How intention to purchase is affected by the use of Comparison Shopping Websites

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Abstract: The internet is becoming the preferred media for most people to find the information they need about their purchases. However, even though search engines are able to catalogue vast amounts of the data available online, consumers' searches often lead to results based on website popularity and keyword advertisement. For that reason, search engines dealing only with information about products and services have arisen, cataloguing from consumer products, hotels, air-line tickets, insurance, to food delivery. These comparison shopping websites provide a helpful connection between consumers and businesses. This paper examines how comparison shopping websites affect businesses and e-commerce in general. The proposed conceptual model incorporates various demographic, psychographic and other factors that are found to affect the use of comparison shopping websites, consumers' selection criteria and their purchase intention. In order to test the validity of the new model, data from 207 participants were collected with results suggesting that the use of product comparison shopping websites is affected mainly by the frequency of internet usage, perceived usefulness and ease of use offered by these websites. Furthermore, comparison shopping websites seem to play an important role in shaping purchase intention.

Keywords: comparison shopping websites, purchase intention, B2C marketing

1. Introduction

Internet has changed the way people watch the world and trade information (Coffman & Odlyzko, 1998; Internet World Stats, 2015). The amount of information offered by the internet is immense and the challenge when it first became available to the general public was to find a way to facilitate the searching process (Moranga-Gonzalez & Wildenbeest, 2011). Search engines, like Google, Yahoo, Bing, etc., are able to search through the internet and are capable of cataloguing vast amounts of data. Their business model is to offer this service to the internet users for free and place paid advertisement, mostly based on the keywords searched by the user; offering a way to deliver targeted advertisement to the interested audience (Moranga-Gonzalez & Wildenbeest, 2011). However, it was evident that consumers needed something
beyond what web search engines could offer; that is to focus on a specific segment of online content, search engines with a specific scope: vertical search engines that could search and display only specific goods and services that were sold online. This led to the emergence of the internet shopbots, also known as price search engines, price comparison engines, sites or websites, comparison shopping engines, or comparison shopping websites (CSWs).

CSWs users are able to quickly collate information about numerous vendors along with price information, product information, payment methods, shipping methods and quality indicators with substantially lower search cost compared to a manual search, with most comparison shopping websites charging the consumers nothing for their service (Moranga-Gonzalez & Wildenbeest, 2011).

In Greece, more and more people each year use CSWs in order to find relevant information about their intended purchases (Doukidis & Fraidaki, 2015). Greek CSWs dealing with products are mainly skroutz.gr and bestprice.gr, with no cost to the consumers, while retailers are charged in a cost-per-click basis, with future plans to provide end-customer services (Christodoulou, 2016), where the CSWs will not only be passive, in terms of handling information and providing it to the customers, but also providing customers a unified experience of purchase under their own website from different sellers, while also using their platform to facilitate all purchase and post-purchase actions, essentially becoming an autonomous channel for retailers to sell their products.

2. Literature review

2.1. Internet retail competition

Customers are becoming hybrid in terms of using both the marketplaces and the marketspaces to conduct their purchases. This, in turn, proves the necessity for a company to redefine its marketing practices, and start competing both in marketplaces and in marketspaces in order to gain customers’ mind share (Tsiames, 2005). By extending the retail competition models to the Internet, specific problems concerning consumers’ lack of research arise. More specifically, usually when searching the world wide web for a product or a service, consumers seem unwilling to fully explore the alternatives, even though they are a few “clicks” away (Bailey, et al., 2007). This problem has been partially solved with the emergence of the CSWs, which is dealing, in part, with the problem of limited web visibility of the small retailers, while as comparison shopping engines evolve, they will inevitably include the greater part of the vendors available in that market (Wan, et al., 2007).

One of the benefits of the information provided to the consumers by the CSWs is that it familiarizes them with the prices of the available products and services, thus increasing competitive pricing pressure on firms (Ronayne, 2015). As the information provided by the CSWs to the consumers is, in most cases, costless (Moranga-Gonzalez & Wildenbeest, 2012), consumers are incentivized to take into account all the parameters concerning the sellers of a homogenous product or service and make a well-informed decision that will include the possibility of choosing a higher price seller according to their business specifics and other seller offerings that differentiates them from the rest of the sellers, such as reliability (Dullek, et al., 2011).

In general, CSWs create value beyond traffic generation and referrals for the internet retailers, with shopping convenience (Ong, 2011a). However, since the emergence of these websites, evidence appeared of price elevating to encompass the cost of listings. In a study conducted in UK in 2015 (Ronayne, 2015), it was found that by introducing another price comparison website to the market, prices increased for all consumers.
2.2. Consumer motivation in shopping online

Shopping online is quite different from traditional shopping in brick and mortar shops and beyond the utilitarian function, is often considered to be overlooking the role of emotion, identifying shopper’s behavior from rational to even antisocial but, also, satisfying the desire for virtual social contact and contextual personal needs (Sangran, et al., 2009). The Uses and Gratifications (U&G) theory sets the background for understanding the motivations and concerns behind the use of various media of various consumer interactivity; in this case, it provides further understanding of the attitude and intention of using the internet as a channel for shopping (Lim & Ting, 2012).

More specifically, it is particularly applicable since the use of this media (internet) is interactive, intentional and purposeful, unlike the traditional media, the radio or the television, that are categorized as ‘more passive media outlets’ (Sangran, et al., 2009). These assumptions can also refer to the behavior of online consumers as long as their behavior is goal-directed, they actively select the media (e.g. retail website) based on their awareness of their needs, they have alternatives to choose from and are aware of them and, finally, receive gratification as they explore in an individual context (Sangran, et al., 2009).

Lim & Ting (2012), in their analysis of the U&G theory in e-shopping in a sample of the Malaysian market, confirmed the correlation between three of the main dimensions of the underlying constructs of the U&G theory that are ‘most important and robust’ concerning users’ experience using a website and, subsequently, seen as a possible influence on consumers’ attitude towards online shopping. The three major determinants affecting the use of a particular media are the entertainment gratification, the informativeness gratification and the web irritation (Luo, 2002).

Lim & Ting (2012) also confirmed the hypothesis of a relationship between attitude and intention of online shopping.

Convenience is one of the major motivational factors as consumers shift their focus towards activities other than shopping, with more and more people every day changing their shopping channel in favor of online shopping (Jiang, et al., 2013), thus “forcing” online vendors to take steps towards maximizing the speed and ease of shopping. Jiang et al. (2013) researched the dimensions of convenience in online shopping in terms of access, search, evaluation, transaction, possession and post-purchase convenience and concluded that the advantage of shopping any time, any place, “turned out to be the foremost driver of overall online shopping convenience”, as consumers enjoyed the advantages of accessibility provided by the medium. Search over the internet may be almost costless, but has potential issues associated with convenience. Customers in search for a specific product often consider searching time-consuming; whereas user-friendly website design, along with a search function and a comprehensive classification are considered a must, since lack of assistance from a salesperson combined with limited computer and internet knowledge would be a deterrent factor in shopping online.

2.3. Behavior and traits of comparison shoppers

Empirical evidence indicates that the process behind decision making of a buyer, referring to purchases using CSWs, is a two-stage process also referred to as shortlisting (Dullek, et al., 2011). Dullek’s et al. (2011) research using a unique comprehensive dataset from ‘geizhals.at’, an Austrian price search engine, found evidence of the shortlist method being part of the search and purchase behavior of online shoppers who used the Austrian price search engine.

According to this two-stage purchase behavior procedure, at first, a consumer selects a group of products over one characteristic, from which a more thorough analysis is conducted using complete preferences (Manzini & Mariotti, 2007). As an example, examining users of ‘genzhals.at’, it was found that the first stage is a selection of products based mainly on price, while in the second stage other factors,
like availability, retailer’s rating, shipping cost, pickup option, become more relevant towards making the final selection of the product to buy (Dullek, et al., 2011). Furthermore, Mittal (2016), analyzed the psychographics of a sample of consumers that, then, was used to identify the personality traits of comparison and non-comparison shoppers. The main factors Mittal examined include the shopping life (their behaviors and experiences with shopping), their fulfillment in the role as a shopper, and their life orientation in general. The results suggested that consumers who treat shopping as an adventure, as well as those who are more budget conscious, are more likely to be comparison shoppers. On the other hand, no apparent correlation with the consumer’s decision confidence and choice satisfaction was found. Also, it is suggested that comparison shoppers are more likely people who consider themselves smart shoppers, make their buying choice wisely, but feel no difference in gratification by their purchases compared to their counterparts. Mittal (2016) also found mixed results in two studies about achievement orientation, with one study supporting that achievement oriented people are more likely to be comparison shoppers.

CSWs provide consumers with highly accessible and ample information about retailers, products and market prices; consumers, in turn, will use this information as reference to make a more informed decision regarding both their online and offline purchases (Bodur, et al., 2015). This is supported by the results of a research conducted in Greece by ELTRUN, where almost a third of the sales in physical stores was made after online research (Doukidis & Fraidaki, 2015), indicating that purchase intention created through the use of a comparison shopping website is not only directed towards purchasing online but provides insights in price and product (or service) validation in all channels.

For online retailers, the different levels of prices and store reviews in CSWs gave out a distinct effect, according to Bodur, Klein and Arora’s studies (2015), where it was found that it is crucial for high-priced online retailers to have a favorable rating, especially for consumers that do not use the price-retailer quality heuristic. Reviews and ratings in CSWs play an important role in validating the valuation of a retailer, especially if the retailer is unknown to the consumer. However, there is a bias between consumers who paid more attention to negative or positive reviews, based on the way they perceived the credibility and helpfulness of the review (Ong, 2011b). It is also indicated that personal preferences can make the difference, with usefulness of a CSWs also having an effect on the user continuing to use that website (Ong, 2011a).

3. Theory development

Socio-demographic variables are associated with consumer innovativeness and shopping behavior (Dholakia & Uusitalo, 2002); age and income play a role in needs, interests and resources; younger and poorer people are more likely to adopt new technologies or new ways in shopping, in contrast to older people who are less familiarized with the usage of computers, are not time-constrained and, usually, enjoy socializing while shopping. Adoption behavior is also likely to be influenced by education (Dholakia & Uusitalo, 2002), since adopters tend to be more educated than non-adopters. The psychographic elements (experience while shopping, shopper role experience, and general personality traits) that were used by Mittal (2016) to measure the difference between the comparison and non-comparison shoppers will be also used in this research to measure their impact on the use of a comparison shopping website.

Davis et al. (2008) found evidence that buying online is associated with antisocial shopping behavior, with researchers believing that the emergence of the internet, as a mean of social interaction, would benefit social interactions in general, especially in the form of sharing shopping experiences (Wolfinbarger & Gilly, 2003).
Furthermore, various factors measuring the experience in terms of years of shopping online and previous shopping experience in buying similar products found to have an effect on the perceived price, quality and evaluation/selection process in general (Jung, et al., 2014).

Dholakia and Uusitalo (2002) measured the difference of the perceived benefits between shopping online and shopping at a physical store. The results showed little difference in hedonic benefits, while utilitarian benefits and perceived stress was higher amongst online shoppers. Taking this under consideration the same benefits can be measured under the usage of another channel or, in this case, the use of CSWs, but with the added belief that comparison shopping is less stressful and more enjoyable than its counterpart (Mittal, 2016).

Convenience may also be part of the utilitarian values but was also tested separately, as a motivational factor. Jiang et al. (2012) measured consumers’ perception of online shopping convenience, and found that search and evaluation convenience is significant to the overall perceived convenience of online shopping. The factors of search and evaluation also apply as convenience factors offered by CSWs.

To et al. (2007) examined shopping motivations based on utilitarian and hedonic value. They found that there is a correlation between utilitarian and hedonic motivation behind search intention and purchase intention. Purchase intention was found to be statistically correlated with search intention and, also, with utilitarian and hedonic motivations. Search in this paper is represented as use of CSWs, while hedonic and utilitarian values as well as perceived stress avoidance are also represented.

In Ong’s (2011a) research, concerning the likelihood for selecting between merchants in a comparison shopping website’s results listing, 49.2% of the responses stated that they would more likely buy from the seller with the lowest price, while 27.1% would select a seller that they are familiar with, and 23.6% would rely on the reviews of the internet users’ community and choose the one with the highest ratings. These factors affect consumers’ purchase intention and the question asked in this research is if higher standards improve purchase intention (Ong, 2011a).

The abovementioned lead to the following hypotheses:

**The use of CSWs is positively correlated with...**

- H1: ... shoppers of (a) lower age; (b) lower income; (c) higher education level
- H2: ... consumers’ psychographic characteristics.
- H3: ... internet usage.
- H4: ... previous internet shopping experience.
- H5: ... perceived benefits (hedonic, utilitarian benefits and stress avoidance).
- H6: ... perceived search and evaluation convenience.

**Purchase intention is positively correlated with...**

- H7: ... the usage of CSWs.
- H8: ... perceived benefits (hedonic, utilitarian benefits and stress avoidance).
- H9: ... search and evaluation convenience.
- H10: ...seller selection criteria.

4. **Data collection**

For gathering the necessary primary data in order to test the validity of the proposed theoretical framework a structured questionnaire was distributed (Google Forms platform in Greek) using the convenience and snowball sampling approach. The questionnaire included questions that were adopted from various previous relevant studies (Mittal, 2016; Jung, et al., 2014; Passyn, et al., 2013; Jiang, et al., 2013; Ong, 2011a; To, et al., 2007; Dholakia & Uusitalo, 2002). It was sent out employing different online channels, such as instant messaging and emails, to friends, family members and co-workers and using Facebook posts and the university's student portal to all the students attending the MBA program of the Hellenic Open
University, thus mainly targeting people who are regular internet users. Respondents were also asked to contribute by sending the link to the questionnaire to their family, friends and co-workers in an attempt to increase the size of the potential target sample. The survey was conducted in April 2016 and the final sample consists of 207 valid responses. Most of them are female participants (58.5%), well educated (undergraduate studies 37.2%, postgraduate studies 45.4%), with mean age of 36.22 years. Additionally, most of them have full-time employment (69.6%), with unemployed representing only 8.7% of the sample and university students another 5.8%. Finally, 52.7% of the participants earns less than 1000 euro per month, 30.4% has monthly income between 1000 and 1500 euro, while 17% earn more than 1500 euro per month.

5. Data analysis
Several statistical techniques were used to analyze the data. Frequency analysis was used to capture the static picture of the current reality as far as the behavior of the Greek internet users/shoppers are concerned. Then, factor analysis was performed to test the validity and reliability of the factors (and subfactors) used (adopted from other similar research attempts). Finally, correlation analysis and Structural Equation Modeling (SEM) analysis was performed in order to verify the hypotheses of the model.

6. Findings

6.1. Descriptive statistics
The results indicate that, on average, participants were browsing the internet (internet usage) approximately 4 hours and 46 minutes on a daily basis, while they were spending for online shopping approximately 10% of that time (27 minutes). As far as their internet shopping experience is concerned, the results show that they have 5.5 years (mean score) of online shopping experience, with an average of 4.1 purchases during the last three months. Most of these online purchases concerned product categories that participants had no previous online purchasing experience.

Further, examining the results concerning different dimensions of consumers' psychographics it was revealed that:

- Choice satisfaction plays a huge role in the mindset of the participants since most of them are quite satisfied with the purchasing choices they have made in the past and seem unwilling to change that.
- Participants consider themselves to be rather conscious that they are in a certain budget when shopping and trying not to overcome that pre-set budget.
- Post-purchase confidence is slightly higher than pre-purchase confidence indicating a positive feedback from their purchases.
- Most of the participants were most likely to focus on buying something that meets their needs, but also on having the best deal in purchasing a product.
- In buying gratification, participants felt that gratification was more important than only buying what was needed.
- Socialization with close friends/relatives is important for participants.

Focusing on the results concerning the interaction with a CSW the following were made clear:

- In using a CSW, participants were more receptive in the concept of using a CSW whether they intended to buy either online or offline (in a physical store).
- Apart from the intention of buying, as their primary motivation for using a CSW, participants were rather indifferent in using price comparison, product attributes comparison, product reviews and the favorites (wish-list) function on a daily basis.
Moreover, examining the seller selection criteria used by the sample participants, it is found that:

- Participants were more inclined to select a store they have purchased something in the past and were happy with their purchase, while they also valued purchase safety as the second most important factor.
- Price and user reviews were valued equally, indicating that they also played an important role in the process of selecting a store.
- Knowing a store personally seemed to have a lesser effect on the selection than being happy with previous purchases, thus underlying the fact that there are participants who would choose to buy from an unknown store as long as their other criteria of higher value (to them) were satisfied.
- After-sales service, or rather the expectation of having support after making their purchases, appeared to be rather important, although most of these services, especially for brand products, are not offered in-store, but rather on certified service centers that are located in or out of the country.
- Participants seemed rather neutral towards selecting a store based solely on the higher-quality brands it offered, although perceived product quality is considered as one of the most important selection criterion.

### 6.2. Factor and reliability analysis

Factor and Reliability analysis was then performed in order to test the adequacy, validity and reliability of the proposed (and measured) factors. The relevant statistical measures used for this purpose were K.M.O. (suggested threshold value of 0.600 for factors with more than two variables and 0.500 with factors with only two variables), T.V.E. (Total Variance Explained), factor loading (>0.500 and preferably over 0.600) and, finally, Cronbach, (> 0.700 or even 0.600 are acceptable). Looking at Table 1, it can be noticed that for most factors and subfactors these thresholds are satisfied.

<table>
<thead>
<tr>
<th>Factors</th>
<th>Factor Loadings</th>
<th>K.M.O</th>
<th>T.V.E</th>
<th>Cronbach</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Internet usage</td>
<td>.774 -.774</td>
<td>.500</td>
<td>59.855</td>
<td>.598</td>
</tr>
<tr>
<td>C. Internet shopping experience</td>
<td>.833 -.833</td>
<td>.500</td>
<td>69.364</td>
<td>.620</td>
</tr>
<tr>
<td>D. Consumer psychographics</td>
<td>.692 -.836</td>
<td>.616</td>
<td>59.222</td>
<td>.636</td>
</tr>
<tr>
<td>E. CSW usage</td>
<td>.861 -.861</td>
<td>.500</td>
<td>74.213</td>
<td>.715</td>
</tr>
<tr>
<td>F.1 Perceived benefits</td>
<td>.881 -.881</td>
<td>.500</td>
<td>77.652</td>
<td>.710</td>
</tr>
<tr>
<td>F.2 Search &amp; evaluation convenience</td>
<td>.910 -.910</td>
<td>.500</td>
<td>82.737</td>
<td>.785</td>
</tr>
<tr>
<td>H. Seller selection criteria</td>
<td>.863 -.863</td>
<td>.500</td>
<td>74.524</td>
<td>.741</td>
</tr>
<tr>
<td>G. Purchase intention</td>
<td>.812 -.898</td>
<td>.810</td>
<td>75.756</td>
<td>.893</td>
</tr>
</tbody>
</table>

*Table 1: Factor and Reliability Analysis*

The reliability analysis indicated that questions concerning category experience (internet shopping experience), shopping enjoyment (experience while shopping in consumer psychographics) and perceived stress avoidance (perceived benefits) were not significantly affecting the other factors and thus were excluded.

### 6.3. Structural Equation Modeling (SEM) Analysis

Structural Equation Modeling is used in order to examine a set of relationships between the independent and dependent factors of this study (Ullman & Bentler, 2012). A wide range of indices indicating goodness-of-fit were examined: CMIN/DF, with acceptable value lower to 5, RFI, with acceptable value close to 1 (Svensson, 2004), CFI and NFI, both with acceptable values over 0.95 (Byrne, 2001), RMR, with acceptable values close to 0 (Svensson, 2004), and RMSEA, with values less than 0.05, imply close fit (Byrne, 2001; Svensson, 2004). The results concerning these
indices are the following: CMIN/DF = 0.576 (excellent fit), RFI = 0.957 (very good fit), CFI = 1 (excellent fit), NFI = 0.982 (very good fit), RMR = 0 (exact fit) and RMSEA = 0 (exact fit).

The relations between the factors of the research model are presented in the SEM model (Figure 1) along with the path coefficients and their \( R^2 \) values (all path coefficients are significant at a 0.05 level). More specifically, the prediction power \( (R^2) \) of the model is 0.49 and 0.28, for purchase intention and CSW usage respectively, suggesting that the independent factors are able to explain a large part of the variation of these two main dependent factors of this model. Looking at Figure 1, it is concluded that a) H3, H6, H9 and H10 are supported because both direct and indirect relationships between the factors are found, b) H5 and H8 are partially supported as stress was not found to be a significant factor affecting CSW usage and purchase intention and, thus, excluded from the analysis c) H7 is supported because only a direct relationship between the factors is found, and d) H2 and H4 is supported although only an indirect relationship between the factors is found. Furthermore, it is evident that internet usage has the strongest (direct and indirect) impact on CSW usage, while perceived benefits have the strongest (direct and indirect) impact on purchase intention. As far as H1 is concerned, correlation analysis revealed that only lower age is positively correlated internet usage. It is, therefore, partially accepted. Finally, as can be seen in Figure 1, the final model includes some more important (and statistically significant) relationships which were not initially examined (mainly between Search & Evaluation Convenience - Perceived Benefits - Seller Selection Criteria).

6.4. Discussion and Conclusions

Commerce for the last decades has shifted towards the internet and many physical stores use it to extend their grasp to potential buyers outside of their narrow physical reach. However, a multichannel approach is needed so that a retailer can reach its full potential in attracting customers online. Comparison shopping websites contain information that helps with the information search and evaluation of alternatives, while offering insights in post-purchase evaluation of both products and retailers from other users.

This research presented a new model for identifying the important factors that lead to the use of product CSWs in Greece and for understanding how this affects the prospect of purchasing. Participants reported that they spent - on average - almost 10% of their time online in shopping activities, while the use of CSWs is found to be highly and positively correlated to the time they spend online. Demographic factors seem to have a rather limited effect on the use of the internet with only age being negatively correlated with internet usage, while age, education and income was positively correlated with internet shopping experience and education was also positively correlated with perceived benefits. In psychographics, the experience of shopping found to have no correlation with CSW usage and purchase intention,
while shopper role experience and general personality traits have a weak positive correlation with these factors. The results of the structural equation modelling have shown that comparison shopper psychographics and internet shopping experience did not seem to directly affect the frequency of using a CSW, but they are related in a positive manner with the way internet users perceive usefulness (hedonic & utilitarian benefits) and ease of use (search & evaluation convenience) of the CSWs. As it was expected, higher levels of use of a CSW, led to a higher intention to buy, proving that, for many online consumers, the use of a CSW is a “pit stop” in their buying decision process, with participants that realized a higher level of usefulness and ease of use from a CSW having an even higher intention to purchase. But what are the potential buyers seeking when they are ready to select a seller from the results page of a CSW? It is found that due to the economic conditions, participants were slightly more vigilant in selecting a seller in terms of store valuation than from the actual services the seller provided. In simple terms, consumers would like to be sure of their purchase and not be misled by untrustworthy sellers; the way to do so is by selecting a store they have been previously happy with their purchases or following the ratings of reviewers that have purchased from that store. Transaction safety is also considered a must for making an internet purchase. On the other hand, although having one of the lowest price is also considered as very important, it is not more important than the abovementioned criteria (highest seller rating, previous positive experience, transacational safety). Concluding, people who use CSWs appear to be more motivated to purchase and realize more benefits, in terms of ease of use and usefulness, something that lead to an increase in their intention to purchase a product they have found using this channel. This also means that a CSW is an important channel and, as far as this channel grows (Doukidis & Fraidaki, 2015) and these websites help improve users’ experience, it will result to an increase of online sales, especially when appropriate combined actions from retailers (better position themselves amongst their rivals) have taken place.

References


