the article reflects three groups of controllable factors which potentially impacts two stages of online consumer behaviour – intention and adoption. The empirical research data demonstrate all controllable factors groups' affects online consumer behaviour, but the most significant impact is by process characteristics group factors. The assessment of individual factors, the most influencing factors of intention and adoption to buy in a virtual environment are website reliability and safety, seller's service quality, user data privacy and security controls, and delivery services. Behaviour is also affected by price and product knowledge. These factors should be carefully considered by online traders as they impact consumer decision to purchase online.

This research is limited in few aspects that should be considered in future research. The first limitation concerns the sample used in this paper. The current findings are based on a small sample of data and as in the most exploratory research, absolute conclusions cannot be made and results

should be interpreted with caution. It is important to point out that online buying behaviour was self-evaluated by respondents. Therefore, the results of this empirical study are reliable and statistically significant but not statistically objective. Further research should involve the continuance stage that refers to repeating purchase – factors impacting repetitive actions (re-purchase) are considered as the base for loyalty creation.

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