Considering environmental values in online-purchase decision making

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Spread of Internet usage means the beginning of a new sales era, altering almost every element of the general purchasing process. This change affects the source of information of customers, the way merchants offer their goods, and the ways of inquiry, payment and communication as well[2]. Internet is one of the fastest growing sales channels, with a considerable turnover and more and more significant role in the communication arena. Researches show that most internet users utilize internet during their purchases. Hungarian data reveals that 65% of internet users have already done online purchases, and 92% of them had already collected information about products before their purchases. In Romania, statistics of Romanian National Bank (BNR) and RomCard show that the transactions made via Internet amounted to 93 million Euros in 2009, and this number is growing continuously.

Therefore the effects of Internet could not be ignored when examining environmentally aware behavior, conscious customer behavior, or when we intend to influence human behavior so that environmental values are taken into consideration during purchases. This article is focusing on the aspects of ecomarketing when examining the role of Internet within purchase decisions. We wish to find answer to the following question: what effect does Internet have on the role of environmental information during purchasing decisions?

Keywords: Online marketing, e-commerce, ecomarketing, purchase decision, information search

JEL codes: M31, L81

Literature background

One of the most generally accepted model of purchase decision making process is the Engel-Kollat-Blackwell model, which divides the purchasing process into five stages: (1) recognition of the purchasing problem, (2) information search, (3) alternative evaluation and choice, (4)

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[2] Darley – Blankson – Luethge (2010)

purchasing and (5) post-purchase behavior and consequences[3] (the base model was previously used by other authors and it is generally accepted in literature, and became a basic model ofmany marketing textbooks – see Hofmeister (2003.) as an example). Although individual stages could not be separated in practice all the time, and the process can even be a multiplayer one – it can be divided in the same way in case of Internet purchases as well[4].

Personal characteristics (motivations, values, life style, personality), social influencing factors (culture, reference groups, family), as well as situational and economic factors all have a definite effect on each stage in the model. Therefore we suppose that Internet and its effects also influence each stage – as it is supposed by Darley, Blankson és Luethge (2010), enlarging the model so that it can include the factors of online purchase as well. They had introduced the following factors to the model: website quality, website operation, interface, satisfaction with the site, and customer experience about the site.

It could be easily realized that Internet plays an influencing role on each phase of the process. In case of customers surfing, searching and getting info on the Web, the opinions, news and information on Internet affect the time and frequency of purchasing problem recognition. The source of information will be more and more online sources. Things read on the Web can have a determining effect in case of factors, product features and alternatives considered during the decision making process, and in case of attitudes, beliefs and intentions related to individual alternatives. It is more and more frequent that the purchase itself is made through the Internet. Moreover, online sharing of experiences is getting wide-spread, just like online post-purchase contacts (customer services, bug reports, invoicing, etc.)

A fundamental point of the process is the stage of gathering information – and it has quite a wide literature background as well[5]. It is not only purchasing itself, which makes this stage important. Understan-

[3] Based on Hawkins – Best – Coney (2003)
[4] Schmidt – Spreng (1996.)
[5] Detlor – Sproule – Gupta, 2003

ding information gathering phase is also a significant base of marketing management decisions. Understanding the process is a key factor of effective communication within ecomarketing as well. Searching information in Internet promises to increase the efficiency of online shopping by improving the availability of product information and reducing buyer search costs. Searching for product information and buying goods online have indeed become popular activities.[6] However, with the availability of more Web sites featuring more product options, comparing choice alternatives and selecting the most preferred option can become a daunting task for consumers.

Information search consist of external and internal search processes. When customers perceive the problem, i.e. the feeling of missing something, the difference between their expected and actual situation, it is triggering the purchasing problem, and they switch to search mode. The most simple and obvious way to solve the problem is to retrieve information from their memories, which is internal search. This information gained from experiences of previous purchasing decision processes and use (consumption) of products, as well as from passive search (previously stored information instead of intentional search related to the problem) could determine purchases completely (e.g. routine purchases, restricted problem solving). In case of environmental information it is based on environmental knowledge. Inasmuch as information gained this way is not enough for decision making, customers switch to external (active) search.[7]

Both in online purchasing situations and in traditional offline shopping, consumers collect external information in two ways. The first is a general method, related to the solution of the problem, the second is direct (specific) search.[8] The main point of searching related to problem solving is that customers do not know yet how they can meet their needs (and whether these needs can be met at all). In these cases, customers browse information without a specific information purpose: they have no knowledge (or at least they have less accurate knowledge) about the pro-

[6] Park – Gretzel
[7] Hodkinson – Kiel – Kennedy, 2000
[8] Rowley (2000)

duct characteristics that might be necessary, available or usable for decision making. In such situations, information search of customers is explorative, general and related to information search itself in many cases. In contrast, customers search for a given information or product characteristic during direct search. This type of search is more target oriented, customers are aware of what they are looking for, and usually they have preliminary information about the product, such as the name and manufacturer of it. The two types are not independent of each other, they are rather combined in purchasing decisions. Most authors think that customers almost invariably start the information search stage of purchase decision making process with a general search[9], and then they always get to specific search[10]. These two types can be differentiated well and often have separate names within internet environment: browsing and search.

External search is affected by several factors: perceived risk of customers (their previous satisfaction, involvement, cost), their personality (need of confirmation, striving for optimal decisions), complexity of the purchase, availability of information, disposable time, searching skills of customers (their knowledge, efficiency of earlier searches)[11]. However, as my research does not focus on modelling the entire search process, but getting acquainted with one segment of it, I have not examined most of these factors in the study.

Customers do not search for all the information. There is agreement in literature that customers settle for the collection and process of limited information, and they appropriate the energy needed for satisfying choices instead of optimal results in purchasing decisions.[12] The amount of collected information can be characterized by its depth and width. When examining information, width shows the volume of product features collected during shopping, while depth shows the amount

[9] Shim-Eastlick-Lotz-Warrington (2001)

[10] Not all the authors agree with this. In case of online purchase decisions their are other models. Bryan and Gersham (1999) describes thepurchase process as aset up of only specific searches (while the buyer does not get known the whole market)

[11] Srinivasan – Agrawal (1988) vagy Schmidt – Spreng (1996.)

[12] Ozanne – Brucks – Grewal (1992)

of information collected about individual attributes. They are difficult to examine, because the two characteristics are strongly related to each other, and both amounts can change during search.

The effects of online world can be shown in researches as well: more and more articles and analyses are published addressing the characteristics of online shopping. Naturally, the first wave of researches addressed Internet shopping, optimization of webshops and homepages as well as the attitudes related to them. Later on individual elements of the process, relation to offline shopping, awareness and decision making mechanisms of customers have also been dealt with. The most wide-spread method of research is quantitative survey. The main advantage of this survey is that it is relatively easy to conduct. However, the survey method is limited by people's insight into their own behavior and by their willingness and ability to reveal what they know (Sternthal, Tybout, & Calder, (1994) – which can have quite powerful distortion effects in such a complicated system. This is the reason why experimental methods come to the front, especially when examining causal relationships and focusing on individual parts of the purchasing process. According to Cowart and Goldsmith (2007), the use of these methods will be more and more wide-spread in future researches. [13]

According to the definition of Kerekes and Kindler, environmentally conscious consumers „are really interested in using environmentally friendly products; their decisions are based on criteria which they ponder carefully before their purchases." In their opinion, these criteria are: damaging the health of consumers, negative effects on the environment during the life cycle of the product, energy use, arising waste, materials used and harmful effects on other countries.[14] Other authors also emphasize environmental consciousness of consumption. It is „the realization of ecological consistency in purchasing habits and decisions."[15]

[13] Referenced in: Darley – Blankson – Luethge (2010)

[14] Kerekes – Kindler (1997.)

[15] Meffert – Kirchgeorg (1993) – Environmentally consciuos behaviour is not only connected with consumption, however other aspects are not relevant for this survey in this article.

Environmentally conscious behaviour is a common consequence of various factors. The starting point of models usually is that willingness to act is determined by environmental knowledge, environmental values, and environmental attitudes. Actual action is the result of this willingness.[16] The level of environmental knowledge can change during purchasing as well, therefore there are several things to study when examining this level. Expectations and anticipations (shaped by understanding gained from earlier knowledge and experience), as well as information obtained during shopping, the evaluation and use of them in decisions have to be examined.

According to Szabolcs Nagy (2011): „One of the main drivers of environmentally conscious consumption is the demand for environmentally friendly products. We have to understand thoroughly the (environmentally conscious) consumption behavior of Hungarian consumers, in order to make them more environmentally conscious customers. Schlegelmilch et al (1996) showed in their research that ecological knowledge has a definite effect on environmentally conscious behavior. This effect, however, is not sufficient to explain the behavior in itself, that is, other factors are involved as well.

The research

Searching for environmental information is a complex process, therefore experimental design was used (personal observation was combined with interviews for the examination), since purposes of the examination justify qualitative research preferably. This way we were able to get an insight into the details of purchasing process, the expectations and problem solving mechanisms of respondents. The guide used for the examination of the complex process is focusing more purchase processes, and more steps in case of every process.

The first experimental design is about the examination of a general purchasing situation: the respondent's washing machine is broken, therefore they have to buy a new one. In the first part of the interview

[16] e. g. Nemcsicsné Zsóka Ágnes (2007.)

they were asked what type of information they would search for, what are their expectations regarding a washing machine. In case of every expected information it was examined how much respondents think these information to be available on the internet. Product features and expectations related to the environment, as well as the importance of these, were only asked directly if the respondents mentioned them. The second stage of the research is the actual search: then respondents were asked to make the search to choose a washing machine for themselves, and to comment on what they were doing and the result of it while searching. The third stage is evaluation – finally everyone were asked about their satisfaction in terms of internet information and about their judgement of the search process and its result.

The other design focuses on environmental information: in this experiment the respondents were asked to find the most environmentally friendly washing machine. Importance of environmental values and environmental benefits of the products were asked by the same words that the respondent used all along. However, in this question a general phrasing had been used instead of repeating if the respondent talked only about specific environmental benefits previously (i.e. in case of those who talked only about energy saving, they were asked to choose the most environmentally friendly machine and not the one with the most energy saving). The course of the interview was the same as in the first task: expectations, search, evaluation.

The sample used during the research consisted of 17 people: this means 34 purchasing tasks, more than 75 searches and 100 examined sites altogether. The interviews were made by the students of MUTF (Business school in Tatabánya, Hungary) Marketing MsC programme as a part of the consumer behaviour course (along other primary surveys).

Convenience sampling method was used. All the Internet usage segments were included with quotas. Therefore there are people in the sample from much to no experience in online shopping. All of the respondents had been looking for some product information on the internet previously – although this filter condition is not a really strong filter, since most of the internet users (92 %) say in researches that they had

collected information about products before purchases.[17] Respondents were aged between 21 and 62 years, and there were both male and female respondents.

Results

(1) Expectations

All respondents had a very positive attitude towards information available on the internet. Most of them are convinced that all the information important for them (in order: price, size, place of opening/loading, energy saving, number of programs) are available on the Web – although sometimes they are not sure where they would find answers to their questions, but they solve it with the help of search engines. When purchasing washing machines, they name distributor and manufacturer sites as the primary information source in case of every product feature. In this direct purchasing situation most of them already have preliminary concepts as to where they would search: they consider the websites of shops and brands to be good starting points.

In terms of washing machines, environmental expectations relate to energy- and water saving (although most of the respondents mentioned energy saving, water saving was mentioned only by 20 % of them). They identify these characteristics with the environmental performance of washing machines. The source of environmental information is the same as it was in case of other product features: manufacturer and merchant websites. Respondents are convinced that this aspect will be included in the list, together with other aspects. Alternative information sources almost entirely were ignored in this stage.

A significant portion of respondents did not know exactly what they would look for. Answers like „a minimum of B energy rate" or „A++ is the best, but A is enough" signal that respondents are aware of these features of the machines. Most of the others also have some information, a lot of them do know the ratings as well, but they are uncertain about them („I think that class A is the most energy saving").

[17] In Hungary - based on the 2009. 2nd semiannual quick report of NRC

Finding the most environmentally friendly washing machine caused more headache, respondents hesitated a lot during this task. Most of them trust general search and would not start toward specific contents. They simply plan to enter the referred keywords („environmentally friendly + washing machine") into Google and they would search for appropriate information amongst the hits of the search engine. Only a few of them mentioned specific starting sources, where they are convinced to be able to find appropriate information. Although there is a clear need for examining sources other than manufacturer sites, respondents almost have no preliminary conception of these options. Very few of them mentioned customer generated sites (forums, blogs) among their preliminary expectations, and product tests appear in pre-search ideas (in the expectation-interviews) in almost no cases. Even so, respondents are optimistic in terms of the results of the search: they have faith in the presence of these information on the Web.

(2) The actual search

The search process did not cause any particular problem for the respondents in case of purchasing washing machines. It is general to use search engines as starting points. Even those who had named a specific site (usually a retailer) as the starting point do set off to find the site from the search engine.

Those who had pre-search ideas (named a specific site or brand) are not distracted by the list of results in the search engine, and follow their original intention. They find their originally planned target even if it is not the first place of the search engine – although sometimes they take by-pass roads toward sites found during their search (this can be seen mainly in case of search by washing machine brand: respondents check the official website of the brand. Although this is not the first site to check, but this was the site they planned to check originally).

The starting search queries chosen most frequently are brand names, names of retailers (mostly big chains), as well as the term „washing machine" combined with some other word ('washing machine' + respondents' location, 'washing machine' + 'purchase'). Paid advertisings (so called 'sponsored links') in the search engine were also

checked by the respondents if the wording seemed to be relevant.

During their search for purchasing information, all of the respondents used retailer sites. Frequently these sites were mainly the homepages of shops and chains known offline (have a store near their location). In the second place came the online shops, which were followed by the brand-sites, and some comparative sites. Use of this latter type is not typical (it can be seen only in case of respondents who had these types of sites among their first search results or in the sponsored links).

Respondents did not even think about other types of sites. Information is re-evaluated during the search, price becomes even more important during specific search, while some factors depreciate and become secondary (energy saving, programs). In other words, these factors are not used when narrowing the search and comparing brands (respondent mention these factors less and less while they keep on commenting their steps forward and valuing the results). These aspects come up again at the end of the search process: either before the final decision (respondents only check the presence of expected minimum levels in case of models among the possible choice options) or even after the search (reasoning their choice).

Respondents did find environmental information without problem (on product pages) – and they did not continue searching at all. They did not try to check it more deeply – not even those who were not sure how the rating works, what this information means. Most of the cases respondents had no idea about the real meaning of a rating and the difference between the levels – this was our feeling during the interviews and this feeling was confirmed later by the closing (evaluation) stage of the interviews. This information is only interesting so that the chosen machine brings at least the minimum expected level. Many of the respondents had totally forgotten about water consumption – also those who mentioned water consumption among their expectations – if it was not directly added to the product page. Respondents were not interested in new aspect found within product descriptions (level of noise or water consumption in case of those not mentioning it among the expectations). They commented the presence of these aspects as being positive

while reasoning their choice. They wondered „oh, really, this can be checked as well" – but they did not carry on these aspects to the later stage of purchasing. Although they thought existing filters to be useful, and they used these filters for narrowing washing machine search results where it was possible, no one mentioned the need for filtering by environmental aspects and they never missed the possibility of this.

Up to closing the information search stage of purchase decision process, respondents on the average did look at four sites in detail (not counting sites left within one minute, as being irrelevant or not meeting their expectations). Many respondents did not want to search outside of retailer sites, most of them did not even attempt to get information from other sources. They used only the inside search functions of the sites.

Based on their comments we can conclude that respondents trust information found on merchants' sites. And this was the answer they gave in the third (evaluation) stage of the interview. Information stemming from other sources were rare, but consumer information influenced choices to a great extent. When respondents found consumer comments next to product descriptions, they carefully read the comments and changed their opinions accordingly – i.e. took the products out of possible options. This behaviour shows that such information might be stronger than those given by the retailers and the producers – however, it is still to be confirmed by additional research.

Finding the most environmentally friendly washing machine usually caused a lot of headache (as we expected based on the pre-search expectations). Typically respondents made a very general query in the search engine (mostly 'environmentally friendly' + 'washing machine'). However, quite a few of them chose previously known sites dealing with this issue as a starting point.

If the respondents did not find more detailed information in the first results of the general search, they usually settled for considering the best of the categories they came to know earlier (A++ energy class) to be the most favourable choice from an environmental viewpoint. Some technical novelty (eg. detergent-free washing machine) caused some trouble if found. Respondents realised that the detergent usage is

one of the environmental problems caused by washing, but they had problems to find a washing machine model for this or did not think this reason to be convincing enough for choosing a model.

In most of the cases they failed to make an actual choice or the choice was very haphazard. Respondents originated this failure in lack of information („There is not enough information", „They write only a few lines", „No one writes about it in detail").

(3) Evaluation

Respondents considered the information they found to be enough for decision making. They thought search results to be reliable and usable, even if they did not manage to get detailed information in certain issues. In case of green information they missed trustworthy and available sources („the problem is that many people write about this, but there is almost no authentic source").

Based on the interviews we can say that:

1. There are environmental expectations within preliminary expectations about products and information. In case of the majority of respondents, environmental factor was present in purchasing situations (mostly as energy saving), therefore they listed it among expected information.

2. Respondents try to get information about the environmental value of the product at the same place where they get info about other product features (price, performance, etc.): the retailer sites. When respondents want to know environmental information of an actual item (greener washing machine), they also use these sites, but these are not the information sources exclusively used by them.

3. When searching about the environmental information they mostly use retailers sites, but many of them search other sites as well (consumer generated contents and sites of civil organizations). In this research consumer generated contents were not strongly represented: the role of forums and blogs is low in product purchase.

4. Respondents have no established source for finding environmental information. This is so much true that respondents did not know where to turn for factual information before doing the tasks – and most

of them did not know it either after completing the tasks.

5. Preliminary environmental knowledge about product categories reduces the motivation for outside search of environmental information. Environmental knowledge (preliminary knowledge) makes outside search more efficient.

Conclusions

Most importantly, the research showed that product choice is based on limited information even on the Internet. People make no special complementary search even where it would be possible. Therefore the special quality of the Internet, namely the possibility of making reasonable purchases with the help of information background (at least on the short run, in case of individual purchasing decisions) does not mean a significant difference compared to offline shopping.

Customers trust the information given by shops and brands, and do not search further. This is the reason why environmental information of products should appear at the place of purchasing decisions, within product information. It would play a basic role in passing environmental values. Without environmental regulation, of course, this could be realized by customer expectations. At the same time this shows that greenwashing can work on the short run as well. However, we have to be careful with statements like this, since customers get information about products and brands not only during shopping, and their conceptions shaped beyond shopping have a strong influence on the purchase decision making process.

It is also very important that customers have no stable source of green information. A trustworthy place like this, however, would make getting environmental information easier. Use of product tests is not general yet, use of consumer generated contents is still rare. An easily accessible, searchable, transparent, clear information system could be an excellent background for sites based on green positioning (be them either merchants' or content providers' pages). In case of trustworthy sites, customers will search for every information starting from that site. For example, one of the respondents started to search for environmental

information at the site where she buys washing nuts (kataboltja.hu). Even so, these sites usually have no searchable and visible consumption and purchase support beyond the products they sell.

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